

# Communicable Diseases Surveillance

## Presentation of NNDSS data

With the move to a quarterly reporting system in *Communicable Diseases Intelligence*, the summary tables have changed to fall in line with a quarterly report. Table 2 presents 'date of notification' data, which is a composite of three dates: (i) the true onset date from a clinician, if available, (ii) the date the laboratory test was ordered, or (iii) the date reported to the public health unit. Table 3 presents the notification rate of Diseases by State or Territory for the current reporting quarter.

Table 2 now includes the following summary columns: current quarter totals, totals for the previous quarter; total for the same quarter in the previous year; a 5-year mean for the same quarter, the year to date total for each disease, the mean of the last 5 years year to date totals and the ratio of the current quarter to the mean of to the mean of the second quarter for the last 5 years.

## Notifiable diseases 2001

The Communicable Diseases Network Australia has revised the list of diseases that are reportable to the NNDSS. All jurisdictions are working towards reporting against the new national list. Transmission of a dataset consistent with the new list will depend upon changes to public health legislation and IT system development. The following new diseases have been added to the NNDSS database: anthrax, Murray Valley encephalitis, Kunjin virus infection, cryptosporidiosis, influenza (laboratory-confirmed), Australian bat lyssavirus infection and invasive pneumococcal disease (laboratory-confirmed). Data on the following diseases will no longer be collected: chancroid, hydatid disease, lymphogranuloma venereum, non-TB mycobacterial infections, and yersiniosis.

## Highlights for 3rd 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 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', and those from ASPREN are referred to as 'consultations' or 'encounters' while data from the LabVISE scheme are referred to as 'laboratory reports'.

Figure 1 shows the changes in disease notifications compared with the 5-year third 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 commented on below.

As this report comments on notifications in winter and spring, the focus is on those diseases with a winter/spring peak, namely: influenza; pertussis; meningococcal disease; and rotavirus infections.

### *Gastrointestinal diseases*

#### **Campylobacteriosis**

Notifications of gastrointestinal disease caused by *Campylobacter* species continued to increase in this quarter. Four thousand one hundred and fifteen notifications were reported nationally which is significantly above the range of 5-years' data.

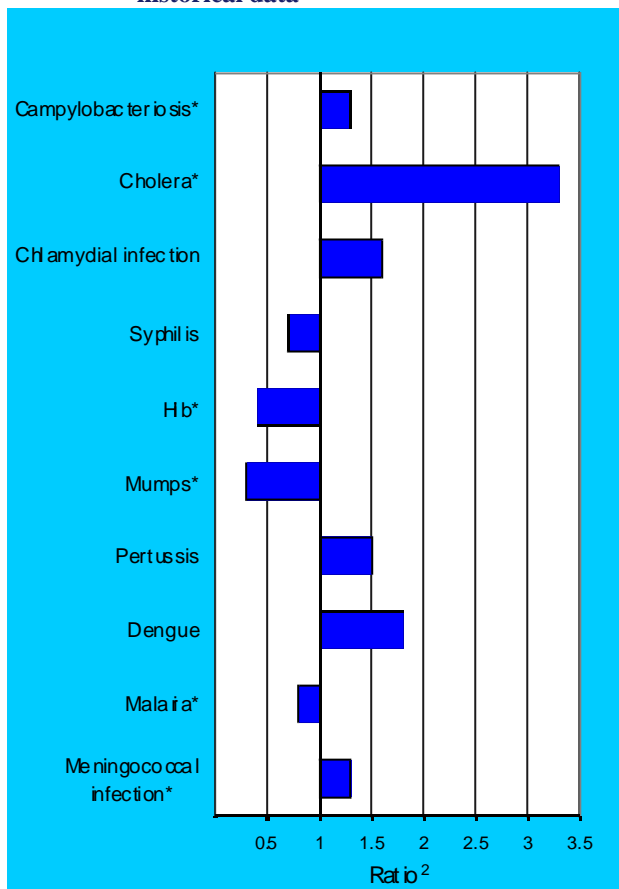
#### **Cryptosporidiosis**

Notifications were received in this quarter from all jurisdictions except Tasmania. There were 858 notifications in 2001 to the end of the third quarter. These numbers indicate that cryptosporidiosis may become the third most common gastrointestinal illness reported to the NNDSS after infections with *Campylobacter* and *Salmonella*. In the previous quarter, we commented on several outbreaks in the summer months associated with swimming pools. In this quarter, 5 linked cases associated with consumption of unpasteurised milk were reported from Queensland. Of the 5 cases, 3 were hospitalised. Cryptosporidiosis infection associated with consumption of unpasteurised products has been previously described. These products are probably contaminated with cow manure.<sup>1</sup>

#### **Hepatitis A**

National notifications of hepatitis A continued to fall in this quarter. Dr Jeffrey Hanna from Queensland Health

**Figure 1. Selected<sup>1</sup> diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 July to 30 September 2001 with historical data<sup>2</sup>**



1. Selected diseases are chosen each quarter according to current activity.
  2. Ratio of current quarter total to mean of corresponding quarter for the previous five years.
- \* Notifications above or below the 5-year mean plus- or minus- two standard deviations.

reported: 'There has been a marked decline in notifications of hepatitis A throughout north Queensland since hepatitis A vaccination was introduced for indigenous children in the region in early 1999. There were 231 notifications of hepatitis A in north Queensland in 1999, 34 in 2000, and 11 cases in the first 9 months of this year. The last case in an indigenous person was in June 2000. The majority of cases in 2000 and 2001 have been acquired abroad, particularly in Papua New Guinea, emphasising the importance of vaccination prior to either travel or work abroad.'

Hepatitis A in Australia has declined significantly over the past 30 years although levels in indigenous communities have remained high. In Australia, 3 patterns of hepatitis A epidemiology are recognised.<sup>2</sup> These are large, slowly evolving community-wide outbreaks, occurring at intervals of 5 years or more. They affect susceptible individuals exposed to intense levels of transmission within their groups and are a potential source for infection for the wider community. Settings for community-wide outbreaks include child care centres and pre-schools, schools and residential facilities for the intellectually disabled, networks of men who have sex with men and networks of injecting drug users. Secondly, sporadic cases of hepatitis A may occur in people

without obvious risk factors although some may be associated with overseas travel or travel to indigenous communities. Thirdly, point-source outbreaks of hepatitis A may occur from exposure to contaminated food or water and/or infected food-handler. These are relatively rare in Australia. The last major point-source outbreak of hepatitis A arose from contaminated oysters in New South Wales in 1997.<sup>3</sup>

Vaccination against hepatitis A in Australia is recommended for travellers to endemic areas, visitors to remote indigenous communities, child-care and pre-school personnel, the intellectually disabled and their carers, health care workers, sewerage workers, men who have sex with men, injecting drug users, patients with chronic liver disease, haemophiliacs who may have received pooled plasma concentrates and food handlers.<sup>2</sup>

**Salmonellosis**

Twenty-two cases of *Salmonella* Typhimurium 99 were detected in a large outbreak of gastroenteritis at a Melbourne restaurant in July. Illness was associated with the consumption of a meal consisting of eye fillet of beef, onions and potatoes with 2 sauces. All food samples were negative and the specific source of contamination remains unknown. (Information supplied by Kerry-Ann O'Grady, Department of Human Services, Victoria.)

Increased notifications of infection with *Salmonella* Stanley were reported from all States and Territories in Australia in the third quarter 2001. Seventy cases were reported up to the end of September, of whom 20 appeared to have acquired the infection outside Australia. Of cases acquired within Australia, about half reported consuming a brand of peanuts imported from China. A product recall was initiated and case reports have waned. Outbreaks of *Salmonella* Stanley associated with the same brand of peanuts were recently reported from Canada and the United Kingdom. Pulsed field gel electrophoresis indicated that isolates from peanuts and human cases shared the same distinctive profile across the 3 countries. *Salmonella* Newport was also isolated from the peanuts in Australia but a link to human cases has not yet been established. In Canada the peanuts also were contaminated with *Salmonella* Lexington. (Information supplied by Martyn Kirk, OzFoodNet.)

*Quarantinable diseases*

**Cholera**

Two cases of cholera were reported in the third quarter 2001; one each from South Australia and Victoria. A third case with an onset in the second quarter and reported in the third quarter, was reported from New South Wales. Because of our analysis of data by date of onset, this case does not appear in this quarters' reporting in Table 2. All cases were acquired overseas: the 2 cases reported in the third quarter were associated with travel to Bali and in both cases ice used in drinks is suspected as the source of the infection. Since January 2001, 6 travellers to Bali have contracted cholera: 2 from Japan; 1 each from France and New Zealand, and the 2 Australian cases. All 6 were *V. cholerae* serogroup 01, serotype Ogawa.

The case from New South Wales appears to have acquired cholera in Hong Kong (serogroup 01 El Tor, serotype Inaba).

**Yellow fever**

A single suspect case of yellow fever was reported from Victoria, but the notification was subsequently withdrawn as the clinical and laboratory evidence for yellow fever was not conclusive. There have been no cases of yellow fever reported in Australia since the inception of the NNDSS in 1991. A summary of the case from Dr Priscilla Robinson, Department of Human Services, Victoria follows.

'A 53-year-old woman was notified to the Victorian Department of Human Services in September with a provisional diagnosis of yellow fever. She had recently returned from Peru and Chile. She had been vaccinated against hepatitis A and B and typhoid, and boosted for tetanus, and although she had asked about yellow fever vaccination had been told that it was unnecessary. While away she drank only bottled water, wore loose clothing and used insect repellent. Despite these precautions, she recalled being bitten by mosquitoes. On arrival at Melbourne, she was identified by the Australian Quarantine Inspection Service as a person who had been in a yellow fever area who was not protected by vaccination and given a screening letter. She became unwell during the journey home with an acute febrile illness consisting of headaches, shivers and epistaxis (unusual for her), consistent with possible early symptoms of yellow fever. She felt worse during the evening and presented to the local hospital for assessment and treatment, presenting the screening letter to the on-call medical officer. She developed upper respiratory symptoms (sore throat and loss of voice), with minimal sputum. Management of her illness was transferred to an infectious disease specialist, in conjunction with her GP. The diagnosis was not laboratory confirmed. Serological screening for flaviviruses was PCR and antigen negative. Acute phase sera was equivocal for yellow fever total antibody, however there were no changes in titres in serology taken 8 days later. The preliminary diagnosis of yellow fever was rejected by the physician and reference laboratory. The cause of her illness remains unknown.'

*Sexually transmitted infections*

Notifications of chlamydial infections and gonococcal infections increased in the third quarter 2001. An increase in the number of notifications of donovanosis was also noted; this is probably related to more active case detection as part of the Donovanosis Eradication Plan described in the last issue of *CDI*.

An apparent decline in notifications of syphilis should be interpreted with caution as syphilis notifications from Queensland are still undergoing a process of validation.

*Vaccine preventable diseases*

Notifications of *Haemophilus influenzae* type b and mumps were significantly below the range of 5-years' data for the third quarter 2001.

**Influenza**

National surveillance data consisting of laboratory reports through LabVISE and national and State-based sentinel general practice schemes have been reported weekly on the *Communicable Diseases Australia* Website (<http://www.health.gov.au/pubhlth/cdi/ozflu/flucurr.htm>). The peak of the influenza season in temperate regions of Australia appears

to have passed and surveillance in New South Wales, Victoria and Western Australia has ceased.

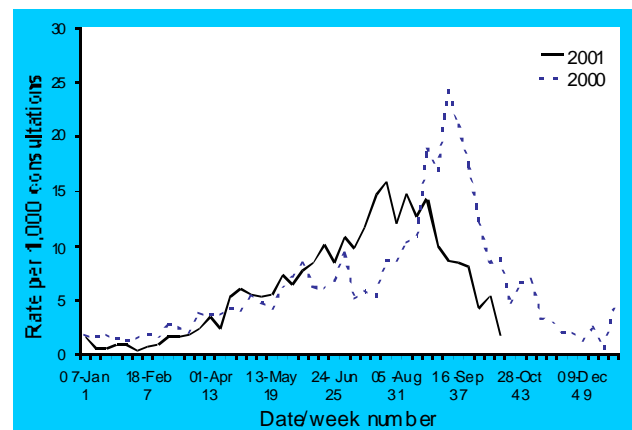
Nationally, the 2001 influenza season was mild and numbers of laboratory-diagnosed cases as well as presentations of influenza-like illness to general practices were lower than in the 2000 season (Figure 2). Circulating strains were well matched by those included in the 2001 influenza vaccine.

The Northern Territory was a notable exception to this picture. The Northern Territory reported large increases in notifications of influenza-like illness from August 2001. In tropical regions of Australia, bimodal peaks of influenza activity in March/April and September/October are the usual pattern, however 21 geographically diverse cases were recorded in 2 weeks largely in indigenous people, which inflated the rate of influenza to record levels (Figure 3).

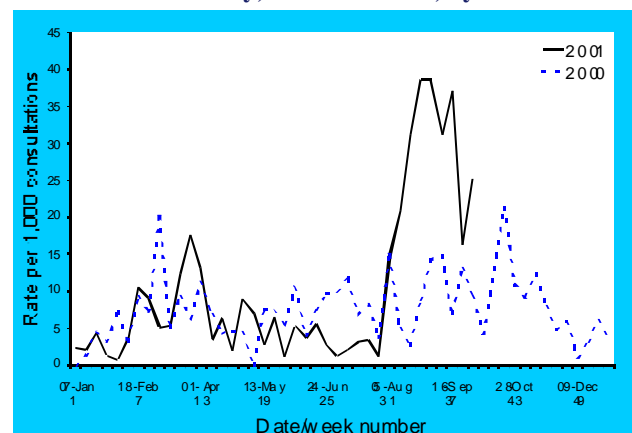
**Measles**

Sixteen sporadic cases of measles were reported during the third quarter 2001. At least 4 of the 16 cases were acquired overseas.

**Figure 2. National consultation rates of influenza-like illness in ASPREN and sentinel GP practices, 2000 and 2001, by week**



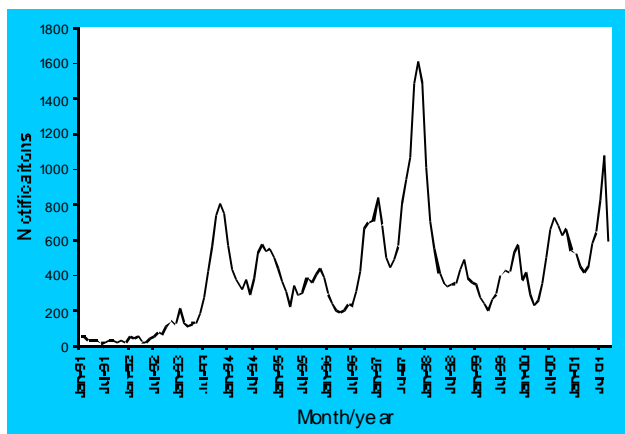
**Figure 3. Consultation rates of influenza-like illness in sentinel GP practices, Northern Territory, 2000 and 2001, by week**



**Pertussis**

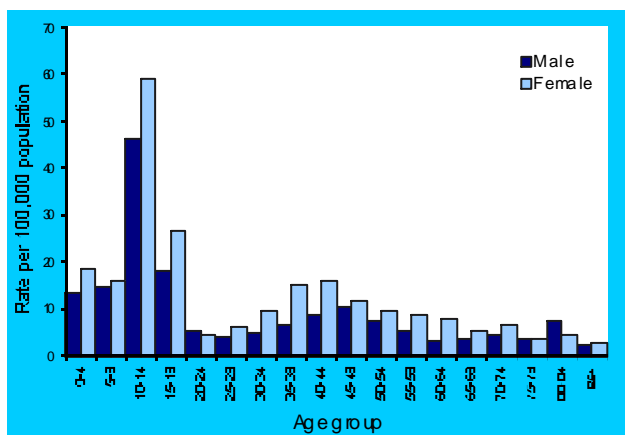
In keeping with the seasonal peaks of disease activity seen in spring, notifications of pertussis increased in this quarter. Monthly notifications in May, June and August were the highest recorded on the NNDSS for those months (Figure 4). Should this notification rate continue 2001 is tracking towards a peak in the 3 to 5 year cycle of pertussis, which is a recognised feature of pertussis epidemiology.<sup>4</sup>

**Figure 4. Notification of pertussis, Australia, 1991 to 2001, by month of onset**



Immunisation against pertussis in Australia consists of 5 doses given at 2, 4, 6 and 18 months and 4 years of age. Currently 88.3 per cent of 2 year-olds in Australia are age-appropriately immunised (ACIR data, see Tables this issue). As a consequence the peak notification rate for pertussis is now found among young adolescents (aged 10–14). In the third quarter 2001, 696 (28%) of all notifications of pertussis were from this age group (Figure 5). In addition 2,069 cases (83%) were aged 10 years or more and only 109 (4%) were in infants aged less than one year. However, it is of some concern that 13 per cent of cases are aged 1–9 years, confirming the importance of the 5th dose at 4–5 years and the need to raise coverage rates further. The need for an adolescent and adult vaccination program is being

**Figure 5. Notification rate of pertussis, Australia, 1 July to 30 September 2001, by age group and sex**



considered by the Australian Technical Advisory Group on Immunisation.

Despite high levels of vaccination, pertussis has increased in a number of countries since 1997. This has prompted investigations into the evolution of variants of *Bordetella pertussis*. Mooi and colleagues have observed antigenic divergence between vaccine strains and clinical isolates of *Bordetella pertussis*, specifically in the surface-associated protein pertactin and the pertussis toxin.<sup>5</sup> Replacement of vaccine with non-vaccine strains as a result of herd immunity has not yet had any measurable effect on pertussis vaccine efficacy, but surveillance of variant strains of the bacteria may be important for the control of pertussis in the future.

Several recent studies have examined the importance of pertussis as a cause of prolonged coughing in adults and adolescents. A recent study in Canada suggests that up to 20 per cent of prolonged coughing is associated with laboratory evidence of pertussis infection. The nature of that evidence is controversial: in this study only 2.3 per cent of symptomatic cases were laboratory confirmed pertussis (by culture, PCR or a four-fold increase in pertussis antibody), while the remainder were diagnosed on the basis of a single high pertussis antibody titre.<sup>6</sup>

Since it is well established that adolescents and adults are frequently the source of pertussis infection for infants and children, and adolescents now have the highest rates of disease, vaccination of adolescents with acellular pertussis vaccines has been instituted in France, Germany and Canada. It remains to be seen how this will impact on the epidemiology of pertussis.

*Vectorborne diseases*

**Dengue**

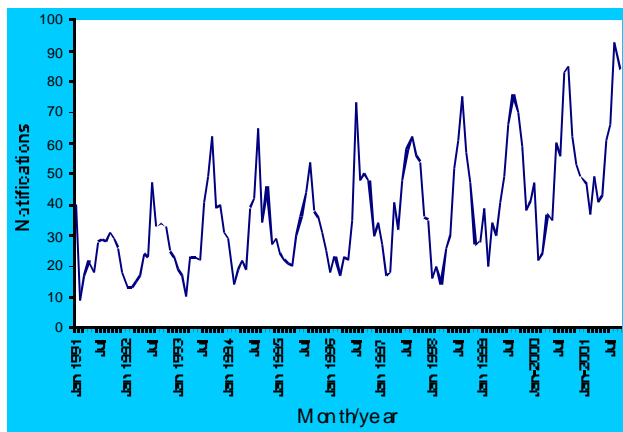
An increase in the number of notifications of dengue was noted in this quarter. A number of these were imported cases from Samoa. A large outbreak of dengue strain 1 has been continuing through most of 2001, involving the Pacific Island nations of French Polynesia, Samoa and American Samoa, New Caledonia and Tokelau. In French Polynesia 33,000 cases have been reported with 1200 hospitalisations, 500 cases of dengue haemorrhagic fever and 8 deaths.

*Other bacterial infections*

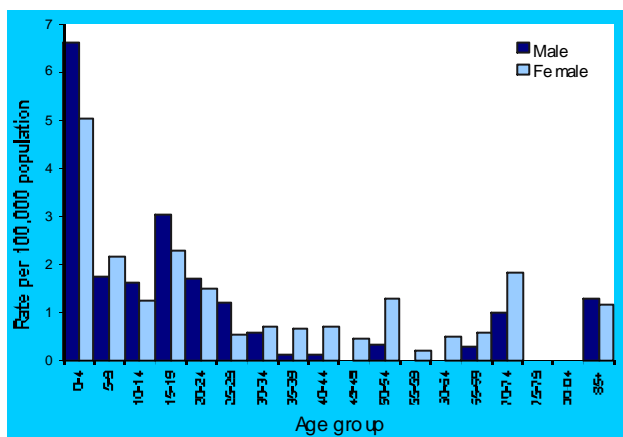
**Meningococcal infection**

A series of small outbreaks of meningococcal disease affected several jurisdictions in the third quarter of 2001. National notifications of meningococcal disease in August (93 cases) was the highest monthly total ever recorded in the NNDSS. Notifications for meningococcal disease increase in spring; however the number of notifications has been increasing since the inception of the NNDSS in 1991 (Figure 6). This quarter's total was above the range of the last 5-years' data for the third quarter. The notification rates of cases in the third quarter show the highest rates in the 0–4 and 15–19 year age groups (Figure 7). The increase in case numbers is partly due to the wider availability of non-culture based diagnostic techniques including serology (meningococcal IgM) and nucleic acid tests. Some jurisdictions also now report probable cases of meningococcal disease.

**Figure 6.** Notifications of meningococcal disease, Australia, 1991 to 2001, by month of onset



**Figure 7.** Notification rate of meningococcal disease, Australia, 1 July to 30 September 2001, by age group and sex



Non-culture based techniques currently account for approximately 27 per cent of all diagnoses of invasive meningococcal disease.<sup>7</sup>

Further information on meningococcal disease in this quarter in Queensland and Victoria were provided by Dr Linda Selvey and Dr Patricia Robinson respectively.

In Queensland there were 49 cases of invasive meningococcal disease in the third quarter (including 2 probable cases) compared to 48 cases for the first 2 quarters (including 4 probable cases). This is consistent with the expected seasonal increase. Of the cases in the third quarter, 24 were serogroup B infections (49%), 15 serogroup C infections (31%) and 2 serogroup Y infections (5%). This compares to 54 per cent serogroup B, 10 per cent serogroup C and 4 per cent serogroup Y in the first 2 quarters of the year. There were 5 deaths in the period, giving a crude case fatality rate of 10 per cent. Four deaths were caused by group C infection, the other being by group B. The peak incidence was in August, with only 8 cases being notified in September. In August there was a cluster of 2 cases in a boarding school, both of whom died. All of the students and many staff at this school were vaccinated in response to this cluster. There were no other clusters in the period.

In Victoria there were 114 cases of meningococcal disease notified to the Victorian Department of Human Services between the beginning of January and the end of September 2001. Of these, 35 were confirmed as serogroup B (22 by culture and 13 by PCR) and 45 as serogroup C (30 by culture and 15 by PCR). Of the remaining 34 cases, one was confirmed as serogroup Y. It was not possible to group 2 cases, and 31 were clinically diagnosed. The age distribution of serogroup B and C disease shows notable differences, with 54 per cent of serogroup B cases being under 15 compared to 33 per cent of serogroup C cases. Of the 25 cases who were aged 30 years or more, only 4 were confirmed as serogroup B disease compared to 15 serogroup C, and in this age group the case fatality rate was 20 per cent compared with 3-5 per cent in younger cases. In this quarter, the case fatality rate was 6 per cent for serogroup B, and almost double that rate (11%) for serogroup C cases, while the overall case fatality rate was 7 per cent.

## Other non-notifiable diseases

### Mycobacterium ulcerans

Kerry-Ann O'Grady supplied the following information on *Mycobacterium ulcerans* cases in Victoria. Eleven PCR-confirmed cases of cutaneous *Mycobacterium ulcerans* infection (Bairnsdale /Daintree/ Buruli Ulcer) were detected in residents or frequent visitors of a Victorian coastal town. Environmental sampling revealed one PCR-positive site in the area, an irrigation dam at the local golf course, although its relationship to the cases is unknown. A Victorian research team has been funded to investigate possible sources of infection and modes of transmission.

This is the latest of several outbreaks of *Mycobacterium ulcerans* infection near Melbourne in the past decade. This environmental mycobacterium causes chronic progressive skin ulcers and occurs in soil and in swamp waters; cases of human infection occur by the contamination of small cuts or abrasions of the skin.<sup>8</sup> The outbreaks of disease in Australia appear to be associated with disturbance of swamp waters or contamination of dams or irrigation systems with swamp water.<sup>9</sup> Environmental studies using PCR have recently supported this hypothesis.<sup>10</sup>

*Mycobacterium ulcerans* infections are an increasingly significant public health problem in at least 31 countries in Africa, the Western Pacific, Asia and South America. In January 1998 the World Health Organization launched the Global Buruli Ulcer Initiative to coordinate global research and control efforts into this disease. Further information can be accessed at: [http://www.who.int/m/topics/buruli\\_ulcer/en/index.html](http://www.who.int/m/topics/buruli_ulcer/en/index.html).

### LabWISE

There were 6256 reports to LabWISE from 13 laboratories in the third quarter of 2001. Data are included from PathCentre, Western Australia, which have been excluded from previous reports due to technical problems. Previously unpublished PathCentre data for the period October 2000 to June 2001 are shown in Table 6.

In the third quarter 2001, there were reports of viral infection and 1,775 reports of bacteria and other microorganisms. The largest number of reports among viruses were for respiratory syncytial virus (1,146 reports), the influenza

viruses (total 540 reports), and rotavirus (601 reports). Among the bacterial isolates the largest numbers of reports were of *Chlamydia* spp (639 reports) and *Bordetella pertussis* (439 reports).

### Rotavirus

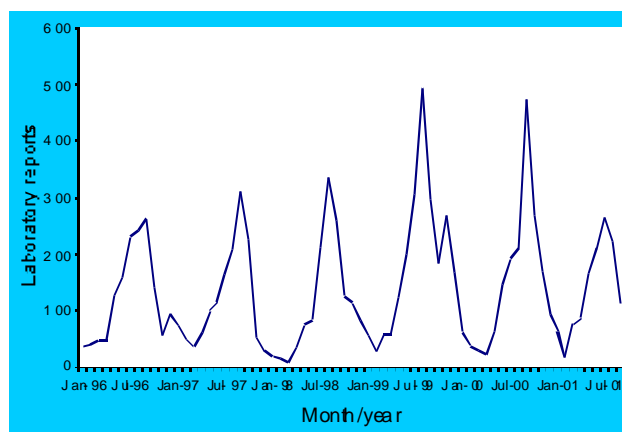
Rotavirus is a major cause of diarrhoea in children and may also be important as a cause of viral diarrhoea in the elderly. Rotavirus infections are typically increased in winter months (May to September in Australia). LabVISE rotavirus data (1996 to 2001) by month of laboratory report are shown in Figure 8. The Australian Rotavirus Surveillance Program collects important information on circulating rotavirus serotypes in Australia.<sup>11</sup>

During 2001 the Northern Territory experienced a large outbreak of rotavirus disease; the largest since surveillance for the disease was commenced in 1994. The outbreak commenced in April 2001 in Alice Springs and spread rapidly across the Northern Territory and into western Queensland. Children under 5 years of age made up 95 per cent of cases and notification rates were approximately 5 times higher in indigenous persons compared with non-indigenous people. The predominant strain isolated was G9, which has only been identified in the Northern Territory since 1999.<sup>12</sup>

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**Figure 8. Laboratory reports of rotavirus, Australia, 1995 to September 2001, by month of report**



## Tables

There were 24,064 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 July and 30 September 2001 (Table 2). Figure 1 illustrates, for selected diseases, the third quarter 2001 totals as ratios to the mean of the third quarters for the previous 5 years. A summary of diseases currently being reported by each jurisdiction is provided in Table 1. The notification rate of diseases per 100,000 population for each State or Territory is presented in Table 3.

There were 6256 reports received by the CDI Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 July to 30 September 2001 (Tables 4 and 5).

The Australian Sentinel Practice Research Network (ASPREN) data for weeks 27-30 to 35-39, ending 30 September 2001, are included in this issue of *Communicable Diseases Intelligence* (Table 7).

Table 1. Reporting of notifiable diseases by jurisdiction

Disease	Data received from:*	Disease	Data received from:*
<b>Bloodborne</b>		<b>Vaccine preventable</b>	
Hepatitis B (incident)	All jurisdictions	Diphtheria	All jurisdictions
Hepatitis B (unspecified)	All jurisdictions except NT	<i>Haemophilus influenzae</i> type b	All jurisdictions
Hepatitis C (incident)	All jurisdictions except Qld	Influenza	All jurisdictions except Tas
Hepatitis C (unspecified)	All jurisdictions	Measles	All jurisdictions
Hepatitis D	All jurisdictions	Mumps	All jurisdictions
<b>Gastrointestinal</b>		Pertussis	All jurisdictions
Botulism	All jurisdictions	Pneumococcal disease	All jurisdictions except SA and Tas
Campylobacteriosis	All jurisdictions except NSW	Poliomyelitis	All jurisdictions
Cryptosporidiosis	All jurisdictions except Tas	Rubella	All jurisdictions
Haemolytic Uraemic Syndrome	All jurisdictions	Tetanus	All jurisdictions
Hepatitis A	All jurisdictions	<b>Vectorborne</b>	
Hepatitis E	All jurisdictions	Arbovirus infection NEC	All jurisdictions
Listeriosis	All jurisdictions	Barmah Forest virus infection	All jurisdictions
Salmonellosis	All jurisdictions	Dengue	All jurisdictions
Shigellosis	All jurisdictions	Japanese encephalitis	All jurisdictions
SLTEC, VTEC	All jurisdictions	Kunjin	All jurisdictions except ACT <sup>†</sup>
Typhoid	All jurisdictions	Malaria	All jurisdictions
<b>Quarantinable</b>		Murray Valley encephalitis	All jurisdictions except ACT <sup>†</sup>
Cholera	All jurisdictions	Ross River virus infection	All jurisdictions
Plaque	All jurisdictions	<b>Zoonoses</b>	
Rabies	All jurisdictions	Anthrax	All jurisdictions except SA
Viral haemorrhagic fever	All jurisdictions	Australian Bat lyssavirus	All jurisdictions
Yellow fever	All jurisdictions	Brucellosis	All jurisdictions
<b>Sexually transmissible</b>		Leptospirosis	All jurisdictions
Chlamydial infection	All jurisdictions	Ornithosis	All jurisdictions
Donovanosis	All jurisdictions except SA	Other lyssaviruses (NEC)	All jurisdictions
Gonococcal infection	All jurisdictions	Q Fever	All jurisdictions
Syphilis	All jurisdictions	<b>Other</b>	
		Legionellosis	All jurisdictions
		Leprosy	All jurisdictions
		Meningococcal infection	All jurisdictions
		Tuberculosis	All jurisdictions

\* Jurisdictions not yet reporting on diseases either because legislation has not yet made some diseases notifiable in that jurisdiction or data are not yet being reported to the Commonwealth

† In the Australian Capital Territory, Murray Valley encephalitis virus and kunjin are combined under Murray Valley encephalitis

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 July to 30 September 2001, by date of notification\*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 3rd quarter 2001 <sup>1</sup>	Total 2nd quarter 2001 <sup>1</sup>	Total 3rd quarter 2000 <sup>1</sup>	Last 5 years mean 3rd quarter	Year to date 2001	Last 5 years YTD mean	Ratio <sup>1</sup>
<b>Bloodborne</b>															
Hepatitis B (incident)	0	9	1	12	3	9	39	10	83	94	143	79	273	228	1.0
Hepatitis B (unspecified)	16	893	NN	188	62	6	557	116	1,838	1,497	2,438	1,919	4,822	5,551	1.0
Hepatitis C (incident)	3	27	0	NN	12	0	20	4	65	63	141	75	211	216	0.9
Hepatitis C (unspecified)	62	1,489	52	743	154	97	1,478	347	4,422	3,889	4,938	4,559	12,620	13,666	1.0
Hepatitis D	0	1	0	0	0	0	1	0	2	6	5	5	13	11	0.4
<b>Gastrointestinal</b>															
Botulism	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0.0
Campylobacteriosis <sup>2</sup>	103	-	73	1,085	675	155	1,336	708	4,115	3,629	3,433	3,111	11,138	9,388	1.3
Cryptosporidiosis	3	23	20	53	10	NDR	88	15	218	385	0	N/A	858	N/A	N/A
Haemolytic uraemic syndrome	0	0	0	0	1	0	0	0	1	0	1	2	3	9	0.6
Hepatitis A	4	56	11	30	5	0	22	14	142	115	155	425	353	1,625	0.3
Hepatitis E	0	1	0	0	0	0	0	0	1	2	0	0	4	4	2.5
Listeriosis	1	1	0	4	2	1	1	0	10	8	9	16	39	50	0.0
Salmonellosis	16	257	68	267	131	10	199	162	1,110	1,550	925	1,028	4,840	5,093	1.1
Shigellosis	0	24	23	18	5	2	26	28	126	122	35	127	364	471	1.0
SLTEC/VTEC <sup>3</sup>	0	0	0	3	2	0	0	0	7	6	10	4	29	19	1.8
Typhoid	0	9	0	1	2	0	3	4	19	10	16	16	62	58	1.2
<b>Quantifiable</b>															
Cholera	0	0	0	0	1	0	1	0	2	0	0	1	2	3	3.3
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rabies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Viral haemorrhagic fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Yellow fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
<b>Sexually transmissible</b>															
Chlamydia infection	93	1,048	336	1,334	319	114	992	607	4,843	4,294	4,531	3,060	13,833	9,078	1.6
Donovanosis	0	0	7	1	NN	0	0	3	11	8	1	8	21	24	1.3
Gonococcal infection <sup>4</sup>	9	264	394	272	26	6	247	265	1,483	1,392	1,454	1,244	4,332	3,991	1.2
Syphilis <sup>5</sup>	2	141	110	8	2	5	5	33	308	264	534	455	850	1,296	0.7

Table 2 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 July to 30 September 2001, by date of notification\*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 3rd quarter 2001†	Total 2nd quarter 2001†	Total 3rd quarter 2000†	Last 5 years mean 3rd quarter	Year to date 2001	Last 5 years YTD mean	Ratio†
<b>Vaccine preventable</b>															
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.0
<i>Haemophilus influenzae</i> type b	0	3	0	0	1	0	0	0	4	14	12	11	23	32	0.4
Influenza‡	7	127	38	355	84	NDR	160	162	933	24	NDR	N/A	969	N/A	N/A
Measles	0	0	0	3	1	0	2	1	16	12	21	102	08	277	0.2
Mumps	0	2	1	0	4	1	3	5	18	30	66	52	79	142	0.3
Pertussis	20	1,190	36	402	577	41	202	28	2,496	1,284	2,070	1,647	4,997	4,034	1.5
Pneumococcal disease‡	6	168	32	170	NDR	NDR	132	62	570	326	NDR	N/A	983	N/A	N/A
Poliovirus§	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rubella§	0	9	0	43	1	0	0	1	66	40	82	274	161	756	0.2
Tetanus	0	0	0	0	0	0	0	0	0	0	0	1	1	4	0.0
<b>Vectorborne</b>															
Arbovirus infection NEC	0	1	1	1	0	0	4	0	7	14	3	4	30	45	1.6
Barmah Forest virus infection	0	50	10	71	0	0	2	5	138	446	113	98	908	550	1.4
Dengue	7	13	8	4	1	1	0	3	37	50	10	20	120	160	1.8
Japanese encephalitis	0	0	0	0	0	0	0	0	0	0	NDR	N/A	0	N/A	N/A
Kunjin virus infection	0	0	0	0	0	0	0	0	0	0	NDR	N/A	0	N/A	N/A
Malaria	5	32	12	61	14	0	14	8	148	148	238	188	526	646	0.8
Murray Valley encephalitis	0	0	0	0	0	0	0	0	0	0	NDR	N/A	2	N/A	N/A
Ross River virus infection	0	30	13	83	3	1	9	12	154	1,130	222	235	2,861	4,717	0.7
<b>Zoonoses</b>															
Anthrax‡	0	0	0	0	VN	0	0	0	0	0	NDR	N/A	0	N/A	N/A
Australian bat lyssavirus‡	0	0	0	0	0	0	0	0	0	0	NDR	N/A	0	N/A	N/A
Brucellosis	0	0	0	3	0	0	0	0	3	2	10	14	11	27	0.2
Leptospirosis	0	19	0	15	0	0	4	0	38	60	37	37	168	163	1.0
Other lyssavirus (NEC)‡	0	0	0	0	0	0	0	0	0	0	NDR	N/A	0	N/A	N/A
Ornithosis	0	11	1	0	3	0	11	0	26	23	22	13	78	46	2.1
Q fever	1	33	0	81	3	1	13	3	135	150	137	138	454	413	1.0

Table 2 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 July to 30 September 2001, by date of notification\*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 3rd quarter 2001†	Total 2nd quarter 2001†	Total 3rd quarter 2000†	Last 5 years mean 3rd quarter	Year to date 2001	Last 5 years YTD mean	Ratio†
<b>Other</b>															
Legionellosis	1	14	0	3	5	3	12	10	54	76	65	44	195	202	1.2
Leprosy	0	1	0	0	0	0	0	0	1	0	0	2	2	6	0.5
Meningococcal infection	3	79	3	43	10	12	48	40	243	143	213	193	514	375	1.3
Tuberculosis	1	45	13	7	30	2	67	15	170	125	262	261	458	770	0.7
<b>Total</b>	<b>363</b>	<b>6,063</b>	<b>1,463</b>	<b>5,373</b>	<b>2,143</b>	<b>457</b>	<b>5,704</b>	<b>2,371</b>	<b>24,064</b>	<b>21,432</b>	<b>22,512</b>	<b>19,464</b>	<b>66,237</b>	<b>63,915</b>	<b>1.2</b>

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. Not reported for NSW because it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.

3. Infections with Shiga-like toxin (verotoxin) producing *E. coli* (SLTEC/VTEC).

4. Northern Territory, Qld., SA., Vic and WA: includes gonococcal neonatal ophthalmia.

5. Includes congenital syphilis.

6. Includes congenital rubella.

\* Date of notification = a composite of three dates: (i) the true onset date from a clinician, if available, (ii) the date the laboratory test was ordered, or (iii) the date reported to the public health unit.

† Ratio = ratio of current month total to mean of last 5 years calculated as described above.

‡ Notifiable from January 2001 only.

NA Not calculated as only notifiable for under 5 years.

NDR No data received.

NN. Not Notifiable

NEC Not Elsewhere Classified.

. Elsewhere Classified.

Table 3. Notification rates of diseases by State or Territory, 1 July to 30 September 2001. (Rate per 100,000 population)

Disease <sup>1</sup>	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
<b>Bloodborne</b>									
Hepatitis B (incident)	0.0	0.6	2.0	1.3	0.8	7.7	3.3	2.1	1.7
Hepatitis B (unspecified)	20.5	54.9	NN	20.9	16.5	5.1	46.4	24.5	38.5
Hepatitis C (incident)	3.8	1.7	0.0	NN	3.2	0.0	1.7	0.8	1.7
Hepatitis C (unspecified)	79.4	91.6	106.0	82.6	41.1	82.5	123.2	73.2	91.8
Hepatitis D	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
<b>Gastrointestinal</b>									
Botulism	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Campylobacteriosis <sup>2</sup>	131.9	-	148.8	118.4	179.9	131.9	111.4	149.3	128.9
Cryptosporidiosis	3.8	1.4	40.8	6.6	2.7	NDR	7.3	3.2	4.6
Haemolytic uraemic syndrome	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Hepatitis A	5.1	3.4	22.4	3.3	1.3	0.0	1.8	3.0	2.9
Hepatitis E	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Listeriosis	1.3	0.1	0.0	0.4	0.5	0.9	0.1	0.0	0.2
Salmonellosis	20.5	15.8	138.6	29.7	34.9	8.5	16.6	34.2	23.0
Shigellosis	0.0	1.5	46.9	2.0	1.3	1.7	2.2	5.9	2.6
SLTEC, VTEC <sup>3</sup>	0.0	0.0	0.0	0.3	1.1	0.0	0.0	0.0	0.1
Typhoid	0.0	0.6	0.0	0.1	0.5	0.0	0.3	0.8	0.4
<b>Quarantinable</b>									
Cholera	0.0	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.0
Plague	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rabies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Viral haemorrhagic fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Sexually transmissible</b>									
Chlamydial infection	119.1	64.5	684.7	148.3	85.0	97.0	82.7	128.0	100.5
Donovanosis	0.0	0.0	14.3	0.1	NN	0.0	0.0	0.6	0.2
Gonococcal infection <sup>4</sup>	11.5	16.2	802.9	30.2	6.9	5.1	20.6	55.9	30.8
Syphilis <sup>5</sup>	2.6	8.7	224.1	0.9	1.1	4.3	0.4	7.0	6.4
<b>Vaccine preventable</b>									
Diphtheria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Haemophilus influenzae</i> type b	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.1
Influenza	9.0	7.8	77.4	39.5	22.4	NDR	13.3	34.2	19.8
Measles	0.0	0.6	0.0	0.3	0.3	0.0	0.2	0.2	0.3
Mumps	0.0	0.2	2.0	0.0	1.1	0.9	0.3	1.1	0.4
Pertussis	25.6	73.2	73.4	44.7	153.8	34.9	16.8	5.9	51.8
Pneumococcal disease	7.7	10.3	65.2	18.9	NDR	NDR	11.0	13.1	13.2
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rubella <sup>6</sup>	0.0	0.6	0.0	5.4	0.3	0.0	0.5	0.2	1.4
Tetanus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Vectorborne</b>									
Arbovirus infection NEC	0.0	0.1	2.0	0.1	0.0	0.0	0.3	0.0	0.1
Barmah Forest virus infection	0.0	3.1	20.4	7.9	0.0	0.0	0.2	1.1	2.9
Dengue	9.0	0.8	16.3	0.4	0.3	0.9	0.0	0.6	0.8
Japanese encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kunjin virus infection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malaria	6.4	2.1	24.5	6.8	3.7	0.0	1.2	1.7	3.1
Murray Valley encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ross River virus infection	0.0	1.8	26.5	9.6	0.8	0.9	0.8	2.5	3.2

**Table 3 (continued). Notification rates of diseases by State or Territory, 1 July to 30 September 2001. (Rate per 100,000 population)**

Disease <sup>1</sup>	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
<b>Zoonoses</b>									
Anthrax	0.0	0.0	0.0	0.0	NN	0.0	0.0	0.0	0.0
Australian bat lyssavirus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brucellosis	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.1
Leptospirosis	0.0	1.2	0.0	1.7	0.0	0.0	0.3	0.0	0.8
Other lyssavirus (NEC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ornithosis	0.0	0.7	2.0	0.0	0.8	0.0	0.9	0.0	0.5
Q fever	1.3	2.0	0.0	9.0	0.8	0.9	1.1	0.6	2.8
<b>Other</b>									
Legionellosis	1.3	0.9	0.0	1.0	1.3	2.6	1.0	2.1	1.1
Leprosy	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningococcal infection	3.8	4.9	6.1	5.3	2.7	10.2	4.0	8.4	5.0
Tuberculosis	1.3	2.8	26.5	0.8	5.3	1.7	5.6	3.2	3.5

1. Rates are subject to retrospective revision.
  2. Not reported for New South Wales because it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.
  3. Infections with Shiga-like toxin (verotoxin) producing *E. coli* (SLTEC/VTEC).
  4. Northern Territory, Qld, South Australia, Vic and Western Australia: includes gonococcal neonatal ophthalmia.
  5. Includes congenital syphilis.
  6. Includes congenital rubella.
- NDR No data received.  
 NN Not Notifiable  
 NE Not Elsewhere Classified.  
 - Elsewhere Classified.

**Table 4. Virology and serology laboratory reports by laboratories for the reporting period 1 July to 30 September 2001<sup>1</sup>**

State or Territory	Laboratory	July 2001	August 2001	September 2001	Total this period
Australian Capital Territory	The Canberra Hospital	-	-	-	-
New South Wales	Institute of Clinical Pathology and Medical Research, Westmead	180	189	40	409
	New Children's Hospital, Westmead	169	119	87	375
New South Wales	Repatriation General Hospital, Concord	-	-	-	0
	Royal Prince Alfred Hospital, Camperdown	79	64	23	166
	South West Area Pathology Service, Liverpool	206	165	48	419
Queensland	Queensland Medical Laboratory, West End	199	321	400	920
	Townsville General Hospital	13	4	-	17
South Australia	Institute of Medical and Veterinary Science, Adelaide	268	766	842	1,876
Tasmania	Northern Tasmanian Pathology Service, Launceston	36	26	8	70
	Royal Hobart Hospital, Hobart	-	-	-	0
Victoria	Monash Medical Centre, Melbourne	-	-	-	0
	Rickettsia Reference Laboratory, Geelong*	6	-	-	6
	Royal Children's Hospital, Melbourne	150	37	26	213
Western Australia	Victorian Infectious Diseases Reference Laboratory, Fairfield	160	142	98	400
	PathCentre Virology, Perth	405	437	-	842
	Princess Margaret Hospital, Perth	324	156	-	480
	Western Diagnostic Pathology	36	27	-	63
<b>Total</b>		<b>2,231</b>	<b>2,453</b>	<b>1,572</b>	<b>6,256</b>

1. The complete list of laboratories reporting for the 12 months, January to December 2001, will appear in every report from January 2000 regardless of whether reports were received in this reporting period. Reports are not always received from all laboratories.
- Nil reports
- \* The Rickettsia Reference Laboratory, Geelong has recently joined the LabVISE scheme as a contributing laboratory. The first reports for this laboratory were received in September 2001 and are published in this issue of *CDI* for the first time.

**Table 5. Virology and serology laboratory reports by State or Territory<sup>1</sup> for the reporting period 1 July to 30 September 2001, and total reports for the year<sup>2</sup>**

	State or Territory <sup>1</sup>								This period 2001	This period 2000	Year to date 2001 <sup>3</sup>	Year to date 2000
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
<b>Measles, mumps, rubella</b>												
Measles virus	-	-	-	2	-	-	3	2	7	12	101	38
Mumps virus	-	1	-	-	1	-	-	2	4	9	31	40
Rubella virus	1	2	-	15	2	-	-	-	20	10	50	33
<b>Hepatitis viruses</b>												
Hepatitis A virus	-	3	2	11	2	-	1	2	21	27	65	121
Hepatitis D virus	-	-	-	1	2	-	2	1	6	3	9	6
<b>Arboviruses</b>												
Ross River virus	-	1	4	16	2	-	-	11	34	34	821	1,099
Barmah Forest virus	-	4	1	16	-	-	-	1	22	17	249	121
Dengue type 4	-	-	2	-	-	-	-	-	2	-	3	-
Dengue not typed	-	-	19	-	-	-	-	13	32	3	186	167
Murray Valley encephalitis virus	-	-	1	-	-	-	-	-	1	1	7	19
Flavivirus (unspecified)	-	-	1	1	-	-	4	-	6	2	21	39
<b>Adenoviruses</b>												
Adenovirus type 1	-	-	-	-	-	-	1	-	1	2	3	6
Adenovirus type 2	-	-	-	-	-	-	1	-	1	1	3	7
Adenovirus type 7	-	-	-	-	-	-	1	-	1	1	10	5
Adenovirus type 8	-	-	-	-	-	3	1	-	4	1	18	1
Adenovirus type 40	-	-	2	-	-	-	-	6	8	13	43	82
Adenovirus not typed/pending	2	94	1	9	104	10	29	32	281	210	734	756
<b>Herpes viruses</b>												
Cytomegalovirus	-	58	2	16	134	2	44	6	262	252	900	873
Varicella-zoster virus	3	34	7	97	43	1	66	95	346	221	1,258	970
Epstein-Barr virus	-	17	8	134	148	-	14	63	384	259	1,316	1,466
Molluscum contagiosum	-	-	-	-	-	-	-	1	1	-	11	9
<b>Other DNA viruses</b>												
Contagious pustular dermatitis	-	-	-	-	-	-	-	1	1	1	4	7
Poxvirus group not typed	-	-	-	-	-	-	2	-	2	-	2	-
Parvovirus	-	2	2	14	46	-	11	21	96	81	248	248
<b>Picornavirus family</b>												
Coxsackievirus A16	1	-	-	-	-	-	-	-	1	3	3	6
Echovirus type 5	-	-	-	-	1	-	-	-	1	-	1	-
Echovirus type 9	-	13	-	-	-	-	-	-	13	2	71	5
Echovirus type 13	-	5	-	-	-	-	-	-	5	-	17	-
Echovirus type 18	-	1	-	-	-	-	-	-	1	-	6	-
Echovirus type 30	-	3	-	-	1	-	-	-	4	7	28	114
Poliovirus type 1 (unchar)	-	7	-	-	-	-	-	-	7	7	16	11
Poliovirus type 2 (unchar)	-	4	-	-	-	-	-	-	4	1	13	4
Poliovirus type 3 (unchar)	-	5	-	-	-	-	-	-	5	2	7	5
Rhinovirus (all types)	-	69	-	-	3	-	2	18	92	71	293	283
Enterovirus type 71 (BCR)	-	-	-	-	-	-	-	2	2	-	24	-
Enterovirus not typed/pending	-	8	6	2	2	6	34	117	175	84	577	667
Picorna virus not typed	-	-	-	-	-	-	6	-	6	2	6	2

Table 5 (continued). Virology and serology laboratory reports by State or Territory<sup>1</sup> for the reporting period 1 July to 30 September 2001, and total reports for the year<sup>2</sup>

	State or Territory <sup>1</sup>								This period 2001	This period 2000	Year to date 2001 <sup>3</sup>	Year to date 2000
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
<b>Ortho/paramyxoviruses</b>												
Influenza A virus	7	127	1	49	174	-	19	83	460	677	621	1,035
Influenza A virus H1N1	-	-	-	-	-	-	15	-	15		15	
Influenza A virus H3N2	-	-	-	-	-	-	5	-	5	6	5	7
Influenza B virus	1	10	1	-	32	-	6	10	60	336	121	433
Parainfluenza virus type 1	-	1	-	-	13	-	-	2	16	40	34	220
Parainfluenza virus type 2	-	1	-	-	15	-	-	1	17	10	42	31
Parainfluenza virus type 3	-	44	-	9	144	-	6	79	282	129	492	239
Parainfluenza virus typing pending	-	2	-	-	-	-	1	-	3		3	1
Respiratory syncytial virus	3	387	-	28	219	37	126	346	1,146	1,283	2,368	2,568
<b>Other RNA viruses</b>												
HTLV-1	-	-	-	-	1	-	-	3	4	2	17	5
Rotavirus	1	268	2	1	135	3	32	159	601	874	1,225	1,240
Norwalk agent	-	-	-	-	-	-	13	-	13	13	124	17
<b>Other</b>												
<i>Chlamydia trachomatis</i> - A-K	-	-	-	-	-	-	-	1	1	478	1	2,226
<i>Chlamydia trachomatis</i> not typed	12	103	22	147	181	5	1	168	639		2,605	
<i>Chlamydia pneumoniae</i>	-	-	-	1	-	-	-	1	2	34	7	36
<i>Chlamydia psittaci</i>	-	-	2	-	-	-	8	2	12	17	58	67
<i>Mycoplasma pneumoniae</i>	-	21	5	34	64	10	60	38	232	151	632	450
<i>Coxiella Burnetti</i> (Q fever)	1	5	-	11	4	-	14	6	41	22	129	54
<i>Rickettsia</i> - Spotted fever group	-	-	-	-	-	1	-	-	7	3	114	21
<i>Rickettsia</i> spp - other	-	-	-	-	-	-	-	1	1	3	4	9
<i>Streptococcus</i> group A	-	2	7	55	-	-	15	-	79	67	271	248
<i>Yersinia enterocolitica</i>	-	1	-	-	-	-	-	-	1	1	3	9
<i>Brucella</i> species	-	-	-	1	-	-	-	-	1	1	3	5
<i>Bordetella pertussis</i>	8	46	4	40	305	2	31	3	439	174	899	449
<i>Legionella pneumophila</i>	-	-	-	-	-	-	18	-	18	18	48	33
<i>Legionella longbeachae</i>	-	-	1	-	1	-	-	6	8	8	19	43
<i>Legionella</i> species	-	-	-	-	-	-	5	-	5	1	12	2
<i>Cryptococcus</i> species	-	-	-	1	8	-	-	-	9	3	34	11
<i>Leptospira</i> species	-	1	-	2	3	-	-	-	6	9	33	42
<i>Treponema pallidum</i>	-	25	69	71	86	-	-	10	261	195	938	562
<i>Toxoplasma gondii</i>	-	2	-	-	2	2	2	-	8	4	24	12
<i>Echinococcus granulosus</i>	-	-	-	-	3	-	-	2	5	2	21	16
<b>Total</b>	<b>40</b>	<b>1,377</b>	<b>172</b>	<b>784</b>	<b>1,881</b>	<b>82</b>	<b>599</b>	<b>1,315</b>	<b>6,256</b>	<b>5,900</b>	<b>18,077</b>	<b>17,301</b>

1. State or Territory of postcode, if reported, otherwise State or Territory of reporting laboratory.

2. From January 2000 data presented are for reports with report dates in the current period. Previously reports included all data received in that period.

3. Totals comprise data from all laboratories. 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.

- No data received this period.

Table 6. Summary of data sent to LabVISE from Path Centre, Western Australia, October 2000 to June 2001

Organism	2000			2001						Total
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Adenovirus not typed	13	22	12	14	23	17	19	16	11	147
Adenovirus type 1	0	0	0	0	0	0	1	0	0	1
Adenovirus type 40	0	2	2	0	6	7	11	2	13	43
Adenovirus type 41	0	0	0	2	0	0	0	0	0	2
Influenza A virus	74	50	10	9	1	1	2	2	6	155
Influenza B virus	12	6	2	6	3	1	2	4	5	41
Parainfluenza virus type 1	0	0	0	3	0	0	0	0	0	3
Parainfluenza virus type 2	0	1	0	0	0	0	0	0	1	2
Parainfluenza virus type 3	9	10	17	12	11	4	1	8	11	83
Parainfluenza virus type 4	0	0	0	0	0	0	0	2	0	2
Respiratory syncytial virus	16	12	2	8	14	21	3	18	18	112
Rhinovirus (all types)	17	13	10	1	15	16	12	15	16	115
<i>Mycoplasma pneumoniae</i>	9	19	11	16	10	4	4	20	12	105
<i>Chlamydia psittaci</i>	0	1	1	0	3	1	0	1	1	8
Mumps virus	4	3	1	2	1	2	8	1	2	24
Epstein-Barr virus	15	23	21	38	25	30	9	16	15	192
Varicella-Zoster virus	49	72	84	52	47	70	43	50	61	528
Herpes type 6	0	1	1	0	0	1	0	0	0	3
<i>Coxiella Burnetti</i>	8	2	1	2	3	6	2	3	0	27
<i>Rickettsia</i> other	0	1	3	1	0	0	0	1		6
Enteroviruses - not typed	22	31	48	25	29	79	42	69	91	436
Molluscum contagiosum	1	1	0	0	2	3	1	2	2	12
ORF virus	0	0	0	0	1	0	0	2	0	3
Measles virus	0	0	0	0	0	3	0	2	0	5
Rubella virus	0	1	1	0	1	1	2	1	0	7
Hepatitis A virus	2	2	3	2	0	1	1		1	12
<i>Chlamydia trachomatis</i> not typed	108	133	116	79	121	149	93	176	126	1101
Papovavirus group	0	1	0	0	0	0	0	1	1	3
Cytomegalovirus	11	4	8	2	3	7	18	0	0	53
Rotavirus	3	4	1	0	3	13	8	27	61	120
Calicivirus	0	0	0	0	0	0	1	0	0	1
Enterovirus type 71 (BCR)	0	0	1	0	0	0	1	0	0	2
Parvovirus	12	15	19	15	29	10	8	10	24	142
HTLV-1	2	0	2	1	1	3	2	1	0	12
Barmah Forest Virus	4	4	6	3	3	11	4	4	3	42
Dengue type 2	0	0	0	0	0	0	0	0	1	1
Dengue type 3	0	0	0	3	0	0	0	0	1	4

**Table 6. (continued) Summary of data sent to LabVISE from Path Centre, Western Australia. November 2000 to June 2001**

Organism	2000			2001						Total
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Dengue type 4	0	0	0	0	0	0	0	0	1	1
MVE virus	1	0	0	1	1	7	1	0	0	11
Ross River virus	0	8	8	25	28	31	19	21	4	144
Dengue	3	2	4	6	6	60	26	0	19	126
Kunjin virus	0	0	0	0	1	4	2	2	2	11
<i>Bordetella</i> species	0	1	0	3	0	6	2	1	0	13
<i>Bordetella pertussis</i>	0	4	8	2	0	1	0	1	3	19
<i>Legionella pneumophila</i>	0	1	1	0	1	1	0	1	0	5
<i>Legionella longbeachae</i>	2	1	3	1	0	3	1	2	2	15
<i>Leptospira</i> species	1	2	1	0	0	0	1	0	0	5
<i>Schistosoma</i> species	6	4	5	4	1	10	2	4	5	41
<b>Total</b>	<b>404</b>	<b>457</b>	<b>413</b>	<b>338</b>	<b>393</b>	<b>584</b>	<b>352</b>	<b>486</b>	<b>519</b>	<b>3946</b>

**Table 7. Australian Sentinel Practice Research Network reports, weeks 27-30 to 35-39, 2001**

Week number	27-30		31-34		35-39	
Ending on	29 July 2001		26 August 2001		30 September 2001	
Doctors reporting	207		228		285	
Total encounters	24,716		27,865		34,900	
Condition	Reports	Rate per 1,000 encounters	Reports	Rate per 1,000 encounters	Reports	Rate per 1,000 encounters
Influenza	317	12.8	373	13.4	279	8.0
Influenza with culture	3	0.1	6	0.2	2	0.1
Chickenpox	66	2.7	60	2.2	76	2.2
Shingles	27	1.1	33	1.2	52	1.5

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. The system coordinates the national surveillance of more than 50 communicable diseases or disease groups endorsed by the Communicable Diseases Network Australia and the National Public Health Partnership. Notifications of these diseases are made to State and Territory health authorities under the provisions of their respective public health legislation. De-identified core unit data are supplied fortnightly for collation, analysis and dissemination. For further information, see Commun Dis Intell 2000;24:6-7.

LabVISE is a sentinel reporting scheme. Currently 17 laboratories contribute data on the laboratory identification of viruses and other organisms. This number may change throughout the year. Data are collated and published in Communicable Diseases Intelligence quarterly. These data should be interpreted with caution as the number and type of reports received is subject to a number of biases. For further information, see Commun Dis Intell 2000;24:10.

ASPREN currently comprises about 120 general practitioners from throughout the country, not all of whom report each week. Between 7,000 and 8,000 consultations are reported each week, with special attention to 12 conditions chosen for sentinel surveillance in 2001. Communicable Diseases Intelligence reports the consultation rates for four of these. For further information, including case definitions, see Commun Dis Intell 2001;25:106.

## Additional reports

### Gonococcal surveillance

John Tapsall, The Prince of Wales Hospital, Randwick, NSW, 2031 for the Australian Gonococcal Surveillance Programme.

The Australian Gonococcal Surveillance Programme (AGSP) reference laboratories in the various States and Territories report data on sensitivity to an agreed 'core' group of antimicrobial agents quarterly. The antibiotics currently routinely surveyed are penicillin, ceftriaxone, ciprofloxacin and spectinomycin, all of which are administered as single dose regimens and currently used in Australia to treat gonorrhoea. When *in vitro* resistance to a recommended agent is demonstrated in 5 per cent or more of isolates from a general population, it is usual to remove that agent from the list of recommended treatment.<sup>1</sup> Additional data are also provided on other antibiotics from time to time. At present all laboratories also test isolates for the presence of high level (plasmid-mediated) resistance to the tetracyclines, known as TRNG. Tetracyclines are however, not a recommended therapy for gonorrhoea in Australia. Comparability of data is achieved by means of a standardised system of testing and a program-specific quality assurance process. Because of the substantial geographic differences in susceptibility patterns in Australia, regional as well as aggregated data are presented.

#### Reporting period 1 April to 30 June 2001

The AGSP laboratories examined a total of 858 isolates in this quarter, a lower number than in the same period in the past 2 years. About 45 per cent of this total was from New South Wales, 17 per cent from Victoria, 13 per cent from Queensland, 12 per cent from the Northern Territory, 9 per cent from Western Australia and 3 per cent from South Australia. Isolates from other centres were few.

#### Penicillins

Figure 1 shows the proportions of gonococci fully sensitive (MIC  $\leq$  0.03 mg/L), less sensitive (MIC 0.06 – 1 mg/L), relatively resistant (MIC  $\geq$  1 mg/L) or else penicillinase producing (PPNG) aggregated for Australia and by State or Territory. A high proportion of those strains classified as PPNG or resistant by chromosomal mechanisms fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

In this quarter about 22 per cent of all isolates were penicillin resistant by one or more mechanisms — 7 per cent PPNG and 15 per cent by chromosomal mechanisms (CMRNG). The proportion of penicillin resistant strains ranged from 4 per cent in the Northern Territory to 36 per cent in South Australia.

The number of PPNG isolates across Australia (58) was lower in this quarter than in the corresponding period in 2000 (74). The highest proportion of PPNG was found in isolates from Victoria (13%) and Queensland (10%). PPNG were present in all jurisdictions including 2 (1.9%) in the Northern Territory. South and South East Asian countries were the main source of external acquisition, but included an isolate

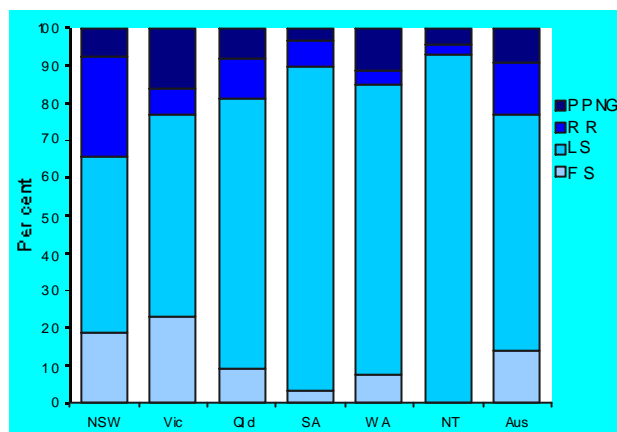
acquired in Ethiopia. Local acquisition was prominent in Victoria and New South Wales.

More isolates were resistant to the penicillins by separate chromosomal mechanisms (128). These CMRNG were especially prominent in South Australia (29% of isolates there), New South Wales (22%), Victoria (13%) and Queensland (11%). Two CMRNG isolates were detected in the Northern Territory.

#### Ceftriaxone

Low numbers of isolates with decreased susceptibility to ceftriaxone were present in the Northern Territory and Western Australia.

**Figure 1. Categorisation of gonococci isolated, Australia, 1 April to 30 June 2001, by penicillin susceptibility and by region**



FS Fully sensitive to penicillin, MIC  $\leq$  0.03 mg/L  
 LS Less sensitive to penicillin, MIC 0.06 – 0.5 mg/L  
 RR Relatively resistant to penicillin, MIC  $\geq$  1 mg/L  
 PPNG Penicillinase producing *Neisseria gonorrhoeae*

#### Spectinomycin

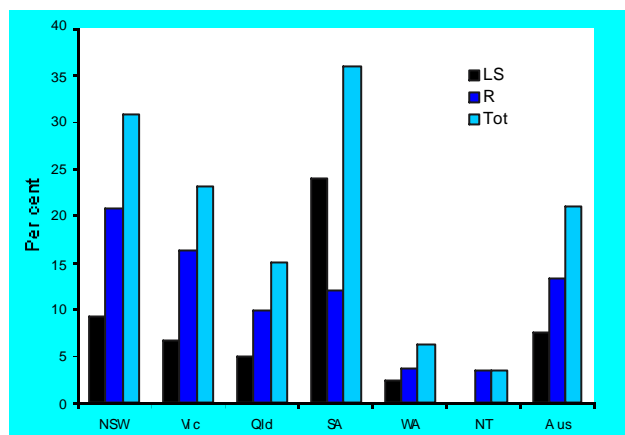
All isolates were susceptible to this injectable agent.

#### Quinolone antibiotics

Quinolone resistant *N. gonorrhoeae* (QRNG) are defined as those isolates with an MIC to ciprofloxacin equal to or greater than 0.06 mg/L. QRNG are further subdivided into less sensitive (ciprofloxacin MICs 0.06 – 0.5 mg/L) or resistant (MIC  $\geq$  1 mg/L) groups (Figure 2).

The total number (165) of all QRNG was again high but lower in this quarter than in the previous quarter (197) and the corresponding period in 2000 (183). QRNG were 19 per cent of all strains examined and this proportion was little changed from the second quarter of 2000. QRNG were again widely distributed. High proportions were maintained in South Australia (25%), New South Wales (28%), Queensland (18%) and Western Australia (13%). A marked decrease in the number of QRNG was seen in Victoria where the 12 QRNG represented 9 per cent of isolates. In the corresponding period of 2000, 25 per cent of Victorian

**Figure 2. Distribution of *N. Gonorrhoea* showing quinolone resistance, Australia, 1 April to 30 June 2001**



LS QRNG Ciprofloxacin MICs 0.06 – 0.5 mg/L

R QRNG Ciprofloxacin MICs  $\geq$  1 mg/L

strains were QRNG and the proportion was 22 per cent in the previous quarter. In both New South Wales and now Victoria there has been a significant decrease in the number of 'less sensitive' QRNG in recent quarters. However, in New South Wales and also in Queensland, the proportion of isolation of 'resistant' QRNG has accelerated. Ninety-three of the New South Wales (24%), 21 (16%) of the Queensland and 7 (22%) of the South Australian gonococci exhibited high level resistance (MIC ciprofloxacin  $\geq$  1 mg/L). In Victoria this number declined to 9 from the 23 seen in the first quarter of 2001. Higher level QRNG were also seen in the Northern Territory and Western Australia. Local acquisition was again prominent and MICs ranged up to 16mg/L. The majority of QRNG (137 of 165, 83%) are now in the high level range compared with 64 per cent in this category the previous quarter and 40 per cent in the same period last year.

#### High level tetracycline resistance (TRNG)

The number (56) and proportion (6.5%) of TRNG detected continued to decline. TRNG represented 14 per cent of isolates from Queensland, 10 per cent of those from Victoria, 5 per cent from New South Wales, 4 per cent from Western Australia and 2 per cent from the Northern Territory.

#### Reference

1. Anonymous. Management of sexually transmitted diseases. World Health Organization 1997; Document WHO/GPA/TEM94.1 Rev.1 p 37.

### Australian encephalitis: Sentinel Chicken Surveillance Programme

Sentinel chicken flocks are used to monitor flavivirus activity in Australia. The main viruses of concern are Murray Valley encephalitis (MVE) and Kunjin which cause the potentially fatal disease encephalitis, in humans. Currently 30 flocks are maintained in the north of Western Australia, 9 in the

Northern Territory, 12 in New South Wales and 10 in Victoria. The flocks in Western Australia and the Northern Territory are tested year round but those in New South Wales and Victoria are tested only from November to March, during the main risk season.

Results are coordinated by the Arbovirus Laboratory in Perth and reported bimonthly. For more information and details of the location of sentinel chicken sites see Commun Dis Intell 2000;24:8-9.

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5. Territory Health Services, Northern Territory

#### July/August 2001

Sentinel chicken serology was carried out for 21 of the 30 flocks in Western Australia in July and August 2001. The number of seroconversions to flaviviruses have decreased in the north of Western Australia but MVE and Kunjin virus activity was still detected in both the Kimberley and Pilbara regions. In July there were 4 seroconversions from the Kimberley: 1 MVE from Kununurra; 2 KUN from Halls Creek; 1 Flavivirus from Kalumburu and 1 MVE seroconversion from Karratha in the Pilbara. In August there were no seroconversions from the Kimberley but 5 were recorded from the Pilbara: One FLAVI positive was reported from Port Hedland, 1 MVE seroconversion from both Harding Dam and Marble Bar and 2 seroconversions (1 FLAVI and 1 KUN) from Paraburdoo. A number of these seroconversions have yet to be confirmed.

All of the Western Australian flocks will be replaced in September 2001.

Serum samples from all 8 Northern Territory sentinel chicken flocks were tested at the University of Western Australia in July 2001 and samples from 5 flocks were tested in August 2001. There was only one new seroconversion to MVE virus in the Alice Springs flock in July.

The State Health Departments provide funding for the sentinel chicken surveillance programs in Western Australia and the Northern Territory.

#### September/October 2001

Sentinel chicken serology was carried out for 25 of the 30 flocks in Western Australia in September and October 2001. There was only one seroconversion to MVE virus from Marble Bar in the Pilbara region. The majority of the Western Australian flocks were replaced in September 2001.

Serum samples from all 8 Northern Territory sentinel chicken flocks were tested at the University of Western Australia in September 2001 and samples from 3 flocks were tested in October 2001. There were no new seroconversions to flaviviruses during this period.

### HIV and AIDS Surveillance

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 (Australian Capital Territory, 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, and annually in HIV/AIDS and related Diseases in Australia Annual Surveillance Report. The reports are available from the National Centre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst NSW 2010. Internet: <http://www.med.unsw.edu.au/nchechr>. Telephone: (02) 9332 4648. Facsimile: (02) 9332 1837.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 April to 30 June 2001, as reported to 30 September 2001, are included in this issue of Communicable Diseases Intelligence (Tables 8 and 9).

**Table 8. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 April to 30 June 2001, by sex and State or Territory of diagnosis**

									Totals for Australia				
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2001	This period 2000	Year to date 2001	Year to date 2000
HIV diagnoses	Female	0	7	0	4	2	0	3	1	17	21	42	42
	Male	0	68	1	19	5	0	43	3	139	169	303	366
	Sex not reported	0	2	0	0	0	0	0	0	2	0	2	0
	Total <sup>1</sup>	0	77	1	23	7	0	46	4	158	191	348	410
AIDS diagnoses	Female	0	0	0	0	0	0	0	0	0	5	2	13
	Male	0	6	0	2	0	0	9	3	20	45	44	115
	Total <sup>1</sup>	0	6	0	2	0	0	9	3	20	50	47	128
AIDS deaths	Female	0	0	0	1	0	0	0	0	1	2	3	5
	Male	0	3	0	3	1	0	4	1	12	35	24	64
	Total <sup>1</sup>	0	3	0	4	1	0	4	1	13	37	27	69

**Table 9. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 30 September 2001, by sex and State or Territory**

		State or Territory								Australia
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
HIV diagnoses	Female	27	655	10	173	66	5	237	124	1,297
	Male	228	11,398	110	2,121	707	80	4,115	959	19,718
	Sex not reported	0	245	0	0	0	0	24	0	269
	Total <sup>1</sup>	255	12,319	120	2,301	773	85	4,391	1,089	21,333
AIDS diagnoses	Female	9	202	0	50	25	3	73	27	389
	Male	87	4,757	37	867	352	45	1,709	363	8,217
	Total <sup>1</sup>	96	4,971	37	919	377	48	1,791	392	8,631
AIDS deaths	Female	4	115	0	34	16	2	51	17	239
	Male	68	3,258	24	585	235	29	1,306	256	5,761
	Total <sup>1</sup>	72	3,381	24	621	251	31	1,364	274	6,018

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

## Childhood Immunisation Coverage

Tables 10 and 11 provide the latest quarterly report on childhood immunisation coverage from the Australian Childhood Immunisation Register (ACIR).

The data show the percentage of children fully immunised at age 12 months for the cohort born between 1 April to

30 June 2000 and at 24 months of age for the cohort born between 1 April to 30 June 1999 according to the Australian Standard Vaccination Schedule.

A full description of the methodology used can be found in *Commun Dis Intell* 1998;22:36-37.

**Table 10. Percentage of children immunised at 1 year of age, preliminary results by disease and State for the birth cohort 1 April to 30 June 2000; assessment date 30 September 2001.**

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,088	21,807	931	12,274	4,414	1,460	15,071	6,090	63,135
Diphtheria, Tetanus, Pertussis (%)	93.2	91.4	90.3	92.5	92.4	91.8	92.6	90.4	91.9
Poliomyelitis (%)	93.2	91.4	90.0	92.4	92.4	91.8	92.6	90.3	91.8
<i>Haemophilus influenzae</i> type b (%)	95.3	94.1	94.2	94.6	95.0	94.8	95.1	93.8	94.5
<b>Fully immunised (%)</b>	92.7	90.7	89.3	91.8	91.6	91.0	92.0	89.5	91.2
Change in fully immunised since last quarter (%)	0.0	+0.2	+0.1	-0.2	-0.6	-0.6	-0.1	-0.7	-0.1

**Table 11. Proportion of children immunised at 2 years of age, preliminary results by disease and State for the birth cohort 1 April to 30 June 1999; assessment date 30 September 2001<sup>1</sup>**

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,106	21,732	907	12,375	4,629	1,567	15,088	6,480	63,884
Diphtheria, Tetanus, Pertussis (%)	89.2	89.2	82.4	91.0	91.1	90.2	90.4	88.6	89.8
Poliomyelitis (%)	94.3	93.1	94.5	94.1	95.2	94.2	94.4	93.4	93.9
<i>Haemophilus influenzae</i> type b (%)	95.2	94.9	91.8	95.0	96.4	95.2	95.8	94.6	95.2
Measles, Mumps, Rubella (%)	93.3	92.3	93.2	93.3	95.1	93.9	93.5	92.8	93.1
<b>Fully immunised (%)<sup>2</sup></b>	86.6	85.7	79.8	88.6	89.1	88.7	87.5	86.0	87.0
Change in fully immunised since last quarter (%)	-1.2	+3.8	-0.2	+0.3	+0.5	+0.1	+1.1	+2.9	+1.9

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2000;24:324.

2. These data relating to 2 year-old children should be considered as preliminary. The proportions shown as 'fully immunised' appear low when compared with the proportions for individual vaccines. This is at least partly due to poor identification of children on immunisation encounter forms.

Acknowledgment: These figures were provided by the Health Insurance Commission (HIC), to specifications provided by the Commonwealth Department of Health and Aged Care. For further information on these figures or data on the Australian Childhood Immunisation Register please contact the Immunisation Section of the HIC: Telephone 02 6124 6607.