Communicable Diseases Surveillance

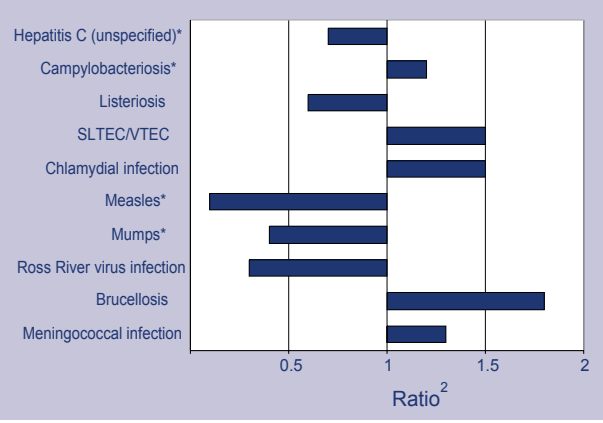
Highlights for 1st quarter, 2002

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. 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. NNDSS collates data on notifiable communicable diseases from State or Territory health departments. The Virology and Serology Laboratory Reporting Scheme (LabVISE) is a sentinel surveillance scheme which collates information on laboratory diagnosis of communicable diseases. 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 with an onset in the first quarter of 2002, 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. Diseases where the number of cases reported was two standard deviations above the mean of the same reporting period in the last 5 years in this quarter were campylobacteriosis and brucellosis. Diseases where the number of reports were two standard deviations below the 5 year mean in this quarter were unspecified hepatitis C, measles and mumps. These and other disease trends are discussed below with additional commentary provided by State and Territory health authorities.

Figure 1. Selected[1] diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 January to 31 March 2002 with historical data[2]



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.

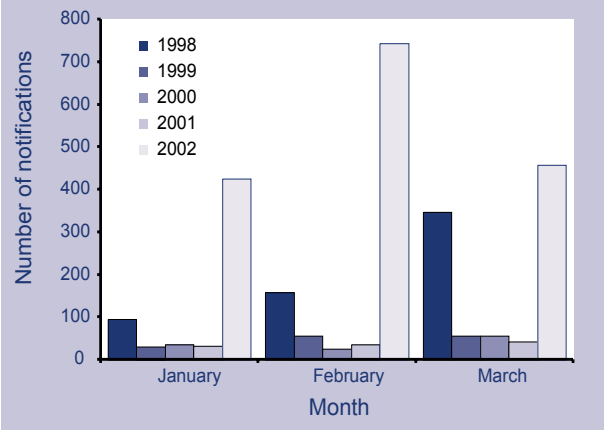
* Notifications above or below the 5-year mean for the same period plus- or minus- two standard deviations

Gastrointestinal disease

Cryptosporidiosis

Reports of cryptosporidiosis to NNDSS commenced in January 2001, although reporting in some jurisdictions was for only part of 2001. Cryptosporidiosis reports from Queensland, where the disease has been notifiable at a State level for some years is at a historic high (Figure 2). Year to date cases of cryptosporidiosis reported from the Australian Capital Territory, New South Wales, the Northern Territory and South Australia suggest that disease activity in these jurisdictions have also been increased above 2001 levels in this quarter.

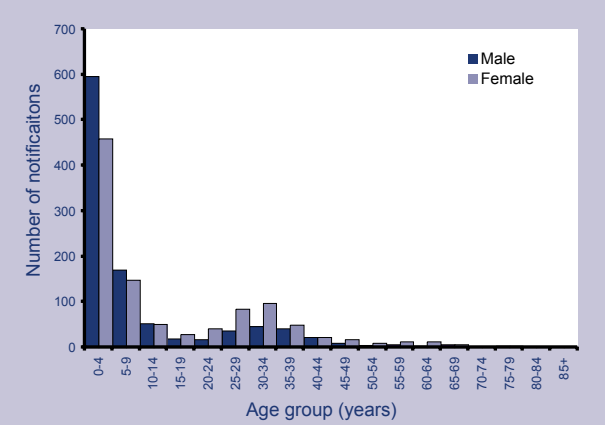
Figure 2. Notifications of cryptosporidiosis, Queensland, 1998 to 2002, by month of report



Of the 2,094 cases of cryptosporidiosis reported in this quarter, 1,377 (66%) were in children less than 10 years of age and 1,058 (50%) were aged under 5 years (Figure 3). The number of male and female cases was relatively equal. The notification rates varied widely between jurisdictions with the highest rates in the Northern Territory (218 cases per 100,000 population) and Queensland (179 cases

per 100,000 population) and lower rates in Victoria (7 cases per 100,000 population) and Tasmania (6 cases per 100,000 population) (Table 3). This reporting period covers the summer months, which is the most popular vacation period in Australia and when cryptosporidiosis infections are most commonly reported.

Figure 3. Notifications of cryptosporidiosis, Australia, 1 January to 31 March 2002, by age and sex



In Queensland, cases were reported from across the State and the number of reports show a broad peak from late January to mid-March. The majority of cases seem to be linked to recreational water exposure or person to person contact.

An outbreak of cryptosporidiosis in a caravan park in a rural area Victoria was reported on 5 February 2002. Probable cases were defined as a person who attended the caravan park between 26 and 29 January 2002 and had onset of a gastrointestinal illness consisting of two or more symptoms of diarrhoea, abdominal pain and nausea. Cases were confirmed if *C. parvum* was isolated from a faecal specimen. Eleven confirmed and eight probable cases were identified amongst a group of 21 persons attending the park over the weekend. The suspected source was the park's swimming pool where all cases had been swimming. The two people who were not ill had not been swimming. Environmental investigations suggested there were ongoing problems with ducks swimming in the pool. Water and duck faecal samples were negative for *C. parvum*. The pool was closed until results of water samples were obtained and superchlorination and other pool hygiene procedures were undertaken by the pool owners.

Since point source outbreaks of cryptosporidiosis account for a minority of cases, researchers have attempted to identify risk factors for sporadic cases. A recent study of cryptosporidiosis in Australia[1] identified person to person contact, specifically, contact with young children with diarrhoea as the strongest risk factor for acquiring cryptosporidiosis infection. Other risk factors identified included the use of public swimming pools and drinking untreated water from a rural river, lake or dam. While this suggests drinking water may be a hazard, another recent study[2] has provided evidence to discount the contribution of drinking water to gastroenteritis in Melbourne. Melbourne drinking water is drawn from a protected catchment area and undergoes minimal treatment (chlorination only). A randomised-controlled trial over 68 weeks using real or sham water treatment units in 600 Melbourne households showed no difference in the rates of gastroenteritis between the two groups. Of the 795 faecal samples from 2,669 cases of gastroenteritis which occurred during the study period, *Cryptosporidium* was only isolated in 13 (1.6%) samples. There was no significant difference in the rates of cryptosporidiosis between those drinking treated and untreated tap water.

Salmonellosis

In February, an increase in *Salmonella* Typhimurium phage type 9 was identified in New South Wales. As of late March, 82 cases were reported with onset in 2002, compared with 126 for all of 2001. Fifty five cases with onset in February 2002 were reported, compared with only 16 reported in February 2001. Compared with other types of salmonellosis in 2001 and 2002, a higher proportion of the 82 cases identified in 2002 were female and a lower proportion were less than 5 years old. In both years, cases of *S.* Typhimurium 9 occurred more frequently in the Sydney area.

Two clusters of *S.* Typhimurium 9 cases were reported in February 2002. The first cluster of seven cases were students of a boarding school identified in an outbreak of gastrointestinal disease that involved 105 students. A case-control study suggested an association between illness and eating chilli con carne and baked beans, although the mechanism of contamination remains unclear. The second cluster of cases was among people who ate at a restaurant in late February. In interviews with 19 people who were at the restaurant on 20 and 21 February, 8 reported illness within 48 hours of eating there and in 2 of these *S.* Typhimurium 9 infection was confirmed on stool testing. In a retrospective cohort study, an association between illness and eating deep fried ice cream was found. The ice cream had been battered using a tray that had earlier been used to prepare raw pork and chicken. This practice has since ceased. NSW Health staff interviewed

another 37 people infected with *S.* Typhimurium 9 cases and seven of these reported eating deep fried ice-cream at the restaurant implicated in the outbreak. The investigation continues.

Nine cases of *Salmonella* Aberdeen were notified in Victoria in the first quarter with onset of illness between 2 December 2001 and 5 January 2002. A case series investigation failed to identify a source.

Other *Salmonella* reported in the quarter include reports from around the country of infections with *Salmonella* Typhimurium phage type 170. Since late 2001 there have been an increase in the numbers of reports of this serovar, which was previously rarely isolated in Australia. Despite investigations, no disease clusters have been identified or food vehicles implicated. Some clustering of kanamycin resistant STM 170 in Victoria has been noted but without any associations with food.

Hepatitis A

On 9 January 2002, the Communicable Diseases Section was notified of a case of hepatitis A in a teacher at a child care centre in southern Victoria. Between 9 January and 11 February, 11 confirmed cases were identified amongst teachers, siblings and parents of children who attended the centre, with onsets of illness between 28 December 2001 and 9 February 2002. Control measures including providing information to families, primary schools and teachers in the area about the outbreak and prevention measures. Environmental investigations and clean-up procedures were undertaken at the centre. Recommendations for testing of potentially exposed persons for hepatitis A IgM and the receipt of immunoglobulin were based on the last possible day of exposure, incubation period of hepatitis A, and the onset dates of the confirmed cases. While immunoglobulin was recommended for the families of six cases, it was not given as parents refused or because treating doctors had given them hepatitis A vaccine instead. The NHMRC Immunisation Handbook[3] recommends the administration of hepatitis A immunoglobulin in an outbreak in such a setting to all at risk. Hepatitis A vaccine may be considered as an alternative in settings where recurrent outbreaks of hepatitis A are anticipated.

Other foodborne disease

A large outbreak of food poisoning was reported in Melbourne in late March. More than 272 people sought medical care and although 15 were admitted to hospital overnight, symptoms were short-lived. The onset of gastroenteritis was within one and four hours after consumption of a meal of rice, lamb and potatoes served at a New Year Islamic festival. *Bacillus cereus* and *Staphylococcus aureus* were confirmed as the cause of the outbreak. Inadequate storage and handling of leftover food was thought to be cause of the outbreak.[4]

A single case of a non-01, non-139 *Vibrio cholerae* peritonitis was reported in a 48-year-old man from South Australia.

Clostridium perfringins is the suspected cause of a series of foodborne disease outbreaks in several jurisdictions linked to spit-roast meals served at functions. Investigations are continuing.

Vaccine preventable diseases

Measles

No cases of measles were reported from the Australian Capital Territory, the Northern Territory, Queensland, South Australia Western Australia or Tasmania. Prior to a single case of imported measles reported in this quarter, New South Wales had not had a case of measles for 5 months.

Pertussis

Reports of pertussis were increased overall in the first quarter compared to historical data (Table 2). Totals for January and February were the highest since 1998. Pertussis notifications in 2001 were the highest on record for New South Wales, the highest since 1995 for the Northern Territory, since 1997 for Queensland and South Australia and since 1998 for Western Australia. Pertussis activity was lower in 2001 than 2000 in the Australian Capital Territory and Tasmania and only moderately increased in Victoria.

Influenza

Two outbreaks of influenza A in aged care facilities in Victoria were reported in this quarter.[5] The first outbreak in January occurred in a hostel with 25 cases identified (23 lab confirmed and 6 suspected). Of 42 residents, 38 (90%) had been vaccinated but only 2 of 29 (7%) of staff had received influenza vaccination. The second outbreak in March occurred in a nursing home, where 28 cases were identified (16 laboratory-confirmed and 12 suspected). Of 20 patients on whom vaccination history had been collected 18 (90%) had been vaccinated against influenza, while only 3 of 31 (10%) of staff had been vaccinated. Both outbreaks were due to influenza A (H3N2) strains related to A/Moscow/10/99, which have been components of the 2001 and 2002 Australian influenza vaccine.

In the elderly residents, influenza vaccine efficacy was calculated to be 61 per cent in preventing disease and 84 per cent in preventing hospitalisation. These figures are consistent with estimates of vaccine efficacy in the elderly. According to the NHMRC Immunisation Handbook,[3] when the match between the vaccine and the circulating viral strains is close, influenza vaccination has a 70–90 per cent efficacy against illness in healthy adults aged less than 65 years. Among the over 65-year-olds, efficacy of the vaccine is 30–70 per cent in the non-institutionalised in preventing hospitalisation. In elderly people residing in nursing homes, influenza vaccine efficacy can be 50–60 per cent effective in preventing hospitalisation and up to 80 per cent effective in preventing death. Vaccine efficacy in preventing disease in institutionalised elderly, however, may be much lower.

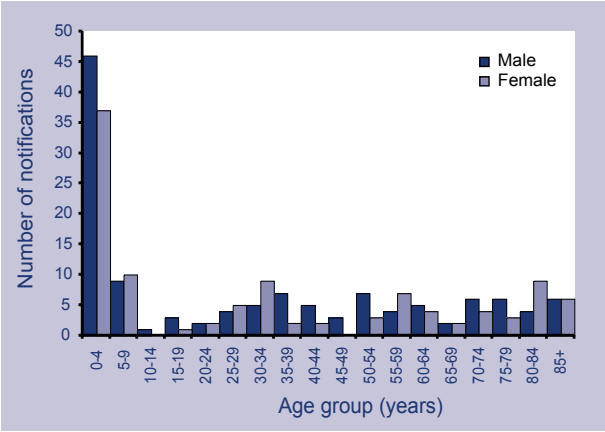
These outbreaks highlight the importance not only of maintaining high levels of vaccination in the elderly but also in their carers and contacts. A recent telephone survey of vaccination rates in health-care workers in Victoria showed that only 48 per cent overall were vaccinated with the current influenza vaccine.[6]

Invasive pneumococcal disease

Since 2001, invasive pneumococcal disease (IPD) has been a nationally notifiable disease in all jurisdictions in Australia. In total 1,663 cases were reported in 2001, although since data collection started later in some jurisdictions, figures from some States and Territories do not represent a full years total. Two hundred and forty two cases were reported in this quarter with reports from all jurisdictions except the Australian Capital Territory (Table 2). The notification rate was highest in the Northern Territory (22.2 cases per 100,000 population). The age and sex distribution is shown in Figure 4. The male to female ratio was 1.2:1. Eighty-five (35%) of cases were in children aged less than 5 years and 52 (21%) were in people aged more than 65 years.

Invasive pneumococcal disease (defined as the isolation of *Streptococcus pneumoniae* from a sterile site), most commonly presenting as meningitis or bacteraemia is a significant disease of children and the elderly in Australia.[7] In non-Indigenous urban settings the rates of IPD are estimated at 50–100 cases per 100,000 population in the under 2 year olds and 8 to 15 cases per 100,000 population in the over 65 year olds. Indigenous communities, have higher rates of IPD disease than other settings for all age groups. Indigenous children in Central Australia have some of the highest rates of IPD disease in the world (>1,500 cases per 100,000 population).

Figure 4. Notifications of invasive pneumococcal diseases, Australia, 1 January to 31 March 2002, by age and sex



The possibility of control of pneumococcal disease by vaccination has been greatly improved by the licensing in December 2000 of a seven-valent pneumococcal conjugate vaccine (7vPCV) for use in Australia. The 7vPCV vaccine has shown an efficacy of approximately 95 per cent in preventing IPD disease due to the vaccine serotypes in children in the USA.[8] Earlier polysaccharide pneumococcal vaccines were poorly protective in young children. A vaccination schedule has been implemented from July 2001 providing free vaccine to children identified to be at high-risk of IPD. Australian States and Territories have agreed to implement enhanced surveillance of pneumococcal disease to assess the impact of the conjugate vaccine on the rates and clinical types of invasive pneumococcal disease and the prevalence of circulating pneumococcal serotypes and levels of antibiotic resistance.

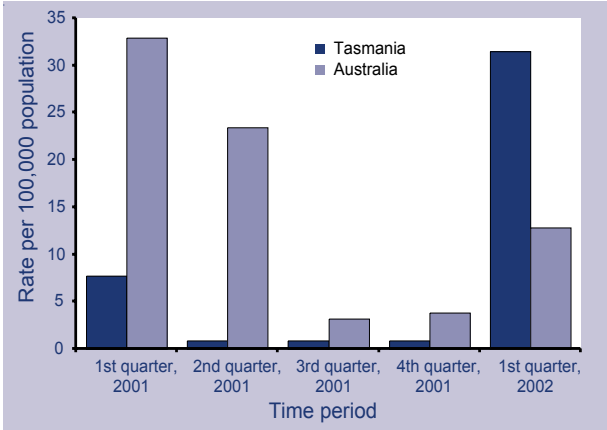
Vectorborne disease

There was an outbreak of Barmah Forest virus (BFV) disease in the Gippsland region of Victoria. Victoria received 36 notifications of BFV with onset dates between 1 January and 31 March, of which the majority came from the Gippsland region. This compares to 10 notifications with onset dates in the same period in 2001.

Reports of Ross River virus (RRV) infection were markedly reduced compared with the five-year average (Figure 1). Despite this national trend, 37 cases including 25 reports in a single week of RRV infection were recorded in Tasmania.[9] In 2002, the year to date total for RRV in Tasmania exceeds the full year totals for each of the past two years. The notification rates for RRV in Tasmania compared with rates for Australia are shown in Figure 5. The increase is believed to be partly due to heavy spring rains last year which increased mosquito breeding.

Municipalities in southeast coastal areas of Tasmania have reported the largest proportion of cases.[10]

Figure 5. Rate of notification for Ross River virus, Australia and Tasmania, 2001 to 2002, by quarter of report



Three suspected cases of Murray Valley encephalitis virus (MVE) infection reported from Western Australia await confirmation. Sentinel chicken seroconversions to MVE were reported in Western Australia and the Northern Territory in February and health authorities warned residents in tropical areas to take precautions to avoid being bitten by mosquitoes.[11]

A cluster of 18 confirmed cases of dengue occurred in March in North Queensland. All the cases were dengue serotype 2 and transmission was localised to an area with high numbers of *Aedes aegypti*, the vector for the disease. The index case was infected overseas as dengue is not endemic in Australia. Because the mosquito vector is present in North Queensland, imported cases have previously caused local outbreaks as occurred in Townsville and Charters Towers in 1992/1993 (dengue type 2) and in Cairns in 1997/998 (dengue type 2 and 3).[12] Mosquito control activities in response to the present outbreak were instituted and there were no more cases after the end of March. During the first quarter of 2002, dengue has been reported at record numbers in Brazil, Indonesia and the South Pacific.[13]

Zoonoses

In this quarter, the Northern Territory reported the first ever case of Q fever since NNDSS began in 1991. The case appears to be locally acquired and although no risk factors were identified, the patient was a delivery driver who handled frozen and packaged meat and who travels regularly near stockyards.

Other bacterial infections

Meningococcal disease

On Friday 25 January 2002, South Western Sydney Public Health Unit (SWSPHU) notified the Communicable Diseases Unit of the death of a 21-year-old South Western Sydney man from suspected invasive meningococcal disease. The man was taken by ambulance to the hospital on 24 January after collapsing at his home. He had a 3-day history of sore throat but had been otherwise well. A rash was noted and a diagnosis of meningococcal disease was made. Despite aggressive intervention, the man died. In the 7 days prior to the onset of his illness, the man had been on a cruise to the South Pacific. The cruise ship carried over a thousand passengers from all over Australia.

SWSPHU identified over 50 close contacts of the man who may have been at increased risk of disease, and provided them with information about the disease and with antibiotics to help prevent its further spread. The Communicable Diseases Unit informed other local Public Health Units (PHUs) and other States and Territories about the case. Shortly after, the South Australian Health Department reported that a South Australian man on the same cruise had been diagnosed with meningococcal disease on 22 January 2002. The man's close contacts had been contacted and given antibiotics.

No direct personal link between the cases was established. The cruise operator agreed to contact all passengers and crew from the ship to tell them about these events and about meningococcal disease. NSW Health set up a hotline providing general information to the public, issued media releases, and conducted regular media interviews to update the public on events. Passengers were alerted to seek medical attention if they develop symptoms of the disease. As a result of the public warnings, several other passengers were investigated for possible meningococcal infection, but in none of these was the diagnosis confirmed.

LabVISE

Chlamydia trachomatis

In this quarter, there were reports of an infectious conjunctivitis in remote communities in the Northern Territory that was subsequently confirmed as *Chlamydia trachomatis*. Thirty-three cases were recorded in LabVISE. Although trachoma has been eradicated from many communities in Australia, the disease persists in areas where living standards are inadequate and where personal and community hygiene is poor. The implementation of the 'SAFE' strategy (Surgery, Antibiotics, Facial cleanliness and Environmental improvement) in communities where trachoma persists is an urgent priority.[14]

Other communicable diseases

Melioidosis

Melioidosis, a disease caused by infection with *Burkholderia pseudomallei*, is endemic in tropical northern Australia. The disease is notifiable in Queensland, Western Australia and the Northern Territory but is not notifiable to NNDSS. The prevalence of the disease is increased in areas of high rainfall and underlying conditions such as diabetes are important risk factors. The article by Faa *et al* (*CDI* this issue) shows that the incidence of melioidosis in the Torres Strait is among the highest in the world. In the first quarter 2002, there were 12 cases reported in Queensland, including 2 deaths. This compares with 8 cases in all of 2001 and 38 cases in 2000.[15] By contrast, 9 cases were reported from the Northern Territory, a lower rate than usual. These differences would seem to be reflective of high rainfall in Queensland and late and reduced rainfall in the Northern Territory during this period. Three cases were reported in WA including a death in a 22-year-old male who had been backpacking in the Northern Territory.

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15. Melioidosis — Australia (Queensland). ProMed Mail (www.promedmail.org), 14 March 2002, Archive Number: 20020313.3732.

Tables

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 24,806 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 January and 31 March 2002 (Table 2). The notification rate of diseases per 100,000 population for each State or Territory is presented in Table 3.

There were 4,744 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 January to 31 March 2002 (Tables 4 and 5).

The Australian Sentinel Practice Research Network (ASPREN) data for weeks 1-4 to 9-13, ending 31 March 2002, are included in this issue of *Communicable Diseases Intelligence* (Table 6).

Table 1. Reporting of notifiable diseases by jurisdiction (1st quarter 2002)

Disease	Data received from:*
Bloodborne diseases	
Hepatitis B (incident)	All jurisdictions
Hepatitis B (unspecified)	All jurisdiction, except NT
Hepatitis C (incident)	All jurisdictions except Qld and NT
Hepatitis C (unspecified)	All jurisdictions
Hepatitis D	All jurisdictions
Gastrointestinal diseases	
Botulism	All jurisdictions
Campylobacteriosis	All jurisdictions except NSW
Cryptosporidiosis	All jurisdictions
Haemolytic uraemic syndrome	All jurisdictions
Hepatitis A	All jurisdictions
Hepatitis E	All jurisdictions
Listeriosis	All jurisdictions
Salmonellosis	All jurisdictions
Shigellosis	All jurisdictions
SLTEC,VTEC	All jurisdictions
Typhoid	All jurisdictions
Quarantinable	
Cholera	All jurisdictions
Plague	All jurisdictions
Rabies	All jurisdictions
Viral haemorrhagic fever	All jurisdictions
Yellow fever	All jurisdictions
Sexually transmissible infections	
Chlamydial infection	All jurisdictions
Donovanosis	All jurisdictions except SA
Gonococcal infection	All jurisdictions
Syphilis	All jurisdictions
Vaccine preventable diseases	
Diphtheria	All jurisdictions
Haemophilus influenzae type b	All jurisdictions
Influenza	All jurisdictions
Measles	All jurisdictions
Mumps	All jurisdictions
Pertussis	All jurisdictions
Pneumoccocal disease	All jurisdictions
Poliomyeltis	All jurisdictions
Rubella	All jurisdictions
Tetanus	All jurisdictions
Vectorborne diseases	
Arbovirus infection NEC	All jurisdictions
Barmah Forest virus infection	All jurisdictions
Dengue	All jurisdictions
Japanese encephalitis	All jurisdictions
Kunjin	All jurisdictions except ACT†
Malaria	All jurisdictions
Murray Valley encephalitis	All jurisdictions†
Ross River virus infection	All jurisdictions
Zoonoses	
Anthrax	All jurisdictions except SA
Australian bat lyssavirus	All jurisdictions
Brucellosis	All jurisdictions
Leptospirosis	All jurisdictions
Ornithosis	All jurisdictions
Other lyssaviruses (NEC)	All jurisdictions
Q fever	All jurisdictions
Other diseases	
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, infections with Murray Valley encephalitis virus and Kunjin are combined under Murray Valley encephalitis.

Table 2. Notifications received by State and Territory health authorities in the period 1 January to 31 March 2002, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 1st quarter 2002[1]	Total 4th quarter 2001	Total 1st quarter 2001	Last five years mean 1st quarter	Ratio†
Bloodborne diseases													
Hepatitis B (incident)	0	15	2	12	3	5	35	11	83	72	96	84	1.0
Hepatitis B (unspecified)	18	656	NN	182	39	10	443	96	1,444	1,835	1,487	1,759	0.8
Hepatitis C (incident)	2	21	0	NN	9	1	14	32	79	91	82	88	0.9
Hepatitis C (unspecified)	48	930	42	773	131	108	1,167	201	3,400	3,727	4,309	5,006	0.7
Hepatitis D	0	1	0	0	0	0	1	0	2	4	5	4	0.5
Gastrointestinal diseases													
Botulism	0	0	0	0	0	0	0	0	0	0	1	0	0.0
Campylobacteriosis[2]	95	_	51	949	626	188	1,234	553	3,696	4,693	3,394	3,151	1.2
Cryptosporidiosis	21	136	108	1,634	33	7	85	70	2,094	445	255	N/A	N/A
Haemolytic uraemic	0	1	0	0	0	0	1	0	2	1	2	4	0.5
Hepatitis A	3	50	9	29	3	2	34	7	137	155	96	581	0.2
Hepatitis E	0	0	0	0	0	1	0	0	1	1	1	1	0.8
Listeriosis	0	2	0	5	0	0	2	5	14	14	21	22	0.6
Salmonellosis	35	683	128	1,076	131	62	404	246	2,765	1,825	2,180	2,536	1.1
Shigellosis	0	13	33	22	12	0	16	40	136	117	116	171	0.8
SLTEC,VTEC[3]	0	0	0	1	12	0	0	3	16	11	16	11	1.5
Typhoid	0	9	0	5	1	0	10	4	29	15	33	27	1.1
Quarantinable diseases													
Cholera	0	0	0	0	1	0	0	0	1	0	0	1	1.3
Plague	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
Viral haemorrhagic fever	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

Table 2. Notifications received by State and Territory health authorities in the period 1 January to 31 March 2002, by date of notification* continued

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 1st quarter 2002[1]	Total 4th quarter 2001	Total 1st quarter 2001	Last five years mean 1st quarter	Ratio[†]
Sexually transmissible diseases													
Chlamydial infection	125	1,067	286	1,494	383	110	1,200	745	5,410	4,910	4,696	3,495	1.5
Donovanosis	0	0	5	3	NN	0	0	0	8	6	2	6	1.3
Gonococcal infection[4]	4	310	373	238	21	5	194	334	1,479	1,539	1,457	1,432	1.0
Syphilis[5]	4	96	90	20	3	3	1	40	257	324	278	390	0.7
Vaccine preventable diseases													
Diphtheria	0	0	0	0	0	0	0	0	0	0	1	0	0.0
Haemophilus influenzae type b	0	3	1	3	1	0	2	0	10	2	5	7	1.4
Influenza	1	11	4	24	4	0	43	20	107	200	12	N/A	N/A
Measles	0	1	0	0	0	0	5	0	6	37	70	82	0.1
Mumps	0	5	0	2	1	0	6	2	16	13	31	43	0.4
Pertussis	15	505	29	555	183	22	231	85	1,625	3,210	1,217	1,464	1.1
Pneumococcal disease	0	77	11	33	15	6	61	39	242	388	87	N/A	N/A
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rubella[6]	0	7	1	34	2	0	7	2	53	75	55	153	0.3
Tetanus	0	0	0	1	0	0	0	1	2	2	1	2	1.1
Vectorborne diseases													
Arbovirus infection NEC	0	3	0	3	0	0	1	0	7	0	9	24	0.3
Barmah Forest virus infection	0	63	12	124	3	0	36	13	251	159	324	239	1.0
Dengue	1	15	18	24	2	2	7	4	73	26	33	107	0.7
Japanese encephalitis	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
Kunjin virus infection	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
Malaria	3	40	8	57	1	2	19	12	142	130	230	251	0.6
Murray Valley encephalitis	0	0	0	0	0	0	0	3	3	0	2	N/A	N/A
Ross River virus infection	0	40	32	427	23	37	9	55	623	184	1,577	2,131	0.3

Table 2. Notifications received by State and Territory health authorities in the period 1 January to 31 March 2002, by date of notification* continued

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 1st quarter 2002[1]	Total 4th quarter 2001	Total 1st quarter 2001	Last five years mean 1st quarter	Ratio†
Zoonoses													
Anthrax	0	0	0	0	NN	0	0	0	0	0	0	N/A	N/A
Australian bat lyssavirus	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
Brucellosis	0	0	0	13	0	0	0	0	13	4	6	7	1.8
Leptospirosis	0	11	1	45	0	0	4	1	62	42	70	63	1.0
Other lyssavirus	0	0	0	0	0	0	0	0	0	37	0	N/A	N/A
Ornithosis	0	3	0	2	2	0	5	1	13	0	29	17	0.8
Q fever	0	51	1	87	2	0	11	6	158	155	169	139	1.1
Other bacterial infections													
Legionellosis	0	14	0	5	7	0	22	6	54	76	65	67	0.8
Leprosy	0	0	0	0	0	0	1	1	2	1	1	1	1.4
Meningococcal infection	4	32	2	20	8	4	35	9	114	148	128	85	1.3
Tuberculosis	1	76	2	9	11	0	63	13	175	179	163	252	0.7
Total	**380**	**4,947**	**1,249**	**7,911**	**1,673**	**575**	**5,409**	**2,660**	**24,804**	**24,853**	**22,812**	**24,031**	**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. 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, Queensland, South Australia , Victoria and Western Australia: 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 authority.

† Ratio = ratio of current quarter total to mean of the same reporting period over the last 5 years calculated as described above.

N/A Not calculated as only notifiable for under 5 years.

NN Not Notifiable

NEC Not elsewhere classified.

\- Elsewhere classified.

Table 3. Notification rates of diseases by State or Territory, 1 January to 31 March 2002 (Rate per 100,000 population)

	State or Territory								
Disease[1]	**ACT**	**NSW**	**NT**	**Qld**	**SA**	**Tas**	**Vic**	**WA**	**Australia**
Bloodborne diseases									
Hepatitis B (incident)	0.0	0.9	4.0	1.3	0.8	4.3	2.9	2.3	**1.7**
Hepatitis B (unspecified)	22.9	40.1	NN	20.0	10.4	8.5	36.6	20.0	**30.0**
Hepatitis C (incident)	2.5	1.3	0.0	NN	2.4	0.9	1.2	6.7	**2.0**
Hepatitis C (unspecified)	61.1	56.8	84.8	84.9	34.8	91.9	96.4	41.9	**70.0**
Hepatitis D	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	**0.0**
Gastrointestinal diseases									
Botulism	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Campylobacteriosis[2]	120.9	_	103.0	104.2	166.5	160.0	101.9	115.4	**114.8**
Cryptosporidiosis	26.7	8.3	218.2	179.4	8.8	6.0	7.0	14.6	**43.1**
Haemolytic uraemic syndrome	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	**0.0**
Hepatitis A	3.8	3.1	18.2	3.2	0.8	1.7	2.8	1.5	**2.8**
Hepatitis E	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	**0.0**
Listeriosis	0.0	0.1	0.0	0.5	0.0	0.0	0.2	1.0	**0.3**
Salmonellosis	44.6	41.7	258.6	118.2	34.8	52.8	33.4	51.3	**56.9**
Shigellosis	0.0	0.8	66.7	2.4	3.2	0.0	1.3	8.3	**2.8**
SLTEC,VTEC[3]	0.0	0.0	0.0	0.1	3.2	0.0	0.0	0.6	**0.3**
Typhoid	0.0	0.5	0.0	0.5	0.3	0.0	0.8	0.8	**0.6**
Quarantinable diseases									
Cholera	0.0	0.0	0.0	0.0	0.3	0.0	0.0	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**
Sexually transmissible diseases									
Chlamydial infection	159.1	65.2	577.8	164.1	101.9	93.6	99.1	155.5	**111.4**
Donovanosis	0.0	0.0	10.1	0.3	NN	0.0	0.0	0.0	**0.2**
Gonococcal infection[4]	5.1	18.9	753.5	26.1	5.6	4.3	16.0	69.7	**30.5**
Syphilis[5]	5.1	5.9	181.8	2.2	0.8	2.6	0.1	8.3	**5.3**

Table 3. Notification rates of diseases by State or Territory, 1 January to 31 March 2002. (Rate per 100,000 population) continued

	State or Territory								
Disease[1]	**ACT**	**NSW**	**NT**	**Qld**	**SA**	**Tas**	**Vic**	**WA**	**Australia**
Vaccine preventable diseases									
Diphtheria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Haemophilus influenzae type b	0.0	0.2	2.0	0.3	0.3	0.0	0.2	0.0	**0.2**
Influenza	1.3	0.7	8.1	2.6	1.1	0.0	3.6	4.2	**2.2**
Measles	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.0	**0.2**
Mumps	0.0	0.3	0.0	0.2	0.3	0.0	0.5	0.4	**0.3**
Pertussis	19.1	30.8	58.6	60.9	48.7	18.7	19.1	17.7	**33.5**
Pneumococcal disease	0.0	4.7	22.2	3.6	4.0	5.1	5.0	8.1	**5.0**
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Rubella[6]	0.0	0.4	2.0	3.7	0.5	0.0	0.6	0.4	**1.1**
Tetanus	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	**0.0**
Vectorborne diseases									
Arbovirus infection NEC	0.0	0.2	0.0	0.3	0.0	0.0	0.1	0.0	**0.1**
Barmah Forest virus infection	0.0	3.8	24.2	13.6	0.8	0.0	3.0	2.7	**5.2**
Dengue	1.3	0.9	36.4	2.6	0.5	1.7	0.6	0.8	**1.5**
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	3.8	2.4	16.2	6.3	0.3	1.7	1.6	2.5	**2.9**
Murray Valley encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	**0.1**
Ross River virus infection	0.0	2.4	64.6	46.9	6.1	31.5	0.7	11.5	**12.8**
Zoonoses									
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	1.4	0.0	0.0	0.0	0.0	**0.3**
Leptospirosis	0.0	0.7	2.0	4.9	0.0	0.0	0.3	0.2	**1.3**
Other lyssavirus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Ornithosis	0.0	0.2	0.0	0.2	0.5	0.0	0.4	0.2	**0.3**
Q fever	0.0	3.1	2.0	9.6	0.5	0.0	0.9	1.3	**3.3**
Other bacterial infections									
Legionellosis	0.0	0.9	0.0	0.5	1.9	0.0	1.8	1.3	**1.1**
Leprosy	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	**0.0**
Meningococcal infection	5.1	2.0	4.0	2.2	2.1	3.4	2.9	1.9	**2.3**
Tuberculosis	1.3	4.6	4.0	1.0	2.9	0.0	5.2	2.7	**3.6**

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, Queensland, South Australia , Victoria and Western Australia: includes gonococcal neonatal ophthalmia.
5. Includes congenital syphilis.
6. Includes congenital rubella.

NN Not Notifiable

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 4. Virology and serology laboratory reports by State or Territory[1] for the reporting period 1 January to 31 March 2002, and total reports for the year[2]

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2002	This period 2001	Year period 2002	Year to date 2001
Measles, mumps, rubella												
Measles virus	-	-	-	-	-	-	4	1	5	70	5	70
Mumps virus	-	1	-	1	-	-	1	-	3	4	3	4
Rubella virus	-	-	-	10	2	-	6	-	18	10	18	10
Hepatitis viruses												
Hepatitis A virus	-	1	4	9	4	-	2	1	21	5	21	5
Hepatitis D virus	-	-	-	1	-	-	-	-	1	1	1	1
Arboviruses												
Ross River virus	-	1	18	116	16	8	3	40	202	228	202	228
Barmah Forest virus	-	5	3	49	2	-	1	8	68	59	68	59
Dengue type 2	-	-	-	-	-	-	-	1	1	-	1	
Dengue not typed	1	1	90	1	1	-	1	13	108	-	108	-
Murray Valley encephalitis virus	-	-	-	-	-	-	1	2	3	-	3	-
Kunjin virus	-	-	-	-	-	-	-	2	2	-	2	-
Flavivirus (unspecified)	-	-	1	4	-	-	4	-	9	3	9	3
Adenoviruses												
Adenovirus type 3	-	-	-	-	-	-	1	-	1	2	1	2
Adenovirus type 4	-	-	-	-	-	-	2	-	2	-	2	-
Adenovirus type 7	-	-	-	-	-	-	5	-	5	2	5	2
Adenovirus type 8	-	-	-	-	-	-	2	-	2	1	2	1
Adenovirus type 19	-	-	-	-	-	-	2	-	2	-	2	-
Adenovirus type 37	-	-	-	-	-	-	1	-	1	1	1	1
Adenovirus type 40	-	-	-	-	-	-	-	9	9	-	9	-
Adenovirus not typed/pending	-	30	-	9	41	-	35	33	148	98	148	98
Herpes viruses												
Cytomegalovirus	2	47	1	31	148	3	39	5	276	176	276	176
Varicella-zoster virus	4	48	17	144	32	2	80	149	476	248	476	248
Epstein-Barr virus	-	21	15	170	126	1	36	118	487	207	487	207
Other DNA viruses												
Molluscum contagiosum	-	-	-	-	-	-	-	5	5	-	5	-
Parvovirus	-	3	1	8	47	-	12	23	94	30	94	30
Picornavirus family												
Coxsackievirus B1	-	2	-	-	-	-	-	-	2	-	2	-
Echovirus type 6	-	9	-	1	-	-	1	-	11	-	11	-
Echovirus type 9	-	5	-	1	1	-	-	-	7	2	7	2
Echovirus type 13	-	4	-	-	-	-	-	-	4	-	4	-
Echovirus type 30	1	1	-	-	-	1	-	-	3	-	3	-
Poliovirus type 1 (uncharacterised)	-	2	-	-	-	-	-	-	2	3	2	3
Poliovirus type 2 (uncharacterised)	-	1	-	-	-	-	-	-	1	3	1	3
Poliovirus type 3	-	2	-	-	-	-	-	-	2	-	2	-
Rhinovirus (all types)	-	46	3	-	2	-	-	29	80	28	80	28
Enterovirus not typed/pending	1	-	13	2	-	1	17	76	110	29	110	29
Picorna virus not typed	-	-	-	-	-	-	12	-	12	-	12	-

Table 4. Virology and serology laboratory reports by State or Territory[1] for the reporting period 1 January to 31 March 2002, and total reports for the year[2] continued

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2001	This period 2000	Year period 2001[3]	Year to date 2000
Ortho/paramyxoviruses												
Influenza A virus	-	1	-	4	35	-	39	16	95	58	95	58
Influenza B virus	-	2	-	8	5	-	1	8	24	16	24	16
Parainfluenza virus type 1	1	32	-	5	1	-	2	2	43	4	43	4
Parainfluenza virus type 2	-	1	-	2	4	-	-	2	9	3	9	3
Parainfluenza virus type 3	-	8	-	-	35	-	1	19	63	47	63	47
Respiratory syncytial virus	-	27	2	19	21	-	10	36	115	43	115	43
Other RNA viruses												
Rotavirus	-	16	-	2	29	3	22	14	86	82	86	82
Calici virus	-	-	-	-	-	-	-	8	8	-	8	-
Norwalk agent	-	3	-	-	-	-	27	-	30	46	30	46
Other												
Chlamydia trachomatis not typed	10	116	33	303	173	4	4	271	914	442	914	442
Chlamydia psittaci	-	-	1	-	-	-	6	5	12	12	12	12
Chlamydia spp typing pending	-	-	-	-	-	-	1	-	1	1	1	1
Mycoplasma pneumoniae	-	19	4	46	81	1	87	40	278	103	278	103
Coxiella burnetii (Q fever)	1	3	1	22	9	-	7	15	58	18	58	18
Rickettsia spp - other	-	-	-	-	-	-	-	4	4	-	4	-
Streptococcus group A	-	9	8	63	-	-	16	-	96	79	96	79
Yersinia enterocolitica	-	1	-	-	-	-	-	-	1	2	1	2
Brucella species	-	-	-	2	-	-	-	-	2	-	2	-
Bordetella pertussis	-	32	11	98	121	-	78	25	365	140	365	140
Legionella pneumophila	-	2	-	-	-	-	14	-	16	3	16	3
Legionella longbeachae	-	-	-	-	2	-	3	2	7	-	7	-
Legionella species	-	-	-	-	-	-	2	-	2	-	2	-
Cryptococcus species	-	-	-	3	4	-	-	-	7	3	7	3
Leptospira species	-	2	1	7	-	-	-	1	11	3	11	3
Treponema pallidum	-	34	75	91	61	-	-	27	288	163	288	163
Entamoeba histolytica	-	-	-	1	-	-	1	4	6	1	6	1
Toxoplasma gondii	-	3	-	-	4	-	2	1	10	4	10	4
Echinococcus granulosus	-	-	-	-	4	-	2	4	10	-	10	-
Total	**21**	**541**	**302**	**1,233**	**1,011**	**24**	**593**	**1,019**	**4,744**	**2,483**	**4,744**	**2,483**

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 5. Virology and serology laboratory reports by laboratories for the reporting period 1 January to 31 March 2002[1]

	Laboratory	January 2002	February 2002	March 2002	Total this period
Australian Capital Territory	The Canberra Hospital	-	-	-	-
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	96	59	36	191
	New Children's Hospital, Westmead	24	12	55	91
	Royal Prince Alfred Hospital, Camperdown	30	15	9	54
	South West Area Pathology Service, Liverpool	21	59	68	148
Queensland	Queensland Medical Laboratory, West End	512	533	425	1,470
	Townsville General Hospital	-	-	-	-
South Australia	Institute of Medical and Veterinary Science, Adelaide	562	445	-	1,007
Tasmania	Northern Tasmanian Pathology Service, Launceston	-	-	14	14
Victoria	Monash Medical Centre, Melbourne	20	7	11	38
	Royal Children's Hospital, Melbourne	105	58	22	185
	Victorian Infectious Diseases Reference Laboratory, Fairfield	126	112	138	376
Western Australia	PathCentre Virology, Perth	391	300	320	1,011
	Princess Margaret Hospital, Perth	21	6	35	62
	Western Diagnostic Pathology	35	47	15	97
Total		**1,943**	**1,653**	**1,148**	**4,744**

1. The complete list of laboratories reporting for the 12 months, January to December 2002, will appear in every report regardless of whether reports were received in this reporting period. Reports are not always received from all laboratories.

\- Nil reports

Table 6. Australian Sentinel Practice Research Network reports, weeks 1-4 to 9-13, 2002

Week number	**1-4**		**5-8**		**9-13**	
Ending on	**27 January 2002**		**24 February 2002**		**31 March 2002**	
Doctors reporting	250		239		229	
Total encounters	26,272		26,113		25,932	
Condition	**Reports**	**Rate per 1,000 encounters**	**Reports**	**Rate per 1,000 encounters**	**Reports**	**Rate per 1,000 encounters**
Influenza	46	1.8	33	1.3	49	1.9
Gastroenteritits	239	9.1	245	9.4	239	9.2
Acute cough with chest and systemic signs	46	1.8	52	2.0	51	2.0
Acute cough with chest signs	137	5.2	162	6.2	205	7.9
Acute cough with systemic signs	45	1.7	61	2.3	75	2.9
Acute cough without signs	259	9.9	226	8.7	255	9.8

Additional reports

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.

Reduction in funding after June 2001 has limited that national scope of surveillance. Priority has been given to comprehensive surveillance of strains infecting children admitted to hospital in Western Australia, the Northern Territory and Victoria. Previous experience has shown Western Australia and Norhtern Territory to show differing epidemiological patterns from those of the eastern states and to be sites where 'new' strains have appeared. Melbourne's epidemiological patterns in the past have been similar to those in Brisbane, Adelaide and Hobart, and is currently regarded as representative of those locations.

The NRRC retains an interest in providing a service available to all sites if unusual epidemic patterns are observed and can be contacted at the Murdoch Childrens Research Institute, Department of Gastroenterology and Clinical Nutrition, Royal Children's Hospital, Flemington Road, Parkville, Victoria, 3052. Contact: Ruth Clark, Telephone: +61 3 9345 5069. Facsimile: +61 3 9345 6240. E-mail: clarkr@cryptic.rch.unimelb.edu.au. For more information see Commun Dis Intell 2000;24:10.

The National Rotavirus Reference Centre (NRRC) conducted rotavirus surveillance Australia-wide in 2001. One thousand and eighteen samples were collected from children admitted to hospital with acute gastroenteritis, of which 865 were confirmed as rotavirus positive. Serotype analysis of these samples was conducted using a combination of enzyme immunoassays, PCR and Northern hybridization. This analysis revealed that serotype G1 was the major serotype, representing 42.4 per cent of all strains, followed by serotype G9 (36.5% of all strains). All other serotypes represented less than 2.5 per cent of strains (Table 7). However, there was variation in the prevalence rates in several of the participating centres, with serotype G1 being the dominant strain in Melbourne and Perth, whereas serotype G9 was the dominant strain in Alice Springs, Darwin and Mt Isa.

There was an increase in the prevalence of serotype G4 in Melbourne during 2001. Whether the Melbourne serotype G4 strains identified in 2001 are related to the earlier serotype G4 strains prevalent in Darwin and Sydney during 2000, requires further analysis.

A major outbreak in the Northern Territory started in May 2001, and persisted through the year.[1] Serotype G9 was the dominant strain. This 'new' serotype has been reported world-wide since 1998 and its incorporation in candidate rotavirus vaccines is under discussion. It is important to keep track of changing strains, so that Australia is well placed to implement an appropriate vaccine when one reaches licensure.

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

Reference

1. Armstrong P. NT Disease Control Bulletin 2001;8:1-5.

Table 7. Rotavirus G types, January to December, 2001

Centre	G serotype (% of rotavirus positive)												Number of rotavirus positive samples
	G1		G2		G3		G4		G9		NR*		Mix		
Melbourne	85	(48.3)	8	(4.6)	0		12	(6.8)	18	(10.2)	50	(28.4)	3	(1.7)	176
Perth	201	(65.7)	1	(0.33)	1	(0.33)	0		57	(18.6)	42	(13.7)	4	(1.3)	306
WA Pathcentre	35	(34.3)	1	(1)	0		1	(1)	46	(45.1)	14	(13.7)	5	(4.9)	102
Darwin	1	(3.3)	0		0		0		28	(93.3)	1	(3.3)	0		30
Darwin W. Path	3	(6.8)	0		0		1	(2.3)	32	(72.7)	8	(18.2)	0		44
Alice Springs	40	(24.9)	0		0		0		111	(68.9)	10	(6.2)	0		161
Mt Isa	0		0		0		0		23	(92)	2	(8)	0		25
Adelaide	1	(50)	0		0		0		0		1	(50)	0		2
Brisbane	1	(25)	2	(50)	0		0		0		1	(25)	0		4
Hobart	0		6	(46.2)	0		0		0		7	(53.8)	0		13
West Sydney	0		1	(50)	0		0		1	(50)	0		0		2
Total	**367**	**(42.4)**	**19**	**(2.2)**	**1**	**(0.1)**	**14**	**(1.6)**	**316**	**(36.5)**	**136**	**(15.7)**	**12**	**(1.4)**	**865**

* NR – unable to be serotyped with monoclonal antibodies.

1018 specimens were forwarded to the NRRC, 865 were confirmed as positive

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, Viral Hepatitis and Sexually Transmissible Infections 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. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. Internet: http://www.med.unsw.edu.au/nchecr. For more information see Commun Dis Intell 2002;26:59.

HIV and AIDS diagnosis and deaths following AIDS reported for 1 October to 31 December 2001, as reported to 31 March 2002, 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 2001, by sex and State or Territory of diagnosis

	Sex	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Totals for Australia			
										This period 2001	This period 2000	Year to date 2001	Year to date 2000
HIV diagnoses	Female	1	7	0	5	3	0	7	2	25	14	94	78
	Male	1	76	1	25	12	0	54	5	174	140	680	664
	Not reported	0	0	0	0	0	0	0	0	0	1	2	1
	Total[1]	2	83	1	30	15	0	61	7	199	156	777	746
AIDS diagnoses	Female	0	0	0	0	2	0	2	0	4	2	16	22
	Male	0	14	0	5	2	0	6	1	28	56	127	214
	Total[1]	0	14	0	5	4	0	8	1	32	58	144	236
AIDS deaths	Female	0	0	0	0	0	0	3	0	3	1	11	8
	Male	0	11	0	1	1	0	3	0	16	29	70	123
	Total[1]	0	11	0	1	1	0	6	0	19	30	81	131

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 2002, by sex and State or Territory

	Sex	State or Territory								
		ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Australia
HIV diagnoses	Female	28	672	10	180	72	5	250	132	**1,349**
	Male	231	11,562	112	2,153	727	80	4,203	981	**20,049**
	Not reported	0	244	0	0	0	0	24	0	**268**
	Total[1]	259	12,500	122	2,340	799	85	4,493	1,119	**21,717**
AIDS diagnoses	Female	9	208	0	51	28	3	79	27	**405**
	Male	88	4,823	37	883	363	45	1,725	364	**8,328**
	Total[1]	97	5,043	37	936	391	48	1,813	393	**8,758**
AIDS deaths	Female	4	118	0	35	16	2	57	18	**250**
	Male	70	3,281	25	588	242	29	1,313	260	**5,808**
	Total[1]	74	3,407	25	625	258	31	1,377	279	**6,076**

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 October to 31 December 2000 and at 24 months of age for the cohort born between 1 October to 31 December 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.

Commentary on the trends in ACIR data is provided by the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS). For further information please contact NCIRS at: telephone +61 2 9845 1256, E-mail: brynleyh@chw.edu.au.

The percentage of Australian children 'fully immunised' by 12 months increased marginally from the last quarter by 0.1 percentage points to 90.5 per cent (Table 10). The change in the percentage 'fully immunised' varied by State and Territory. New South Wales (+0.7%), the Australian Capital Territory (+0.5%), the Northern Territory (+2.4%), and South Australia (+0.1%) showed an increase in coverage. Queensland, Western Australia, Tasmania and Victoria experienced no change or a marginal decrease in coverage in the quarter. Coverage is now below 90 per cent in only two jurisdictions, the Northern Territory (89.7%) and Western Australia (88%). Immunisation coverage for DTP and OPV by 12 months in Australia decreased marginally from the previous quarter whilst coverage for Hib and hepatitis B increased marginally. The biggest improvement in coverage by 12 months was seen in the Northern Territory, where coverage for DTP increased by 1.9 per cent, OPV by 1.4 per cent, Hib by 3 per cent and hepatitis B by 3.2 per cent.

Coverage measured by the percentage of Australian children 'fully immunised' at 24 months decreased marginally from the last quarter by 0.2 percentage points to 87.8 per cent (Table 11). Coverage increased compared with the previous quarter in three states and territories, the Northern Territory (2.4%), New South Wales (0.5%) and Western Australia (0.8%). Queensland, South Australia, Tasmania and Victoria experienced no change or a small decrease in coverage with South Australia experiencing the largest decrease (2.4%).

Coverage for individual vaccines by 24 months for Australia however, is much greater than for 'fully immunised', with coverage for Hib greater than 95 per cent and coverage for OPV and MMR approaching 95 per cent.

Figure 6 shows the trends in vaccination coverage from the first ACIR-derived published coverage estimates in 1997 to the current estimates. There is a clear trend of increasing vaccination coverage over time for children aged 12 months and 24 months. However, the rate of increase in coverage is slowing with the curve beginning to flatten out for estimates at 12 months of age.

Figure 6. Trends in vaccination coverage, Australia, 1997 to 2001, by age cohorts

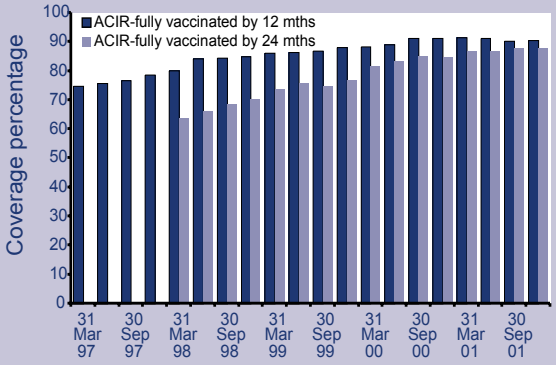

Table 10. Percentage of children immunised at 1 year of age, preliminary results by disease and State for the birth cohort 1 October to 31 December 2000; assessment date 31 March 2002

Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	1,084	21,340	845	12,019	4,231	1,535	15,258	5,848	**62,160**
Diphtheria, Tetanus and Pertussis (%)	92.9	91.9	90.7	92.0	92.2	92.1	92.8	90.1	**92.0**
Poliomyelitis (%)	92.8	91.8	90.5	91.9	92.0	92.1	92.8	90.0	**91.9**
Haemophilus influenzae type b (%)	94.7	94.5	96.1	94.3	94.5	95.7	95.0	93.1	**94.5**
Hepatitis B (%)	95.0	94.7	96.3	94.8	94.9	94.9	94.1	92.2	**94.4**
Fully immunised (%)	91.4	90.6	89.7	90.8	90.6	91.0	91.0	88.0	**90.5**
Change in fully immunised since last quarter (%)	-0.5	+0.7	+2.5	-0.7	+0.1	-0.3	+0.0	-1.1	**+0.1**

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 1999; assessment date 31 March 2002[1]

Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	999	20,711	759	11,714	4,417	1,483	15,149	6,132	**61,364**
Diphtheria, Tetanus, Pertussis (%)	89.9	89.7	86.8	91.1	90.0	90.4	90.9	89.1	**90.2**
Poliomyelitis (%)	95.0	94.1	94.6	94.0	94.6	96.1	95.2	93.8	**94.4**
Haemophilus influenzae type b (%)	95.8	95.4	94.1	95.0	95.4	96.6	96.1	94.7	**95.4**
Measles, Mumps, Rubella (%)	94.4	92.8	94.2	93.2	93.2	95.1	94.1	92.9	**93.4**
Fully immunised (%)[2]	88.5	86.9	85.9	88.8	87.5	89.6	88.8	86.3	**87.8**
Change in fully immunised since last quarter (%)	-1.6	+0.5	+2.4	-1.4	-2.4	-0.5	-0.0	+0.8	**-0.2**

1. The 12 months age data for this cohort were published in *Commun Dis Intell* 2001;25:94.
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 Ageing. For further information on these figures or data on the Australian Childhood Immunisation Register please contact the Immunisation Section of the HIC: Telephone: +61 2 6124 6607.

National Enteric Pathogens Surveillance System

The National Enteric Pathogens Surveillance System (NEPSS) collects, analyses and disseminates data on human enteric bacterial infections diagnosed in Australia. These pathogens include Salmonella, E. coli, Vibrio, Yersinia, Plesiomonas, Aeromonas *and* Campylobacter. Communicable Diseases Intelligence *reports only on* Salmonella.

Data are based on reports to NEPSS from Australian laboratories of laboratory-confirmed human infection with Salmonella. Salmonella *are identified to the level of serovar and, if applicable, phage-type. Infections apparently acquired overseas are included. Multiple isolations of a single* Salmonella *serovar/phage-type from one or more body sites during the same episode of illness are counted once only. The date of the case is the date the primary diagnostic laboratory isolated a Salmonella from the clinical sample.*

Note that the historical quarterly mean count should be interpreted cautiously, and is affected by surveillance artefacts such as newly designated and incompletely typed Salmonella.

We thank contributing laboratories and scientists. Joan Powling (NEPSS Co-ordinator) and Mark Veitch (Public Health Physician), Microbiological Diagnostic Unit — Public Health Laboratory, Department of Microbiology and Immunology, University of Melbourne. For further information please contact NEPSS at the above address or on Telephone: +61 3 8344 5701, Facsimile: +61 3 8344 7833.

Reports to the National Enteric Pathogens Surveillance System of Salmonella *infection for 1 January to 31 March 2002 are shown in Tables 12 and 13. Data includes cases reported and entered by 15 April 2002. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS.*

Table 12. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 January to 31 March 2002, as reported to 15 April 2002

	Australia	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
Total all *Salmonella* for quarter	2,585	39	708	101	965	117	55	423	177
Total contributing *Salmonella* types	225	20	106	43	119	43	15	100	62

Table 13. Top 25 *Salmonella* types identified in Australian States and Territories, 1 January to 31 March 2002

National rank	*Salmonella* type	Total 1st quarter 2002	Last 10 years mean 1st quarter	Year to date 2002	Year to date 2001	Total 2001	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
1	S. Typhimurium 9	279	148	279	160	398	14	165	0	31	8	3	42	16
2	S. Typhimurium 135	262	176	262	276	638	1	83	2	49	6	8	71	42
3	S. Saintpaul	145	117	145	98	288	0	10	1	108	2	1	14	9
4	S. Virchow 8	137	48	137	82	245	0	10	0	119	0	0	8	0
5	S. Typhimurium 170	132	31	132	19	148	0	59	0	24	0	0	48	1
6	S. Birkenhead	109	84	109	99	248	0	45	2	58	0	0	4	0
7	S. Aberdeen	67	32	67	33	87	0	4	0	54	0	0	9	0
8	S. Hvittingfoss	59	17	59	25	89	1	5	3	46	2	0	1	1
9	S. Typhimurium 126	58	26	58	58	314	0	13	1	11	11	1	21	0
10	S. Chester	48	58	48	67	166	1	9	6	25	2	0	2	3
11	S. Waycross	48	37	48	19	53	0	16	1	31	0	0	0	0
12	S. Muenchen	43	57	43	52	125	0	2	5	28	2	0	1	5
13	S. Virchow 34	41	28	41	32	87	1	17	0	16	0	1	6	0
14	S. Infantis	37	47	37	44	123	3	12	0	9	3	0	6	4
15	S. Mississippi	35	31	35	67	124	0	1	0	0	0	32	2	0
16	S. Anatum	32	32	32	20	58	0	3	5	19	0	0	1	4
17	S. Typhimurium 4	31	16	31	62	141	2	6	0	6	5	0	12	0
18	S. Montevideo	30	5	30	6	27	1	22	2	4	0	0	1	0
19	S. Mgulani	29	12	29	12	66	0	1	0	27	0	0	1	0
20	S. Potsdam	28	20	28	22	60	0	14	0	13	0	0	0	1
21	S. Typhimurium RDNC	22	43	22	30	102	0	11	0	2	1	0	8	0
22	S. Typhimurium U290	22	1	22	4	27	1	14	0	0	0	1	4	2
23	S. Agona	21	17	21	13	56	1	7	1	1	7	0	2	2
24	S. Typhimurium 12	21	6	21	18	62	0	6	1	6	7	0	1	0
25	S. Singapore	19	19	19	14	64	0	10	0	4	3	0	1	1
	Total of 25 most common types	1,755					26	545	30	691	59	47	266	91