

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 components: (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 4 presents the crude incidence of diseases by State or Territory for the current reporting quarter.

Table 2 now includes the following summary columns: total current quarter data, totals for previous quarter; total for same quarter in previous year; a 5-year mean for the same quarter and the ratio of the current quarter to the mean of the first 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. From 2001, the following diseases are notifiable. All jurisdictions are working towards reporting against the new national list. Dates of first transmission of a dataset consistent with the new list will vary across Australia depending on 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 infection, hydatid disease, lymphogranuloma venereum, and yersiniosis.

Anthrax is an acute bacterial disease of the skin and rarely an inhalation disease affecting the oropharynx, mediastinum or intestinal tract. Since this is a serious disease and has been developed as a potential biological weapon, the surveillance of anthrax is increasingly important. Anthrax is acquired primarily by contact with livestock and occurred at very low levels in Australia (less than 8 notifications per 10 million per year) between 1917 and 1990.

Arboviruses: From 1996 to 2000, the category 'Arboviruses: Not Elsewhere Classified (NEC)' included Murray Valley encephalitis (MVE), Kunjin, Japanese encephalitis (JE), Kokobera and Stratford viruses. From 2001, MVE, Kunjin and JE will be notified separately.

Both MVE and Kunjin viruses are flaviviruses transmitted by mosquitoes.

Murray Valley encephalitis: While only 1 in 1,000 people infected with MVE virus will develop encephalitis, the case fatality rate is about 20 per cent, with a further 40 per cent surviving with residual permanent neurological damage. MVE virus is enzootic in the Kimberley region of Western Australia and the top end of the Northern Territory. Cases occur sporadically in Queensland. Disease outbreaks in more southerly regions of Australia are rare, with the last major outbreak occurring in 1974. The MVE virus is a flavivirus, transmitted by mosquitoes. Avian hosts play an important role in the life cycle of the virus and are useful for sentinel surveillance.

Kunjin. Infection with Kunjin virus occasionally causes encephalitis, but less frequently than the MVE virus. While both viruses share vertebrate and vector hosts, the epidemiology of Kunjin virus differs from that of MVE virus. Kunjin virus appears to be more widely distributed geographically in Australia and is closely related to the West Nile virus.

Cryptosporidiosis is a protozoal infection of the gastrointestinal tract. The main route of transmission is faecal-oral and up to 5 per cent of the human population excretes the oocytes in their faeces. Cryptosporidiosis is a significant infection in people affected by HIV/AIDS.

Continuous monitoring of influenza is a critical public health issue in the 21st century, due to the possibility of rapidly evolving pandemics causing widespread morbidity and mortality, particularly among the elderly and immuno-compromised. National laboratory-based influenza surveillance will link with ASPREN and State-based influenza surveillance schemes.

Australian bat lyssavirus infections are notifiable from this quarter. Two deaths in Queensland (in 1996 and 1998) associated with lyssavirus infection dramatised the risk of this disease for people exposed to bats. A prevalence of lyssavirus infection in bats in southern Queensland of 6 per cent has been reported (McCall, 2000).

Invasive laboratory-confirmed pneumococcal disease will also be notifiable. This will build on existing pneumococcal surveillance in the Northern Territory, New South Wales and Western Australia. These infections will be important to monitor as a new conjugate vaccine is introduced in Australia in 2001.

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.

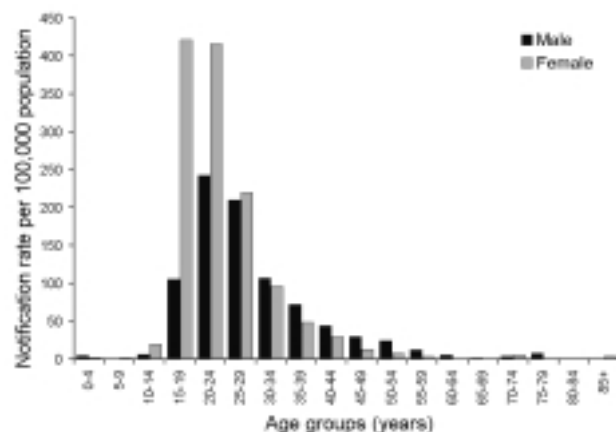
Sexually transmitted infections

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

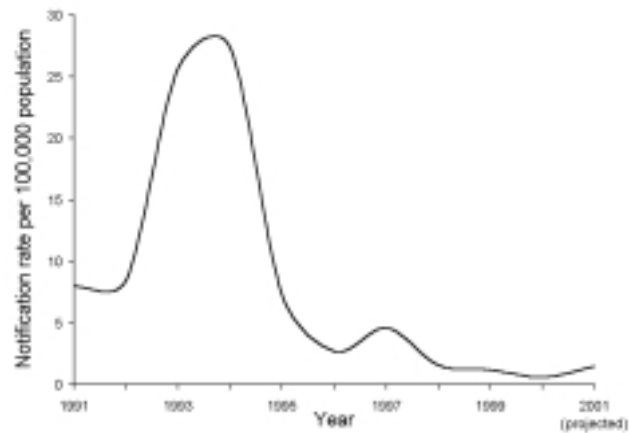


Figure 3. Notification rate of measles, first quarter 2001, by age group and sex

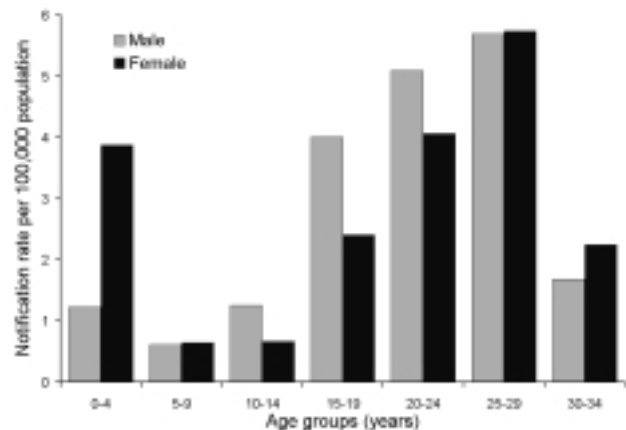
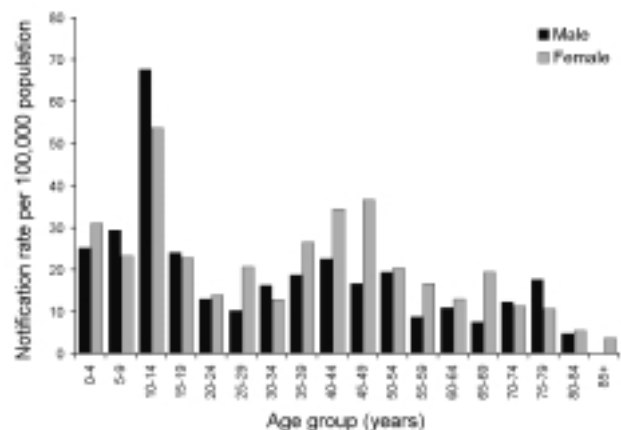


Figure 4. Notification rate of pertussis, first quarter 2001, by age group and sex



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.

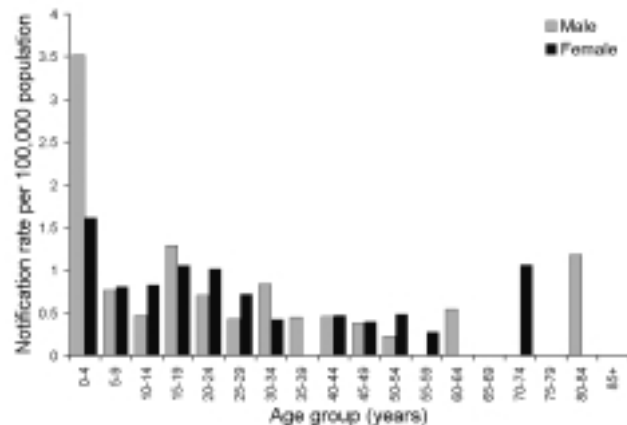
Of the 38 cases in Victoria, 89 per cent of the cases were confirmed as *Legionella pneumophila* serogroup 1. Nationally, legionellosis was only reported in people aged 20 years or more with 65 per cent of the notifications from those aged 50 years or more. There was a preponderance of males in the reports 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%)
Subtotal	22	9	3	14	4	0	1	1	54
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%)
Subtotal	8	4	0	7	1	0	0	0	20
Subtotal	22	2	1	0	0	2	0	0	27
Total	52	15	4	21	5	2	1	1	101

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.

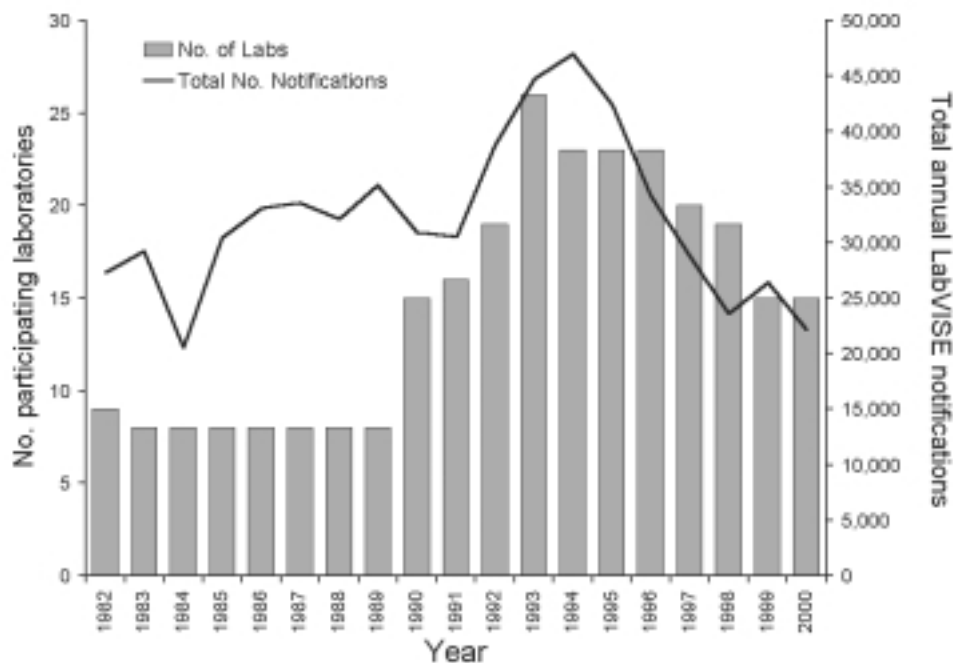
There has been a decline in the number of notifications and participating laboratories in LabVISE (Figure 6), since a

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

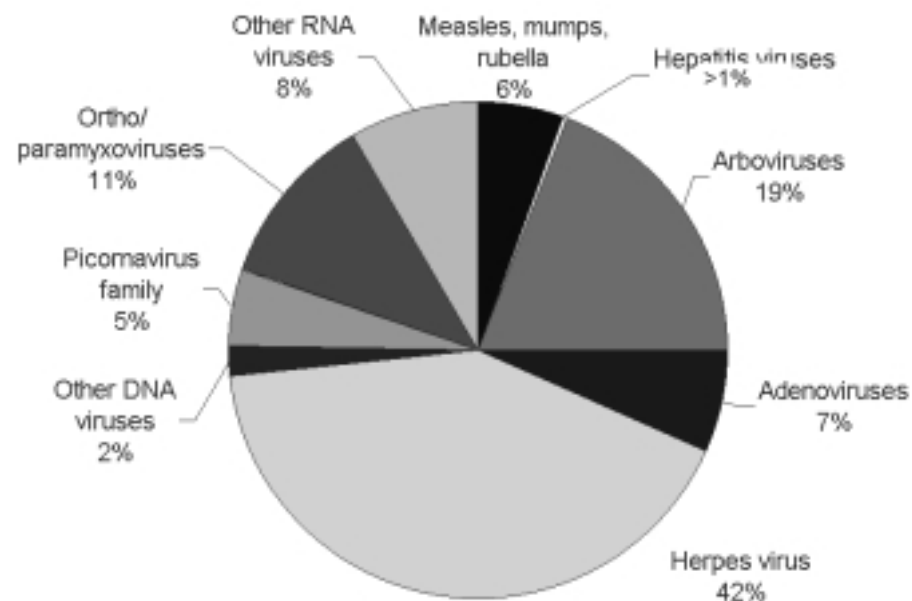
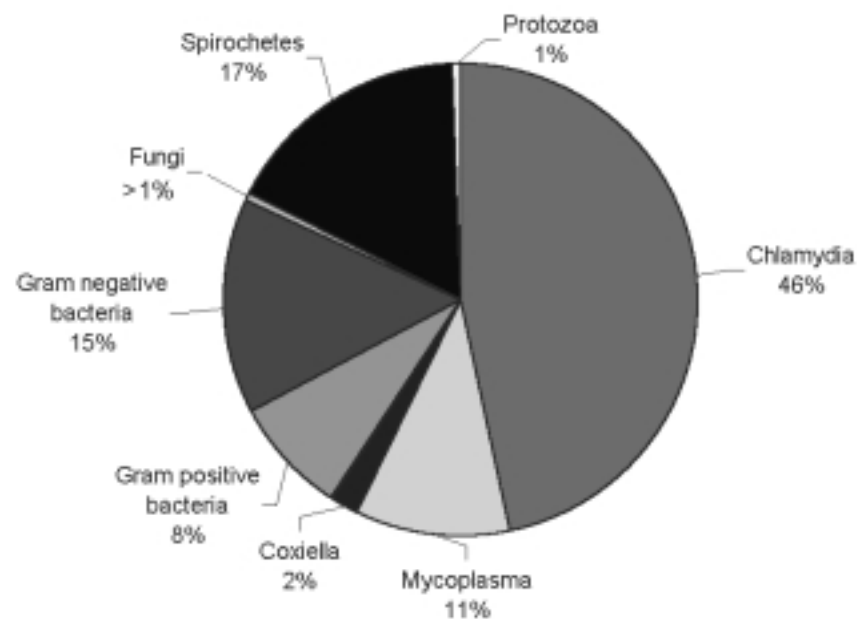


Figure 8. Non-viral isolates, first quarter 2001, LabVISE



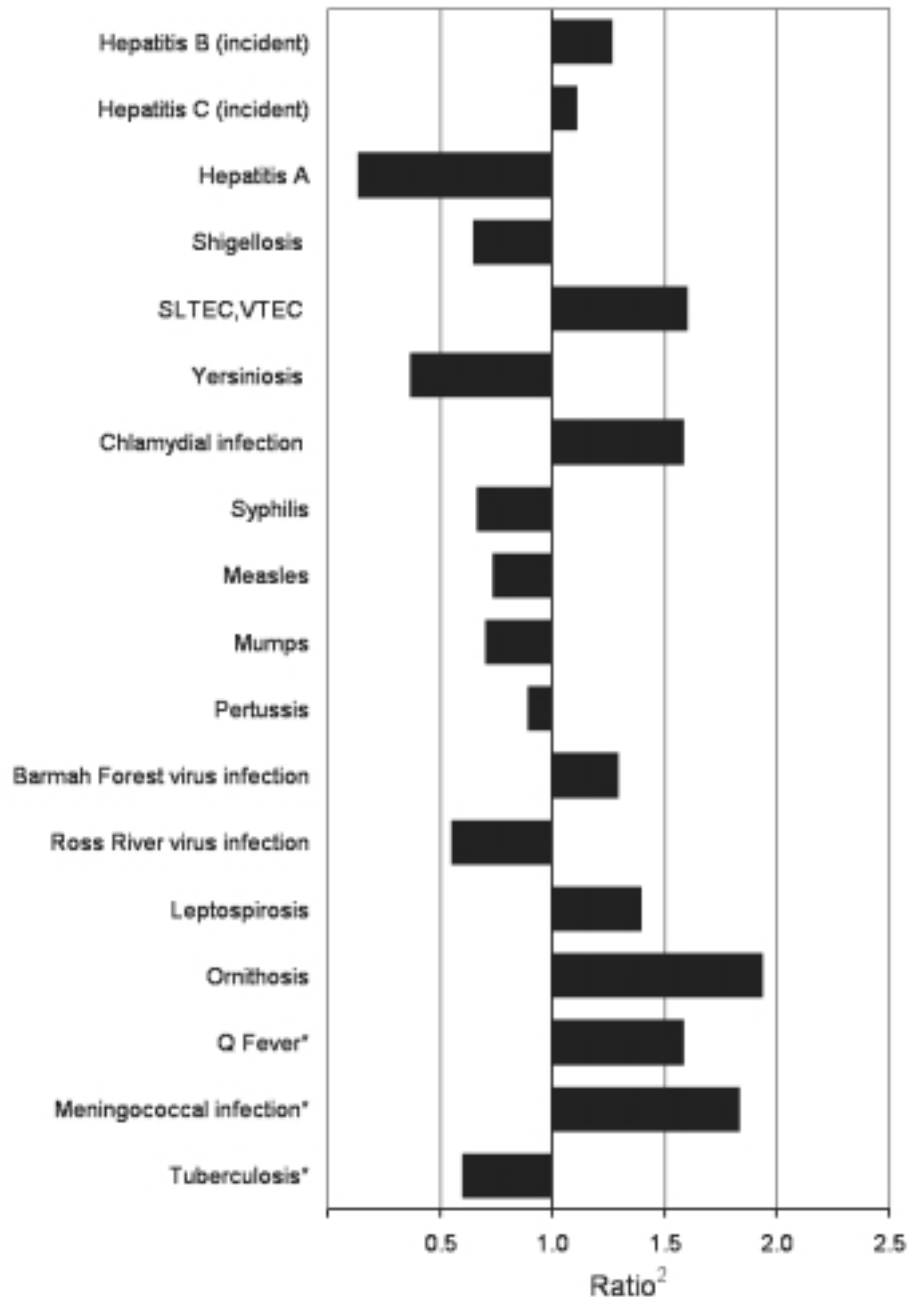
Tables

There were 22,741 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 January and 31 March 2001 (Table 2). Figure 9 illustrates, for selected diseases, the first quarter 2001 totals as ratios to the mean of the first quarters for the previous 5 years. A summary of diseases currently being reported by each jurisdiction is provided in Table 3. The crude incidence of diseases per 100,000 population for each State or Territory is presented in Table 4.

There were 2,499 reports received by the *CDI* Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 January to 31 March 2001 (Tables 5 and 6).

The Australian Sentinel Practice Research Network (ASPREN) data for weeks 1-4 to 9-12, ending 25 March 2001, are included in this issue of *Communicable Diseases Intelligence* (Table 7).

Figure 9. Selected¹ diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 January to 31 March 2001 with historical data²



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

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 January to 31 March 2001, by date of notification[#]

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 1st quarter 2001 ¹	Total 4th quarter 2000 ¹	Total 1st quarter 2000 ¹	Last 5 years mean 1st quarter	Ratio*
Bloodborne													
Hepatitis B (incident)	0	25	2	6	24	4	29	6	96	87	89	76	1.3
Hepatitis B (unspecified) ²	5	870	NDR	40	52	13	441	66	1,487	2,292	2,020	1,786	0.8
Hepatitis C (incident)	4	29	0	0	29	1	14	5	82	115	160	74	1.1
Hepatitis C (unspecified) ²	45	1,610	57	858	191	105	1,323	120	4,309	4,615	5,855	4,662	0.9
Hepatitis D	0	4	0	1	0	0	0	0	5	12	4	4	1.3
Gastrointestinal													
Botulism	0	0	0	0	0	0	1	0	1	0	0	0	0.0
Campylobacteriosis ³	94	-	67	866	481	138	1,228	520	3,394	3,843	3,198	3,086	1.1
Cryptosporidiosis	5	NDR	112	101	19	0	NDR	18	255	NDR	NDR	n/a	n/a
Haemolytic Uraemic Syndrome	0	1	0	0	0	0	1	0	2	8	5	n/a	n/a
Hepatitis A	2	29	6	24	3	3	22	7	96	133	305	704	0.1
Hepatitis E	0	0	0	0	0	0	0	1	1	1	0	1	0.0
Listeriosis	0	6	0	7	1	1	6	0	21	15	26	21	1.0
Salmonellosis	29	514	136	705	177	71	343	205	2,180	1,507	2,087	2,466	1.0
Shigellosis ³	1	-	36	37	10	2	24	6	116	128	125	184	0.6
SLTEC, VTEC ⁴	0	0	0	1	12	0	3	0	16	6	17	n/a	n/a
Typhoid	0	12	0	3	0	1	7	10	33	14	22	28	1.2
Quarantinable													
Cholera	0	0	0	0	0	0	0	0	0	0	1	1	n/a
Plague	0	0	0	0	0	0	0	0	0	0	0	0	n/a
Rabies	0	0	0	0	0	0	0	0	0	0	0	0	n/a
Viral haemorrhagic fever	0	0	0	0	0	0	0	0	0	0	0	0	n/a
Yellow fever	0	0	0	0	0	0	0	0	0	0	0	0	n/a
Sexually transmissible[†]													
Chlamydial infection ⁵	71	961	304	1,398	628	101	795	438	4,696	4,661	4,283	2,982	1.6
Donovanosis	0	0	1	1	NDR	0	0	0	2	2	5	9	0.2
Gonococcal infection ⁶	6	261	311	281	104	4	227	263	1,457	1,239	1,654	1,335	1.1
Syphilis ⁷	2	185	39	36	0	2	0	14	278	490	430	419	0.7

Table 2 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 January to 31 March 2001, by date of notification[#]

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 1st quarter 2001 ¹	Total 4th quarter 2000 ¹	Total 1st quarter 2000 ¹	Last 5 years mean 1st quarter	Ratio*
Vaccine preventable													
Diphtheria	0	0	1	0	0	0	0	0	1	0	0	0	0.0
<i>Haemophilus influenzae</i> type b	0	0	1	2	0	0	2	0	5	9	3	9	0.6
Influenza	2	NDR	7	0	NDR	0	NDR	3	12	NDR	NDR	n/a	n/a
Measles	0	10	0	4	0	1	54	1	70	26	28	95	0.7
Mumps	1	4	0	0	4	0	17	5	31	35	46	44	0.7
Pertussis	20	638	6	219	164	5	138	22	1,217	1,841	939	1,367	0.9
Invasive pneumococcal disease	0	NDR	16	57	NDR	0	NDR	13	87	NDR	NDR	n/a	n/a
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rubella ⁸	0	22	0	11	2	0	18	2	55	140	45	276	0.2
Tetanus	0	0	0	0	0	1	0	0	1	3	2	2	0.5
Vectorborne													
Arbovirus infection NEC	1	0	2	1	0	0	5	0	9	2	27	27	0.3
Barmah Forest virus infection	1	67	21	198	5	0	9	23	324	172	184	252	1.3
Dengue	1	6	17	7	0	0	1	1	33	10	153	103	0.3
Japanese encephalitis	0	-	-	0	-	0	0	0	0	-	-	n/a	n/a
Kunjin virus infection	0	-	-	0	-	0	0	0	0	-	-	n/a	n/a
Malaria	9	41	14	115	6	1	30	14	230	182	273	260	0.9
Murray Valley encephalitis	0	-	-	1	-	0	0	1	2	-	-	n/a	n/a
Ross River virus infection	5	244	181	707	100	9	262	69	1,577	515	2,044	2,874	0.5
Zoonoses													
Anthrax	0	0	0	0	NDR	0	0	0	0	NDR	NDR	n/a	n/a
Australian bat lyssavirus	0	0	0	0	NDR	0	0	0	0	NDR	NDR	n/a	n/a
Brucellosis	0	0	0	4	1	0	1	0	6	8	5	9	0.8
Leptospirosis	0	15	0	44	0	1	10	0	70	63	66	61	1.4
Other lyssavirus (NEC)	0	0	0	0	NDR	0	0	0	0	NDR	NDR	n/a	n/a
Ornithosis	0	NDR	0	NDR	3	0	24	2	29	37	17	15	1.9
Q fever	0	26	0	133	1	0	6	3	169	123	136	131	1.6

Tables

Communicable diseases surveillance

Table 2 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 January to 31 March 2001, by date of notification[#]

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 1st quarter 2001 ¹	Total 4th quarter 2000 ¹	Total 1st quarter 2000 ¹	Last 5 years mean 1st quarter	Ratio*
Other													
Legionellosis	0	9	1	11	2	0	38	4	65	88	85	65	1.0
Leprosy	0	1	0	0	0	0	0	0	1	1	0	3	0.3
Meningococcal infection	2	61	2	15	4	1	31	12	128	169	93	71	1.8
Non-TB mycobacteria	1	8	0	32	0	2	0	0	43	75	151		
Tuberculosis	0	55	2	14	0	0	84	8	163	263	280	272	0.6
Total	307	5,714	1,342	5,963	2,024	467	5,196	1,862	22,741	22,945	24,886	23,858	1.0

1. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.
2. Unspecified numbers should be interpreted with some caution as the magnitude may be a reflection of the numbers of tests being carried out.
3. Not reported for NSW because it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.
4. Infections with Shiga-like toxin (verotoxin) producing *E. coli* (SLTEC/VTEC).
5. WA: genital only.
6. NT, Qld, SA, Vic and WA: includes gonococcal neonatal ophthalmia.
7. Includes congenital syphilis.
8. Includes congenital rubella.

[#] Date of notification = a composite of three components: (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.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

n/a Not calculated as only notifiable under 5 years.

NDR No data received. Only notifiable from January 2001. Data are not yet available.

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

† Sexually transmitted infections data is currently under review in Victoria, therefore notifications of chlamydia and syphilis for the 1ST quarter of 2001 should be interpreted with caution.

Table 3. Reporting of notifiable diseases by jurisdiction

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

Table 4. Crude incidence of diseases by State or Territory, 1 January to 31 March 2001. (Rate per 100,000 population)

Disease ¹	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Bloodborne									
Hepatitis B (incident)	0.0	1.5	4.1	0.7	6.4	3.4	2.4	1.3	2.0
Hepatitis B (unspecified) ²	6.4	53.8	NDR	4.5	13.9	11.1	37.0	14.0	31.0
Hepatitis C (incident)	5.1	1.8	0.0	0.0	7.7	0.9	1.2	1.1	1.7
Hepatitis C (unspecified) ²	57.3	99.6	116.6	96.2	51.0	89.3	111.0	25.5	90.0
Hepatitis D	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Gastrointestinal									
Botulism	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Campylobacteriosis ³	119.7	-	137.1	97.1	128.5	117.4	103.1	110.4	107.0
Cryptosporidiosis	6.4	NDR	229.2	11.3	5.1	0.0	NDR	3.8	13.2
Haemolytic uraemic syndrome	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Hepatitis A	2.5	1.8	12.3	2.7	0.8	2.6	1.8	1.5	2.0
Hepatitis E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Listeriosis	0.0	0.4	0.0	0.8	0.3	0.9	0.5	0.0	0.4
Salmonellosis	36.9	31.8	278.3	79.1	47.3	60.4	28.8	43.5	45.5
Shigellosis ³	1.3	-	73.7	4.1	2.7	1.7	2.0	1.3	3.7
SLTEC,VTEC ⁴	0.0	0.0	0.0	0.1	3.2	0.0	0.3	0.0	0.4
Typhoid	0.0	0.7	0.0	0.3	0.0	0.9	0.6	2.1	0.7
Quarantinable									
Cholera	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n/a
Plague	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n/a
Rabies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n/a
Viral haemorrhagic fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n/a
Yellow fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n/a
Sexually transmissible									
Chlamydial infection ⁵	90.4	59.5	622.1	156.8	167.7	85.9	66.7	93.0	98.1
Donovanosis	0.0	0.0	2.0	0.1	NDR	0.0	0.0	0.0	0.0
Gonococcal infection ⁶	7.6	16.2	636.4	31.5	27.8	3.4	19.1	55.8	30.4
Syphilis ⁷	2.5	11.4	79.8	4.0	0.0	1.7	0.0	3.0	5.8
Vaccine preventable									
Diphtheria	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Haemophilus influenzae</i> type b	0.0	0.0	2.0	0.2	0.0	0.0	0.2	0.0	0.1
Influenza	2.5	NDR	14.3	0.0	NDR	0.0	NDR	0.6	0.6
Measles	0.0	0.6	0.0	0.4	0.0	0.9	4.5	0.2	1.5
Mumps	1.3	0.2	0.0	0.0	1.1	0.0	1.4	1.1	0.6
Pertussis	25.5	39.5	12.3	24.6	43.8	4.3	11.6	4.7	25.3
Invasive pneumococcal disease	0.0	NDR	32.7	6.4	NDR	0.0	NDR	2.8	4.4
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rubella ⁸	0.0	1.4	0.0	1.2	0.5	0.0	1.5	0.4	1.1
Tetanus	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Vectorborne									
Arbovirus infection NEC	1.3	0.0	4.1	0.1	0.0	0.0	0.4	0.0	0.2
Barmah Forest virus infection	1.3	4.1	43.0	22.2	1.3	0.0	0.8	4.9	6.8
Dengue	1.3	0.4	34.8	0.8	0.0	0.0	0.1	0.2	0.7
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	11.5	2.5	28.6	12.9	1.6	0.9	2.5	3.0	4.8
Murray Valley encephalitis	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0
Ross River virus infection	6.4	15.1	370.4	79.3	26.7	7.7	22.0	14.7	32.9

Table 4. Crude incidence of diseases by State or Territory, 1 January to 31 March 2001. (Rate per 100,000 population)

Disease ¹	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Zoonoses									
Anthrax	0.0	0.0	0.0	0.0	NDR	0.0	0.0	0.0	0.0
Australian bat lyssavirus	0.0	0.0	0.0	0.0	NDR	0.0	0.0	0.0	0.0
Brucellosis	0.0	0.0	0.0	0.4	0.3	0.0	0.1	0.0	0.1
Leptospirosis	0.0	0.9	0.0	4.9	0.0	0.9	0.8	0.0	1.5
Other lyssavirus (NEC)*	0.0	0.0	0.0	0.0	NDR	0.0	0.0	0.0	0.0
Ornithosis	0.0	NDR	0.0	NDR	0.8	0.0	2.0	0.4	1.3
Q fever	0.0	1.6	0.0	14.9	0.3	0.0	0.5	0.6	3.5
Other									
Legionellosis	0.0	0.6	2.0	1.2	0.5	0.0	3.2	0.8	1.4
Leprosy	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningococcal infection	2.5	3.8	4.1	1.7	1.1	0.9	2.6	2.5	2.7
Non-TB mycobacteria	1.3	0.5	0.0	3.6	0.0	1.7	0.0	0.0	2.2
Tuberculosis	0.0	3.4	4.1	1.6	0.0	0.0	7.1	1.7	3.4

- 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.
 - Unspecified numbers should be interpreted with some caution as the magnitude may be a reflection of the numbers of tests being carried out.
 - Not reported for NSW because it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.
 - Infections with Shiga-like toxin (verotoxin) producing *E. coli* (SLTEC/VTEC).
 - WA: genital only.
 - NT, Qld, SA, Vic and WA: includes gonococcal neonatal ophthalmia.
 - Includes congenital syphilis.
 - Includes congenital rubella.
- NDR No data received (Table 3).
 NEC Not Elsewhere Classified.
 - Elsewhere Classified.

Table 5. Virology and serology laboratory reports by State or Territory¹ for the reporting period 1 January to 31 March 2001, and total reports for the year²

	State or Territory ¹								This period 2001	This period 2000	Year to date 2001 ³	Year to date 2000
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Measles, mumps, rubella												
Measles virus	-	-	-	-	-	-	69	1	70	12	70	12
Mumps virus	-	-	-	-	-	-	4	-	4	23	4	23
Rubella virus	-	2	-	7	-	-	1	-	10	13	10	13
Hepatitis viruses												
Hepatitis A virus	-	-	-	5	-	-	-	-	5	53	5	53
Hepatitis D virus	-	-	-	1	-	-	-	-	1	1	1	1
Arboviruses												
Ross River virus	-	7	61	107	34	-	17	2	228	573	228	573
Barmah Forest virus	-	3	2	54	-	-	-	-	59	63	59	63
Flavivirus (unspecified)	-	-	-	1	-	-	2	-	3	31	3	31
Adenoviruses												
Adenovirus type 3	-	-	-	-	-	-	2	-	2	9	2	9
Adenovirus type 7	-	-	-	-	-	-	2	-	2	2	2	2
Adenovirus type 8	-	-	-	-	-	-	1	-	1	-	1	-
Adenovirus type 37	-	-	-	-	-	-	1	-	1	2	1	2
Adenovirus not typed/pending	-	17	-	7	42	-	27	5	98	283	98	283
Herpes viruses												
Cytomegalovirus	-	15	3	26	67	6	55	4	176	318	176	318
Varicella-zoster virus	2	33	4	90	11	1	102	5	248	424	248	424
Epstein-Barr virus	1	8	4	72	65	3	33	21	207	543	207	543
Other DNA viruses												
Parvovirus	-	1	-	19	5	-	5	-	30	94	30	94
Picornavirus family												
Coxsackievirus A9	-	1	-	-	-	-	-	-	1	2	1	2
Coxsackievirus B3	-	-	-	-	-	-	1	-	1	-	1	-
Coxsackievirus B4	-	-	-	-	-	-	4	-	4	-	4	-
Echovirus type 9	-	2	-	-	-	-	-	-	2	3	2	3
Echovirus type 33	-	1	-	-	-	-	-	-	1	1	1	1
Poliovirus type 1 (uncharacterised)	-	3	-	-	-	-	-	-	3	3	3	3
Poliovirus type 2 (uncharacterised)	-	3	-	-	-	-	-	-	3	2	3	2
Rhinovirus (all types)	2	22	-	2	1	-	1	-	28	96	28	96
Enterovirus type 71 (BCR)	-	7	-	-	-	-	-	-	7	-	7	-
Enterovirus not typed/pending	-	13	-	4	-	6	6	-	29	300	29	300
Ortho/paramyxoviruses												
Influenza A virus	2	5	-	1	48	-	1	1	58	196	58	196
Influenza B virus	1	1	-	1	9	-	2	2	16	27	16	27
Parainfluenza virus type 1	-	1	-	-	3	-	-	-	4	50	4	50
Parainfluenza virus type 2	-	-	-	-	2	-	-	1	3	6	3	6
Parainfluenza virus type 3	1	10	-	2	16	-	2	16	47	71	47	71
Respiratory syncytial virus	-	16	-	8	7	4	4	4	43	253	43	253
Other RNA viruses												
Rotavirus	1	23	-	-	28	1	19	10	82	131	82	131
Norwalk agent	-	-	-	-	-	-	46	-	46	1	46	1

Table 5 (continued). Virology and serology laboratory reports by State or Territory¹ for the reporting period 1 January to 31 March 2001, and total reports for the year²

	State or Territory ¹								This period 2001	This period 2000	Year to date 2001 ³	Year to date 2000
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Other												
<i>Chlamydia trachomatis</i> not typed	11	121	30	171	69	5	30	5	442	878	442	878
<i>Chlamydia psittaci</i>	-	-	-	-	-	-	12	-	12	25	12	25
<i>Chlamydia</i> species	-	1	-	-	-	-	-	-	1	3	1	3
<i>Mycoplasma pneumoniae</i>	-	8	1	60	12	-	19	3	103	149	103	149
<i>Mycoplasma hominis</i>	-	1	-	-	-	-	-	-	1	-	1	-
<i>Coxiella burnetii</i> (Q fever)	-	-	-	15	1	-	2	-	18	24	18	24
<i>Streptococcus</i> group A	-	3	13	41	-	-	22	-	79	109	79	109
<i>Yersinia enterocolitica</i>	-	1	-	-	-	-	1	-	2	5	2	5
<i>Bordetella pertussis</i>	-	18	-	33	24	2	63	-	140	165	140	165
<i>Legionella pneumophila</i>	-	-	-	-	-	-	3	-	3	3	3	3
<i>Cryptococcus</i> species	-	-	-	2	1	-	-	-	3	1	3	1
<i>Leptospira</i> species	-	-	1	2	1	-	-	-	4	9	4	9
<i>Treponema pallidum</i>	-	3	53	70	37	-	-	-	163	130	163	130
<i>Entamoeba histolytica</i>	-	-	-	-	-	-	1	-	1	8	1	8
<i>Toxoplasma gondii</i>	-	-	-	-	1	-	3	-	4	4	4	4
Total	21	350	172	801	484	28	563	80	2,499	5,099	2,499	5,099

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. Virology and serology laboratory reports by contributing laboratories for the reporting period 1 January to 31 March 2001¹

State or Territory	Laboratory	January 2001	February 2001	March 2001	Total this period ²
Australian Capital Territory	The Canberra Hospital	-	-	-	-
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	121	99	22	242
	New Children's Hospital, Westmead	26	-	-	26
New South Wales	Repatriation General Hospital, Concord	-	-	-	-
	Royal Prince Alfred Hospital, Camperdown	24	28	5	57
	South West Area Pathology Service, Liverpool	-	-	-	-
Queensland	Queensland Medical Laboratory, West End	525	280	199	1,004
	Townsville General Hospital	5	-	-	5
South Australia	Institute of Medical and Veterinary Science, Adelaide	484			484
Tasmania	Northern Tasmanian Pathology Service, Launceston	11	9	1	21
	Royal Hobart Hospital, Hobart	-	-	-	-
Victoria	Monash Medical Centre, Melbourne	-	-	-	-
	Royal Children's Hospital, Melbourne	105	84	28	217
	Victorian Infectious Diseases Reference Laboratory, Fairfield	156	158	35	349
Western Australia	PathCentre Virology, Perth	-	-	-	-
	Princess Margaret Hospital, Perth	32	14	8	54
	Western Diagnostic Pathology	-	40	-	40
Total		1,489	712	298	2,499

1. The complete list of laboratories reporting for the 12 months, January to December 2001, will appear in every report regardless of whether reports were received in this reporting period. Reports are not always received from all laboratories.
 2. Total reports include both reports for the current period and outstanding reports to date.
- Nil reports

Table 7. Australian Sentinel Practice Research Network reports, weeks 1-4 to 9-12, 2001

Week number	1-4		5-8		9-12	
Week ending on	28 January 2001		25 February 2001		25 March 2001	
Doctors reporting	220		327		199	
Total encounters	23,901		36,712		23,622	
Condition	Reports	Rate per 1,000 encounters	Reports	Rate per 1,000 encounters	Reports	Rate per 1,000 encounters
Influenza	22	0.9	32	0.9	47	2.0
Influenza with culture	0	0.0	1	0.0	3	0.1
Chickenpox	41	1.7	47	1.3	27	1.1
Shingles	35	1.5	45	1.2	32	1.4

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. The system coordinates the national surveillance of more than 60 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 legislations. 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 14 conditions chosen for sentinel surveillance in 2001. *Communicable Diseases Intelligence* reports the consultation rates for 4 of these. For further information, see *Commun Dis Intell* 2000;24:7-8.

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.¹ 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 July to 30 September 2000

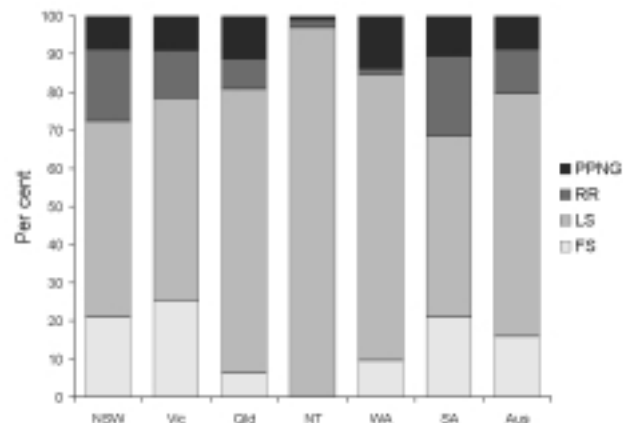
The Australian Gonococcal Surveillance Programme (AGSP) laboratories examined a total of 794 isolates in this quarter, slightly less than the 859 available in this period in 1999. About 33 per cent of this total was from New South Wales, 25 per cent from Victoria, 17 per cent from Queensland, 13 per cent from the Northern Territory, 9 per cent from Western Australia and 2.5 per cent from South Australia. There were few isolates from other centres.

Penicillins

Figure 10 shows the proportions of gonococci fully sensitive (MIC 0.03 mg/L), less sensitive (MIC 0.06 – 1 mg/L), relatively resistant (MIC 1 mg/L) or else penicillinase producing (PPNG) aggregated for Australia and by State and Territory. A high proportion of PPNG and relatively resistant strains fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

About 20 per cent of all isolates were penicillin resistant by one or more mechanisms – 8.8 per cent PPNG and 11.6 per cent by chromosomal mechanisms (CMRNG). The penicillin-resistant isolates comprised about 31 per cent of all isolates in South Australia, about 27 per cent in New South Wales, 21 per cent in Victoria, 19 per cent in Queensland and 15 per cent in Western Australia. In the

Figure 10. Gonococci isolated, Australia, 1 July to 30 September 2000, by penicillin susceptibility and region



FS fully sensitive to penicillin, MIC 0.03 mg/L
 LS less sensitive to penicillin, MIC 0.06 – 0.5 mg/L
 RR relatively resistant to penicillin, MIC 1 mg/L
 PPNG penicillinase producing *Neisseria gonorrhoeae*

Northern Territory 3 isolates out of 100 examined were penicillin resistant – 1 PPNG and 2 CMRNG.

The number of PPNG isolated in Australia (70) was higher in this quarter than in the corresponding period in 1999 (56). Numerically most PPNG were found in New South Wales (23), Victoria (18) and Queensland (16) whereas the highest proportion of PPNG was found in isolates from Western Australia (14%). In Queensland, Victoria, New South Wales and South Australia the proportion of PPNG ranged between 9 and 11 per cent of isolates examined. A single PPNG was present in the Northern Territory. Acquisition data on PPNG indicated local infection with these strains was occurring throughout Australia. South East Asian countries remained the main source of external acquisition.

Once again more isolates (92) were resistant to the penicillins by separate and distinct chromosomal mechanisms. These CMRNG were especially prominent in New South Wales where 49 such isolates were detected. Victoria (25) and Queensland (11) were also prominent sources of CMRNG. Two strains of this type were present in the Northern Territory.

Ceftriaxone and spectinomycin

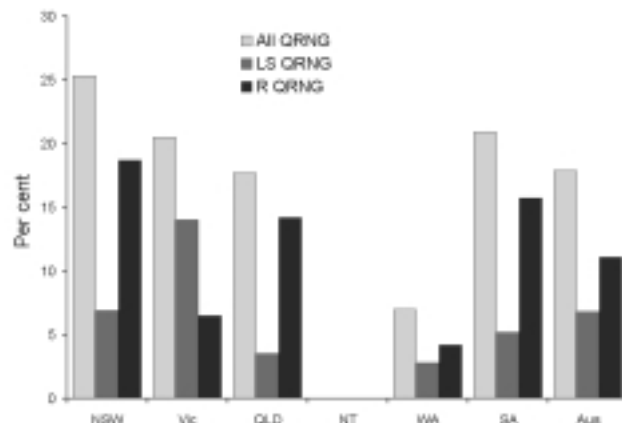
Most isolates in Australia were again susceptible to these injectable agents. A small number of strains exhibited decreased ceftriaxone susceptibility.

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 1 mg/L) groups. The distribution of QRNG in Australia in this quarter is shown in Figure 11.

The total number (142) and proportion (19.8%) of all QRNG was again high and very similar to numbers and proportions

Figure 11. Quinolone-resistant *N. gonorrhoeae*, Australia, 1 July to 30 September 2000, by region



LS QRNG = Ciprofloxacin MICs 0.06 – 0.5 mg/L
 R QRNG = Ciprofloxacin MICs 1 mg/L

seen in the corresponding quarter of 1999 (152 isolates, 18%). In the current quarter, the QRNG were widely dispersed and were present in all centres except the Northern Territory. High rates were maintained in New South Wales (26%), Victoria (21%) South Australia (21%) and Queensland (17%). A lower proportion of Western Australian isolates (7%) was QRNG.

Forty-nine of the New South Wales, 13 of the Victorian and 20 Queensland QRNG exhibited high level resistance (MIC ciprofloxacin 1 mg/L) and 3 higher level QRNG were also seen in South Australia and Western Australia. MICs ranged up to 16mg/L.

A significant shift occurred in New South Wales in this quarter insofar as the proportion of less sensitive strains decreased and fully resistant isolates acquired through local contact predominated. In Victoria about 60 per cent of the QRNG were still in the 'less sensitive' MIC range 0.06 – 0.5 mg/L and were found almost exclusively in males. QRNG were increasingly acquired through local contact but also from overseas from such diverse sources as Bahrain, Cambodia, China, Madagascar, Malaysia, the Philippines, Thailand, the United Kingdom and Vietnam.

High level tetracycline resistance (TRNG)

The number (69) and proportion (8.7%) of TRNG detected was less than in the corresponding period of 1999 (85, 10%). TRNG represented 21 per cent of isolates from Queensland, 10 per cent from Western Australia, 8 per cent from Victoria and 5 per cent from New South Wales and South Australia. A single TRNG was found in the Northern Territory. Most TRNG were imported into Australia from Cambodia, Indonesia, Thailand and Vietnam.

Reference

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

Rotavirus Surveillance

The National Rotavirus Reference Centre (NRRC) undertakes surveillance and characterisation of rotavirus strains causing annual epidemics of severe diarrhoea in young children throughout Australia.

There are currently fourteen laboratories contributing data and rotavirus specimens for the characterisation of representative rotavirus serotypes.

The NRRC is happy to give and receive notifications of rotavirus outbreaks Australia-wide. The NRRC can be contacted at the Department of Gastroenterology and Clinical Nutrition, Royal Children's Hospital, Flemington Road, Parkville, Victoria 3052. Telephone: (03) 9345 5069, Facsimile: (03) 9345 6240, Email: masendyp@cryptic.rch.unimelb.edu.au. For more information see *Commun Dis Intell* 2000;24:10.

June 2000 to April 2001

The 2000 rotavirus season of most Australian collaborating centres appears to have come and gone and the task of completing the rotavirus serotyping is well under way. Molecular and serological serotyping techniques have been employed to serotype rotavirus positive specimens received Australia-wide. Serotype G3 rotaviruses appeared sporadically in Australia during a 4-year Australia-wide epidemiological survey between 1993-1996,¹ however none have been identified in any of the centres for the sampling period, June 2000 to December 2000. The Serotype G1 rotaviruses have been detected in all centres studied.

Serotype G4 viruses were found in the following 9 centres: Brisbane, Melbourne, Adelaide, Perth, Gove, Narrabri, Horsham, Darwin and Sydney. The G4 viruses were the most prevalent serotype (57%) in specimens received from The Prince of Wales Hospital in south-east Sydney. G4 viruses were also identified from The Children's Hospital at Westmead in Sydney's west (21%), but serotype G2 specimens were found to be the most prevalent serotype (45.6%) in this location. Serotype G2 viruses from Sydney's south-east were low in comparison (7.7%).

This unusual serotype distribution of the G2 and G4 viruses in Sydney suggests different serotypes can exhibit different distribution within a relatively small geographical area. G2 rotaviruses have also been detected in Melbourne, Hobart, Adelaide, Perth, Gove, Narrabri, Horsham and Darwin. Serotype G9 viruses which were identified for the first time in Australia in 1997, appeared in Sydney, Perth, Melbourne and Horsham, with G9 the most prevalent serotype in Horsham (72.7%) for the sampling period June 2000 to January 2001.

Rotavirus collection continues, and the National Rotavirus Reference Centre welcomes any notifications of rotavirus outbreaks.

References

1. Bishop RF, Masendycz PJ, Bugg HC, Carlin JB, Barnes GL. Epidemiological patterns of rotaviruses causing severe gastroenteritis in young children throughout Australia from 1993 to 1996. *J Clin Microbiol* 2001;39:1085-1091.

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 3 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 between 1 October and 31 December 2000, as reported to 31 March 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 October to 31 December 2000, by sex and State or Territory of diagnosis

										Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2000	This period 1999	Year to date 2000	Year to date 1999
HIV diagnoses	Female	0	2	1	2	0	0	5	0	10	20	73	75
	Male	0	52	0	25	3	0	31	0	111	161	620	656
	Sex not reported	0	0	0	0	0	0	0	0	0	0	0	0
	Total ¹	0	54	1	27	3	0	36	0	121	183	695	733
AIDS diagnoses	Female	0	2	0	0	0	0	0	0	2	4	20	19
	Male	0	22	1	7	2	0	12	0	44	38	187	156
	Total ¹	0	24	1	7	2	0	12	0	46	42	207	176
AIDS deaths	Female	0	0	0	0	1	0	0	0	1	0	7	4
	Male	0	15	0	1	2	0	7	0	25	29	115	115
	Total ¹	0	15	0	1	3	0	7	0	26	29	122	120

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

Table 9. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 31 March 2001, by sex and State or Territory

		State or Territory								Australia
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
HIV diagnoses	Female	28	634	10	163	63	5	228	119	1,250
	Male	228	11,236	108	2,070	694	78	4,022	925	19,361
	Sex not reported	0	243	0	0	0	0	24	0	267
	Total ¹	256	12,134	118	2,240	757	83	4,288	1,049	20,925
AIDS diagnoses	Female	9	201	0	50	25	3	72	26	386
	Male	87	4,742	36	853	350	45	1,679	356	8,148
	Total ¹	96	4,955	36	905	375	48	1,759	384	8,558
AIDS deaths	Female	4	114	0	33	16	2	49	17	235
	Male	68	3,249	24	577	234	29	1,294	252	5,727
	Total ¹	72	3,371	24	612	250	31	1,350	270	5,980

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

Childhood Vaccination Coverage

Tables 11 and 12 provide the latest quarterly report on childhood vaccination coverage from the Australian Childhood Immunisation Register (ACIR).

The data show the percentage of children fully vaccinated at age 12 months for the cohort born between 1 October and

31 December 1999 and at 24 months of age for the cohort born between 1 October and 31 December 1998 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 11. Proportion of children immunised at 2 years of age, preliminary results by disease and State for the birth cohort 1 October to 31 December 1998; assessment date 31 March 2001¹

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,085	21,388	781	11,504	4,501	1,609	15,618	6,279	62,765
Diphtheria, Tetanus, Pertussis (%)	89.6	87.3	82.0	90.4	89.7	91.4	88.5	86.5	88.3
Poliomyelitis (%)	93.9	92.2	93.0	93.5	94.5	95.3	94.0	91.9	93.1
<i>Haemophilus influenzae</i> type b (%)	94.9	94.4	93.6	94.7	95.5	95.5	95.5	93.5	94.7
Measles, Mumps, Rubella (%)	93.0	91.4	91.1	93.3	94.1	94.3	93.0	91.2	92.4
Fully immunised (%)²	87.6	82.7	78.9	87.8	87.5	89.7	85.1	82.6	84.8
Change in fully immunised since last quarter (%)	-0.2	+0.8	-1.1	-0.5	-1.1	+1.1	-1.3	-0.5	-0.3

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2000;24:109.

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.

Table 8. percentage of children immunised at 1 year of age, preliminary results by disease and State for the birth cohort 1 October to 31 December 1999; assessment date 31 March 2001

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	990	20,721	778	11,641	4,375	1,453	15,119	6,074	61,151
Diphtheria, Tetanus, Pertussis (%)	92.9	91.0	89.0	91.8	91.5	93.1	92.2	90.1	91.5
Poliomyelitis (%)	92.8	90.9	89.6	91.8	91.5	93.2	92.3	90.0	91.4
<i>Haemophilus influenzae</i> type b (%)	95.4	94.3	94.0	94.4	95.0	95.6	95.3	93.6	94.6
Fully immunised (%)	92.7	90.7	88.6	91.4	91.4	92.6	92.1	89.6	91.2
Change in fully immunised since last quarter (%)	+0.0	+0.2	-0.6	-0.6	-0.8	+1.0	0.0	-0.7	-0.1