Communicable Diseases Surveillance

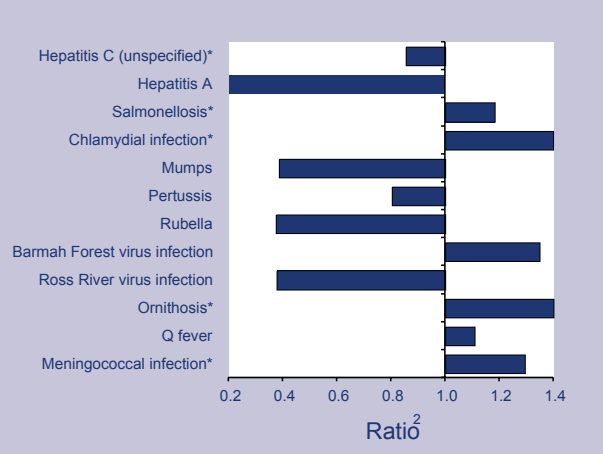
Highlights for 2nd quarter, 2002

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 quarter.*

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 second quarter of 2002, compared with the 5-year second 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 the current quarter were salmonellosis, chlamydial infections, ornithosis and meningococcal infections. The reports of unspecified hepatitis C were two standard deviations below the 5-year mean in this quarter. 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 April to 30 June 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.

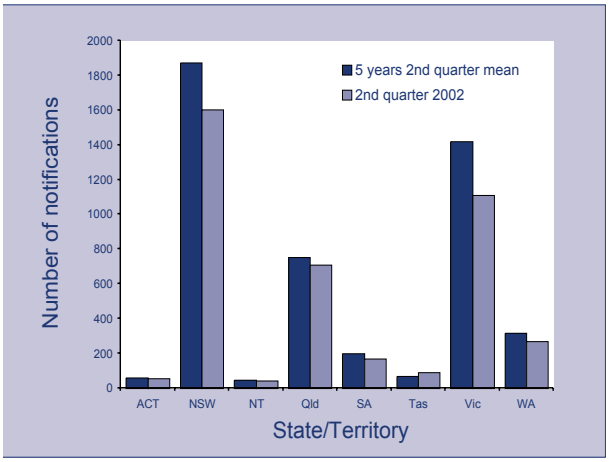
* Notifications above or below the 5-year mean for the same period plus- or minus- two standard deviations.

Bloodborne viruses

The number of unspecified hepatitis C infections in Australia has been stable since 1995 when this disease began to be separately notified. Figures from this quarter indicate a decline in unspecified hepatitis C infection, from 4,745 cases in the last 5-year mean for the second quarter to 4,058 reports for the second quarter this year. The number of notifications of unspecified hepatitis C infections are lower than the 5-year mean for every State and Territory, except Tasmania (Figure 2). The reasons for the decline are still unclear, however the decreases may be related to the improvement of surveillance practices, such as more frequent checking for duplication. It may also be that there is a smaller pool of infected individuals who have not been previously diagnosed. More time is required to determine whether this trend continues.

Incident hepatitis C notifications have also decreased from the mean of 86 cases for the second quarter based on the last 5 years' data, to 63 cases for the current quarter.

Figure 2. Notifications of unspecified hepatitis C for the second quarter 2002 compared with the 5-year mean, Australia, by State or Territory



Gastrointestinal disease

Cryptosporidiosis

The number of cryptosporidiosis notifications has fallen sharply, from 2,115 cases in the first quarter of 2002 to 580 cases in the current quarter. The decline was mainly due to the easing of outbreaks of cryptosporidiosis in Queensland, where 1,635 cases were reported in the previous quarter compared with 277 cases in this quarter. Since cryptosporidiosis only became nationally notifiable in 2001, there is no 5-year mean with which to compare the data from this quarter. The national notification rate was 12 cases per 100,000 population. The highest reporting rate was received from the Northern Territory (77 cases per 100,000 population), followed by Queensland (31 cases per 100,000 population) and Western Australia (12 cases per 100,000 population). Of the 2,695 cases of cryptosporidiosis reported with an onset date in the first 6 months of this year, 1,368 (51%) were children aged under 5 years.

Salmonellosis

The number of notifications of salmonellosis for this quarter was higher (1,943 cases) than the previous 5-year average for the same period (1,642 cases) (Figure 1). The national notification rate was 40 cases per 100,000 population, and the highest rate was reported from the Northern Territory (174 cases per 100,000 population), followed by Queensland (71 cases per 100,000 population) and South Australia (41 cases per 100,000 population).

Three major outbreaks of salmonellosis occurred in Victoria in the second quarter 2002. The first outbreak occurred in an aged care hostel in Melbourne in early April. *Salmonella* Typhimurium phage type 9 was isolated from 10 faecal specimens of the 13 patients who had specimens collected. The Victorian Department of Human Services and local government staff visited the premises and identified problems with food handling and processing. Local government environmental health officers collected food samples and environmental swabs and supervised a clean-up. No bacterial pathogens were isolated from any samples collected from the premises. The source of the outbreak was not identified.

The second outbreak occurred in June 2002, when 11 cases of ampicillin resistant *Salmonella* Typhimurium 135 were identified. Two of the reporting doctors noted that their patients had consumed pork rolls prior to the onset of disease. An investigation was initiated and a total of 26 cases were confirmed, with a further 6 suspected cases identified. Of the cases interviewed, 19 were linked to a small bakery, and all had consumed pork rolls on the same day in June. The pork rolls were made in the bakery and contained chicken liver pate (made at the bakery), egg butter made with raw eggs and oil, sliced pork loaf, cucumber, carrot and coriander. Local government authorities inspected the premises, suspended the production of pork rolls and collected food samples and environmental swabs. All food samples collected from the bakery were negative for bacterial pathogens and the primary source of the outbreak was not identified.

An outbreak of *Salmonella* Typhimurium U290 occurred in rural Victoria. Ten cases were identified and all but one had eaten pastries with cream products from the same bakery, 1–2 days before the onset of illness. A case-control study supported an association between illness and the consumption of cream and custard products from the bakery (OR indeterminate, 95%CI 13.3–∞). Departmental staff visited the site and collected samples of cream products, raw eggs, raw meat and swabs from a piping bag. Some problems with food preparation were identified. Food handlers were interviewed and three reported gastrointestinal illness, one with onset approximately 3–4 weeks prior and two with onsets within 1–2 days after the confirmed cases. All had continued to work while symptomatic. No *Salmonellae* were isolated from any of the samples collected and the primary source of the outbreak was not identified. Clean-up procedures were undertaken at the premises and advice given about safe food handling and preparation.

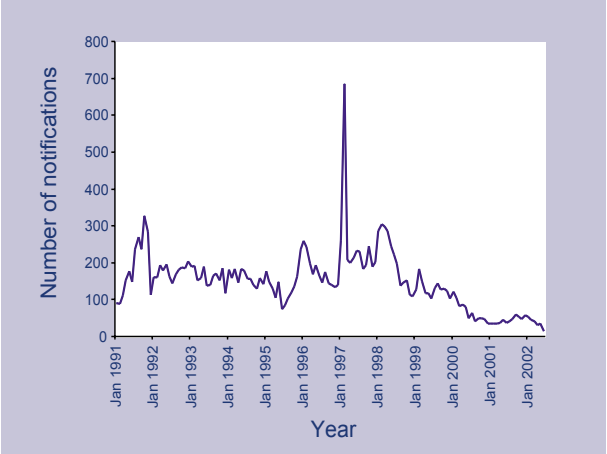
The Northern Territory has reported an increase in *Salmonella* Ball during the first 6 months of 2002 and the cause of this increase is still under investigation by the jurisdiction's health authority.

South Australia reported a large outbreak of *Salmonella* Typhimurium 8 in April 2002. A total of 78 cases were identified and 45 of those cases tested positive for S. Typhimurium 8. Food samples collected from the restaurant contained S. Typhimurium 8. A case control study was conducted and a caesar salad purchased from a restaurant in metropolitan Adelaide was implicated.

Other foodborne disease

The number of hepatitis A notifications has decreased from 141 cases in the first quarter 2002 to 80 cases reported in the current quarter, which is the lowest number of hepatitis A notifications on record (Figure 3). The national notification rate was 1.7 cases per 100,000 population with a male to female ratio of 2:1. The notifications occurred more frequently in the 20–39 years age group (38/80; 48%).

Figure 3. Notifications of hepatitis A, Australia, 1991 to 2002



In early June, a Victorian meat manufacturer recalled one of its products after tests determined the presence of *Listeria monocytogenes* in the product. Although there were 17 cases of listeriosis reported for the year to date in Australia with an onset date in the second quarter 2002, none of the cases of listeriosis were associated with consuming the meat product.

Vaccine preventable diseases

Measles

No cases of measles were reported in Tasmania, the Northern Territory, Western Australia, South Australia or the Australian Capital Territory during this quarter. Queensland reported one measles case in a partially vaccinated 2-year-old child with no history of overseas travel.

A cluster of 3 cases of measles was identified in Victoria during May and June 2002. A 29-year-old male was identified as the first case. He had not travelled in the incubation period and had an uncertain vaccination status. The second case was a 28-year-old male who was unvaccinated. Follow-up of contacts for the second case found that his 19-year-old sister had earlier reported a measles-like illness, later confirmed as measles. The sister worked in the same street where the first case lived and they may have had contact.

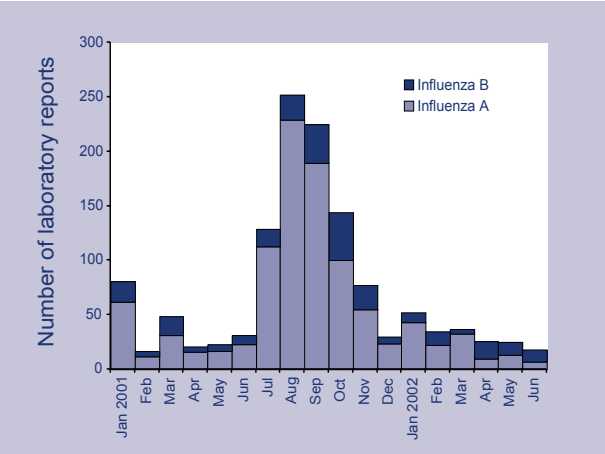
New South Wales reported 2 cases of measles this quarter. The first case was a 1-year-old unvaccinated child who had recently travelled to Pakistan and the second case was in a 1-year-old child with partial vaccination.

Influenza

There were 554 notifications of laboratory-confirmed influenza to the NNDSS during the quarter. The notification rate was highest in South Australia (31 cases per 100,000 population) where there was an outbreak of influenza type A in a health care facility. One hundred and forty-three cases were identified on a clinical basis, but only 9 were laboratory confirmed. Victoria also experienced two influenza outbreaks in schools. The first outbreak, which had onset of symptoms over 10 days, occurred in students who attended a residential camp. A total of 36 cases were identified (31 students, one teacher, one parent and 3 siblings), two of which were identified by PCR as influenza B/Hong Kong virus. The second outbreak occurred amongst secondary school students, where 100 cases of influenza-like illness were identified. Specimens were collected from 8 students and influenza B/Hong Kong virus was detected in two of the cases.

The emergence of influenza B has been observed in reports to LabVISE this quarter. The number of influenza B isolates (116 reports) has exceeded the number of reports for influenza A this quarter (Figure 4). The ratio of influenza A:B was 1:1.6 in the second quarter, but the year to date ratio is 1.4:1.

Figure 4. Laboratory reports of influenza A and B to LabVISE, Australia, 2001 to 2002, by month of specimen collection



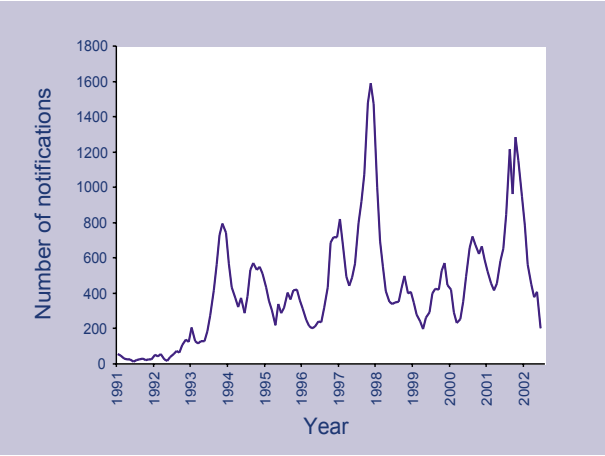
Circulation of the influenza B/Hong Kong strain has been largely absent around the world since the early 1990s. However, an outbreak of influenza B/Hong Kong strain recently occurred in Texas, United States of America.[1] The outbreak occurred late in the Northern Hemisphere influenza season with cases reported up until late May 2002. A total

of 74 laboratory-confirmed cases were identified. The exact number of cases in the community are not known as doctors are not required to report influenza in Texas. In our region, New Zealand has reported 5 cases of influenza B/Hong Kong for May and June.[2] The WHO Collaborating Centre for Reference and Research in Influenza has indicated that the current Southern Hemisphere vaccines, containing influenza B/Sichuan-like component, is expected to have reduced effectiveness against influenza B/Hong Kong-like strains. However, antibody responses to the B/Hong Kong strain have been observed in adults vaccinated with the current influenza vaccine.[3] Simonsen *et al*[4] analysed mortality data since 1972/73 season examining the number of deaths associated with influenza and pneumonia. Influenza seasons where influenza A was the dominant strain tended to be more severe (caused more deaths) than the seasons when influenza B was predominant.

Pertussis

The number of pertussis notifications received this quarter (987 cases) was lower than the 5-year mean for the second quarter (1,231 cases). The 5-year mean includes the epidemic of pertussis that occurred in 1997, but the number of notifications from this quarter is one of the lowest since mid–1993 (Figure 5).

Figure 5. Notifications of pertussis, Australia, 1991 to 2002



Vectorborne disease

This reporting period represents the third consecutive quarter with increased reporting of Barmah Forest virus (BFV) infection. A total of 329 cases of infection with BFV were reported during the current notification period, compared to a mean of 244 cases with onset dates in the same period for the previous 5 years (Figure 1). The disease was reported in five jurisdictions — New South Wales, the Northern Territory, Queensland, Victoria and Western Australia. However, the increase mainly occurred in New South Wales, where numbers rose from 93 cases of BFV infection in the previous quarter to 183 cases in the current quarter, of which 86 resided in the Hunter region.

The outbreak of Ross River virus (RRV) infection in Tasmania, reported last quarter, extended into April. A total of 53 cases were recorded during the outbreak, the majority of which were from the eastern urban fringes of Hobart. The outbreak was mainly due to an extensive rainfall in early summer period followed by a warm dry end to summer.

Zoonoses

Ornithosis

In early June, the New South Wales Health Department (NSW Health) started an investigation of an apparent outbreak of pneumonia in the Blue Mountains approximately 100km west of Sydney. The local doctors and hospitals notified NSW Health of a substantial increase in cases of pneumonia since mid-March 2002, among local residents aged between 15 and 75 years who live in the Blue Mountains.[5]

Approximately 80 cases of pneumonia were identified and the patients were asked to provide convalescent serology for testing for a range of infections, including psittacosis. Presumptive serological evidence of psittacosis was observed in 16 of 21 cases using *Chlamydia* genus IgG and IgA EIA followed by microimmunofluorescence. [5]

Q fever

During June, 9 cases of Q fever related to occupational exposure at an abattoir in south-western Victoria were notified to the Victorian Department of Human Services. The workplace had participated in a mass-screening program in the previous year but had subsequently taken on a large number of new employees. The abattoir was also receiving increased numbers of animals from Q fever endemic areas of New South Wales. Screening of new employees was organised following the outbreak with a further 11 of the 118 (9.3%) screened employees having clinical and serological evidence of recent infection. The total number of cases of Q fever related to the abattoir was twenty. There were no reports of clinical illness in previously vaccinated workers.

Other bacterial infections

Legionellosis

The total number of notifications in this quarter (79 cases) was lower than the previous 5-year mean (101 cases) for the same notification period. The cases were aged between 13 and 91 years with a male to female ration of 1.9:1. A 56-year-old male died as the result of *L. longbeachae* infection in Western Australia during this quarter.

The data on *Legionella* spp. was available for 19 cases only, of which 16 were *L. longbeachae* and three were *L. pneumophilia*. LabVISE received a total of 72 legionellosis notifications for the first 6 months of 2002, of which 21 (29.2%) were *L. longbeachae* and 46 (63.9%) were *L. pneumophilia*.

There were 2 major outbreaks of legionellosis in Victoria this quarter. During a 3-week period in April, a total of 8 cases of legionellosis (*L. pneumophila* serogroup 1) were notified in patients with recent history of exposure to a specific area within the Melbourne central business district (CBD). Cases were aged between 29 and 85 years. Three of the cases worked in the central CBD, two visited the region as a part of their work duties and the other 3 cases were casual visitors only. A total of 32 cooling towers in the area were investigated. Only one tower tested positive for *L. pneumophila* serogroup 1.

A second outbreak in Victoria occurred during a 2-week period in May. A total of 8 cases of legionellosis (*L. pneumophila* serogroup 1) were notified, all of which had recently visited a shopping district in the inner west of Melbourne. Cases were aged between 51 and 84 years, with a male:female ratio of 3:1. Four cases were local residents and another three were regular visitors. The eighth case made a single trip to the area. All premises with cooling tower systems in the shopping district and two fountains were investigated. One cooling tower tested positive for *Legionella* species but the organism isolated was identified as *L. spiritensis.* No source of the *L. pneumophila* serogroup 1 has been found.

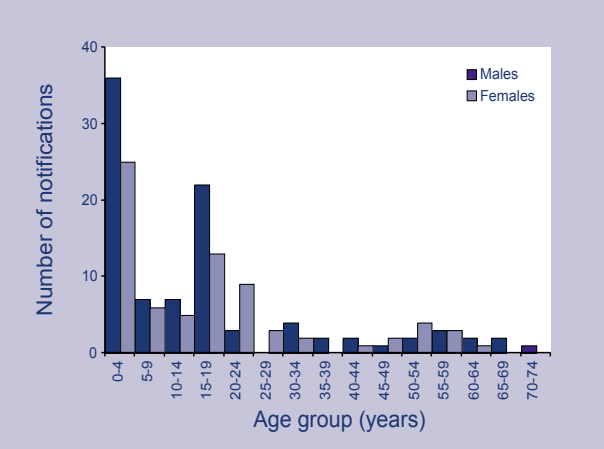
Meningococcal disease

During this quarter, there were 166 notifications of meningococcal disease reported to the NNDSS, which is an increase from the last 5-year mean for the second quarter (128 cases). The majority of notifications of meningococcal disease occurred in the 0–4 years age group and the 15–19 years age group (Figure 6). In these age groups, the number of males with meningococcal disease was higher than the number of females. However, in the 25–29 year age group, all of the reported meningococcal cases were female.

There were two clusters of meningococcal disease in Victoria. The first cluster was comprised of two university students in the same faculty who were infected with serogroup C strains. Close contacts of the students were given antibiotics and nearly 300 people at the university were given conjugate meningococcal group C vaccine. The second cluster occurred in the same child-care centre where two children were diagnosed with meningococcal disease (serogroup C). Other children in the child-care centre, staff and relatives were given antibiotics and 68 people were vaccinated with the conjugate meningococcal group C vaccine.

The national rate of meningococcal notifications was 3.4 cases per 100,000 population for this quarter. The jurisdictions with the highest rates were the Northern Territory and Tasmania (8 cases per 100,000 population). Of the 4 cases reported in the Northern Territory, two were from the same community (but with an onset date one month apart) and the other two cases were sporadic. In response to recent cases, Tasmania undertook a campaign to raise awareness about the signs and symptoms of meningococcal disease and ways to reduce the spread of the disease. A meningococcal disease immunisation campaign was implemented in Tasmania and further details are available from the Tasmanian Department of Health and Human Services.

Figure 6. Notifications of meningococcal disease, Australia, 1 April to 30 June 2002, by age group and sex



LabVISE

During the period April to June 2002, 12 participating laboratories (4 in New South Wales; 3 in Victoria; 3 in Western Australia and one in both Queensland and Tasmania) contributed 4,194

reports to LabVISE by the date of specimen collection. Although there were no contributing laboratories from the Northern Territory, samples from this jurisdiction were included in the reports from participating reference laboratories. Of the 4,194 reports received, 2,686 (64%) were of viral infections and the remainder (1,508 reports) were bacterial, spirochaete, fungal, protozoan or helminthic infections. Of the viral infections, ortho/paramyxoviruses (including influenza A and B, parainfluenza and respiratory syncytial virus) were the most frequently reported group of viral infections, accounting for 37% of viral reports. Herpesviruses (including herpes type 6, cytomegalovirus, varicella-zoster and Epstein-Barr virus) accounted for 26 per cent of viral reports. *Chlamydia* species (801 reports) accounted for more than half of all reports (53%) of non-viral infections.

During the period April to June, LabVISE received reports of 188 cases of influenza virus, 100 cases of adenovirus, 141 cases of parainfluenza, 700 cases of respiratory syncytial virus (RSV) and 79 cases of rhinovirus. Trends in the reporting of influenza and other respiratory viruses over the period 1991 to 2002 are shown in Figure 7. The patterns of seasonal variation were similar for influenza virus and RSV activities, usually with peak notifications in the winter season (June to September in Australia). The seasonal pattern of respiratory viruses shows that the peak was earlier and broader than the influenza virus peak. The distribution of reports by age shows that both RSV and influenza virus was highest in children aged 0–4 years (Figure 8).

Figure 7. Number of laboratory reports to LabVISE of influenza virus and respiratory syncytial virus, Australia, 1991 to 2002

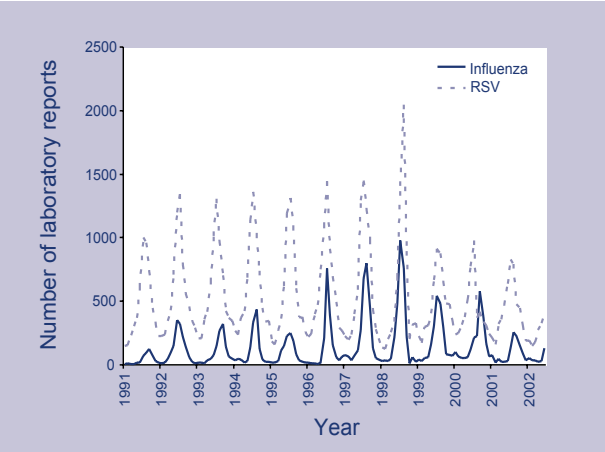
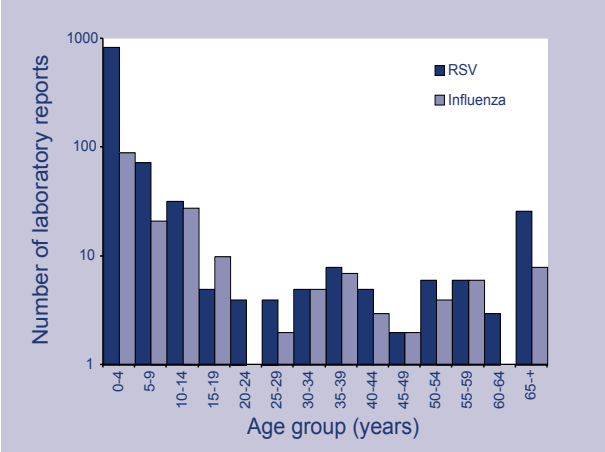


Figure 8. Number of laboratory reports to LabVISE of respiratory syncytial virus and influenza virus, Australia, 1 April to 30 June 2002, by age group and virus



With thanks to:

Linda Selvey, Robyn Pugh and Craig Davis, Queensland Health.

Graham Tallis and Kerry-Ann O'Grady, Department of Human Services, Victoria.

Vicki Krause and Peter Markey, Centre for Disease Control, Northern Territory.

Ingrid Tribe, Communicable Disease Control Branch, South Australia.

Carolien Giele, Communicable Disease Control Branch, Health Department of Western Australia.

Avner Misrachi and David Coleman, Department of Health and Human Services, Tasmania

Louise Carter and Hilary McClure, Department of Health and Community Care, Australian Capital Territory.

References

1. Influenza B, Hong Kong Strain — USA (Texas). ProMED mail (www.promedmail.org) 8 June 2002, Archive number 20020608.4438.

2. Influenza in New Zealand (http://www.esr.cri.nz/frame.html?content=/flu/) 28 June 2002.

3. WHO Collaborating Centre for Reference and Research on Influenza (http://www. influenza-centre.org) 28 June 2002.

4. Simonsen L, Clarke M, Williamson D, Stroup D, Arden N, Schonberger L. The impact of influenza epidemics on mortality: introducing a severity index. *Am J Pub Health* 1997;87:1944–1950.

5. Psittacosis, Gardeners — Australia (New South Wales). ProMED mail (www.promedmail.org), 13 June 2002, Archive number 20020613.4484.

Tables

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 22,982 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 April and 30 June 2002 (Table 2). The notification rate of diseases per 100,000 population for each State or Territory is presented in Table 3.

There were 4,194 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 April to 30 June 2002 (Tables 4 and 5).

The Australian Sentinel Practice Research Network (ASPREN) data for weeks 14-17 to 22-26, ending 30 June 2002, are included in this issue of *Communicable Diseases Intelligence* (Table 6).

Table 1. Reporting of notifiable diseases by jurisdiction

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 of diseases received by State and Territory health authorities in the period 1 April to 30 June 2002, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 2nd quarter 2002[1]	Total 1st quarter 2002	Total 2nd quarter 2001	Last five years mean 2nd 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 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 April to 30 June 2002, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 2nd quarter 2002[1]	Total 1st quarter 2002	Total 2nd quarter 2001	Last five years mean 2nd 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 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 April to 30 June 2002, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 2nd quarter 2002[1]	Total 1st quarter 2002	Total 2nd quarter 2001	Last five years mean 2nd 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 April to 30 June 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	< **0.1**
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	< **0.1**
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	< **0.1**
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	< **0.1**
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 (continued). Notification rates of diseases by State or Territory, 1 April to 30 June 2002. (Rate per 100,000 population)

	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	**<0.1**
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	**<0.1**
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 April to 30 June 2002, and total reports for the year[2]

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2002	This period 2001	Year to date 2002[3]	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 (continued). Virology and serology laboratory reports by State or Territory[1] for the reporting period 1 April to 30 June 2002, and total reports for the year[2]

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2002	This period 2001	Year to date 2002[3]	Year to date 2001
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 for the reporting period 1 April to 30 June 2002, by laboratories[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 14-17 to 22-26, 2002

Week number Ending on	1-4 27 January 2002		5-8 24 February 2002		9-13 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

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. The system provides the national surveillance of more than 50 communicable diseases or disease groups endorsed by the Communicable Diseases Network Australia and the National Public Health Partnership. Notifications of these diseases are made to State and Territory health authorities under the provisions of their respective public health legislation. De-identified core unit data are supplied fortnightly for collation, analysis and dissemination. For further information, see Commun Dis Intell *2002;26:58.*

LabVISE is a sentinel reporting scheme. Currently 15 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 *2002;26:61.*

ASPREN currently comprises about 66 general practitioners from throughout the country, not all of whom report each week. Between 4,000 and 6,000 consultations are reported each week, with special attention to 10 conditions chosen for sentinel surveillance in 2002. Communicable Diseases Intelligence *reports the consultation rates for six of these. For further information, including case definitions, see* Commun Dis Intell *2002;26:60.*

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. For more information see Commun Dis Intell *2002;26:61.*

Reporting period 1 January to 31 March 2002

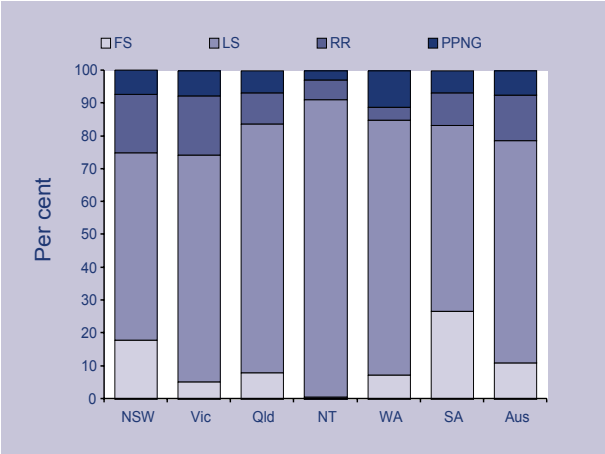
The Australian Gonococcal Surveillance Programme laboratories examined a total of 1,044 isolates in this quarter, an increase of about 10 per cent over the number in the same quarter in the past 3 years. Approximately 43.5 per cent of this total was from New South Wales where much of the increase occurred, 16.5 per cent from Victoria, 13.5 per cent from Queensland, 15.2 per cent from the Northern Territory, 8 per cent from Western Australia and 3 per cent from South Australia. Isolates from other centres were few.

Penicillins

In this quarter approximately 21 per cent of all isolates were penicillin resistant by one or more mechanisms — 7 per cent penicillinase producing (PPNG) and 14 per cent by chromosomal mechanisms (CMRNG). The proportions are relatively unchanged from the same period in 2001. The proportion of penicillin resistant strains ranged from 8.7 per cent in the Northern Territory to 26 per cent in Western Australia.

Figure 9 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 aggregated for Australia and by state and territory. A high proportion of those strains classified as PPNG or else resistant by chromosomal mechanisms fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

Figure 9. Categorisation of gonococci isolated, Australia, 1 January to 31 March 2002, 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*

The number of PPNG isolated across Australia (n = 75) continued to decline and was slightly less in this quarter than in the corresponding period in 2001 (85). The highest proportion of PPNG was found in isolates from Western Australia (17%). PPNG were present in all jurisdictions including four (2.7%) in the Northern Territory.

More isolates were resistant to the penicillins by separate chromosomal mechanisms (n = 142). These CMRNG were especially prominent in Victoria (18% of isolates) and New South Wales (17%). Nine CMRNG were detected in the Northern Territory.

Ceftriaxone

Low numbers of isolates with decreased susceptibility to ceftriaxone (MICs 0.06 mg/L) were present in New South Wales.

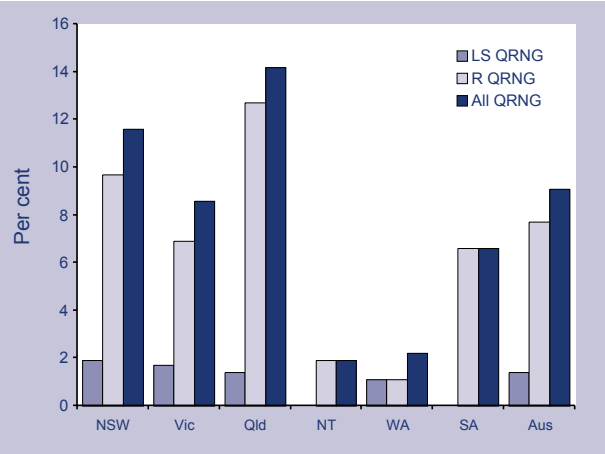
Spectinomycin

All isolates were susceptible to this injectable agent.

Quinolone antibiotics

The change seen from the same period last year was for fewer quinoline resistant *N. gonorrhoeae* (QRNG), but for those QRNG to have higher levels of resistance. The majority of QRNG (80 of 95, 84%) now exhibit higher level resistance. The total number (95) and proportion (9%) of all QRNG was about half that seen in the first quarter of 2001 (197 isolates, 21%) (Figure 10).

Figure 10. Distribution of *N. gonorrhoeae* showing quinolone resistance, Australia, 1 January to 31 March 2002



LS QRNG = Ciprofloxacin MICs 0.06 – 0.5 mg/L

R QRNG = Ciprofloxacin MICs ≥ 1 mg/L

Quinolone resistant *N. gonorrhoeae* 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.

QRNG were again widely distributed. High rates were maintained in Queensland (14%) and New South Wales (11.6%). 8.6 per cent of Victorian and 6 per cent of South Australian isolates were QRNG. Forty-four of the New South Wales, 12 of the Victorian and 15 of the Queensland QRNG isolates exhibited high level resistance (MIC ciprofloxacin ≥ 1 mg/L) and higher level QRNG were also seen in the Northern Territory, South Australia and Western Australia. Local acquisition became increasingly prominent and MICs ranged up to 16mg/L.

High level tetracycline resistance

The number (136) and proportion (13%) of high level tetracycline resistant (TRNG) detected almost doubled from the corresponding period in 2001. TRNG represented between 12 and 17 per cent of isolates from Queensland, Victoria, Western Australia and New South Wales with four TRNG present in the Northern Territory.

Reference

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

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 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/nchecr. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. For more information see Commun Dis Intell *2002;26:59.*

HIV and AIDS diagnoses and deaths following AIDS reported for 1 January to 31 March 2002, as reported to 30 June 2002, are included in this issue of Communicable Diseases Intelligence *(Tables 7 and 8).*

Table 7. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 January to 31 March 2002, by sex and State or Territory of diagnosis

	Sex	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Totals for Australia			
										This period 2002	This period 2001	Year to date 2002	Year to date 2001
HIV diagnoses	Female	0	4	1	5	3	0	9	2	24	26	24	26
	Male	1	63	1	18	3	0	56	4	146	168	146	168
	Not reported	0	1	0	0	0	0	0	0	1	0	1	0
	Total[1]	1	71	2	23	6	0	65	6	174	195	174	195
AIDS diagnoses	Female	0	0	0	1	1	0	0	1	3	4	3	4
	Male	0	6	1	8	6	0	4	3	28	31	28	31
	Total[1]	0	7	1	9	7	0	4	4	32	36	32	36
AIDS deaths	Female	0	0	0	0	2	0	0	0	2	2	2	2
	Male	0	6	0	0	2	0	0	2	10	13	10	13
	Total[1]	0	6	0	0	4	0	0	2	12	15	12	15

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

Table 8. 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	678	11	185	75	5	259	134	**1,375**
	Male	232	11,640	113	2,170	730	80	4,257	984	**20,206**
	Not reported	0	242	0	0	0	0	24	0	**266**
	Total[1]	260	12,585	124	2,362	805	85	4,556	1,124	**21,901**
AIDS diagnoses	Female	9	208	0	52	29	3	79	30	**410**
	Male	88	4,827	38	890	369	45	1,729	384	**8,370**
	Total[1]	97	5,048	38	944	398	48	1,817	416	**8,806**
AIDS deaths	Female	4	122	0	35	18	2	57	19	**257**
	Male	71	3,348	25	592	244	30	1,313	266	**5,889**
	Total[1]	75	3,479	25	629	262	32	1,377	286	**6,165**

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

Childhood immunisation coverage

Tables 9, 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 12 months of age for the cohort born between 1 January and 31 March 2001, at 24 months of age for the cohort born between 1 January and 31 March 2000, and at 72 months of age for the cohort born between 1 January and 31 March 1996 according to the Australian Standard Vaccination Schedule. As at 30 June 2002, all children assessed for coverage at six years of age (those between 72 - <75 months of age), had a date of birth equal to or greater than the commencement date of the ACIR, enabling immunisation coverage reports to be extracted for this oldest age group.

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 are provided by the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases. For further information please contact the NCIRS at: telephone: +61 2 9845 1256, E-mail: brynleyh@chw.edu.au.

Immunisation coverage for children 'fully immunised' by 12 months for Australia has decreased marginally from the last quarter by 0.3 per cent to 90.2 per cent (Table 9). The change in 'fully immunised' coverage varied by state and territory. The Australian Capital Territory (–1.6%) and the Northern Territory (–1.1%) experienced the greatest decreases in coverage. All other states experienced only marginal increases or decreases in coverage over the quarter. Coverage is hovering around the 90 per cent level in almost all jurisdictions with the highest level in Tasmania (91.7%) and the lowest in Western Australia (88.5%). Despite this, Western Australia was the only jurisdiction that experienced an increase (+0.1%) in Hib coverage at 12 months of age. The Australian Capital Territory (–2.0%), New South Wales (–1.4%) and the Northern Territory (–1.4%) experienced the greatest decrease in Hib coverage.

Table 9. Percentage of children immunised at 1 year of age, preliminary results by disease and State for the birth cohort 1 January to 31 March 2001; assessment date 30 June 2002

Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	1,008	21,139	902	12,141	4,376	1,460	14,882	6,082	**61,990**
Diphtheria, Tetanus and Pertussis (%)	91.2	91.7	89.7	91.7	92.1	93.0	92.5	90.2	**91.8**
Poliomyelitis (%)	91.2	91.7	89.4	91.6	92.1	92.9	92.5	90.1	**91.7**
Haemophilus influenzae type b (%)	92.7	93.1	94.7	93.7	94.3	95.2	94.3	93.2	**93.7**
Hepatitis B (%)	93.8	94.3	95.1	94.1	94.9	94.7	93.7	92.6	**94.0**
Fully immunised (%)	89.8	89.9	88.6	90.6	90.9	91.7	90.7	88.5	**90.2**
Change in fully immunised since last quarter (%)	+1.6	-0.7	-1.1	-0.2	+0.3	+0.7	-0.3	+0.5	**-0.3**

The decrease in coverage at 12 months of age for most jurisdictions and for all vaccines indicates that coverage appears to have reached a plateau for this age group. The trend in 'fully immunised' coverage at 12 months of age has been slightly downward since early 2001 when it peaked at 91.5 per cent, 1.3 per cent higher than the latest estimate. Whilst this decrease over a 12-month period is not substantial, it is of concern as some jurisdictions have now dropped back to just under 90 per cent coverage. Although there has been adverse media coverage relating to the MMR vaccine, this should not have impacted on coverage at 12 months of age in any direct way.

In comparison, immunisation coverage for measured by 'fully immunised' at 24 months for Australia increased marginally from the last quarter by 0.3 percentage points to 88.1 per cent (Table 10). Coverage increased from the previous quarter in 5 states and territories, South Australia (+2.3%), Tasmania (+2.2%), the Northern Territory (+1.4%), New South Wales (+1.1%) and the Australian Capital Territory (+0.1%). Victoria, Queensland, and Western Australia all experienced small decreases in coverage over the quarter. Tasmania was the first state to achieve greater than 90 per cent coverage for 'fully immunised' at 24 months of age. Almost all other states are approaching 90 per cent coverage, most within 1–2 percentage points of this target. Coverage for individual vaccines by 24 months for Australia, however, is much greater than for 'fully immunised' with coverage for Hib at 95 per cent and coverage for poliomyelitis (OPV) and measles-mumps-rubella (MMR) vaccines approaching 95 per cent. At the jurisdiction level, there were no important changes in coverage except for the significant increase in diptheria-tetanus-pertussis (DTP) vaccine coverage at 24 months for Tasmania (+2.7%) and the Northern Territory (+2.0%).

Table 11 shows immunisation coverage estimates for 'fully immunised' and for individual vaccines by 6 years of age for Australia and by State or Territory. These are the first official ACIR figures of immunisation coverage estimates for this age group to be published. Coverage estimates are presented for DTP (the 5th dose), OPV (the 4th dose) and MMR (the 2nd dose). 'Fully immunised' coverage at 6 years of age for Australia is 80.6 per cent. Coverage for this age group varies significantly by state or territory. The Northern Territory has the lowest coverage at 72 per cent, whilst Victoria has the highest coverage at 83 per cent. Coverage by individual vaccine also varies with coverage greater for the 5th dose of DTP (84%) and the 4th dose of OPV (84%) than for the 2nd dose of MMR (82%). This pattern exists across all jurisdictions. However, the recently published NCIRS study on MMR coverage shows that the ACIR MMR coverage figure is likely to be an under-estimate of the true coverage level at 6 years of age, which is actually 4 per cent greater at 86 per cent for an earlier birth cohort.[1]

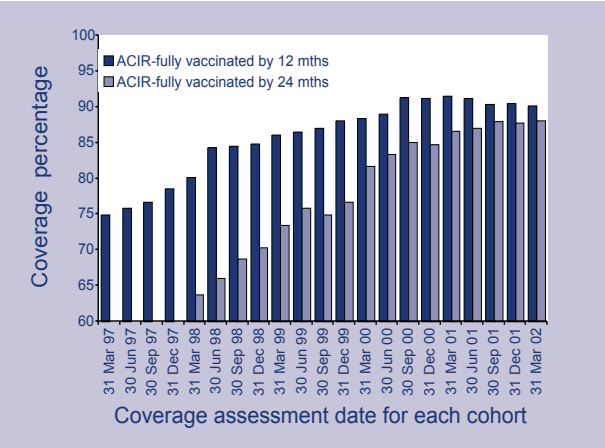
Table 10. Proportion of children immunised at 2 years of age, preliminary results by disease and State for the birth cohort 1 January to 31 March 2000; assessment date 30 June 2002[1]

Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	987	21,864	894	12,613	4,513	1,509	15,311	6,274	63,965
Diphtheria, Tetanus, Pertussis (%)	90.2	90.4	88.8	90.6	91.0	93.1	90.6	87.7	90.3
Poliomyelitis (%)	93.9	94.0	95.9	93.9	95.4	95.6	94.8	93.1	94.2
Haemophilus influenzae type b (%)	94.7	95.0	95.0	94.5	95.6	96.2	95.5	93.7	95.0
Measles, Mumps, Rubella (%)	93.4	93.1	95.2	92.9	94.2	94.3	93.7	91.4	93.2
Fully immunised (%)[2]	88.6	88.0	87.2	88.5	89.8	91.8	88.3	85.0	88.1
Change in fully immunised since last quarter (%)	+0.1	+1.1	+1.3	-0.3	+2.3	+2.2	-0.5	-1.3	+0.3

1. 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.

Figure 11 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 and turn downward slightly for estimates at 12 months of age.

Figure 11. Trends in vaccination coverage, Australia, 1997 to 2002, by age cohorts



Acknowledgment

The table 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.

Reference

1. National Centre for Immunisation Research and Surveillance (NCIRS). Immunisation Coverage: Australia 2001. Report. Canberra: Department of Health and Ageing, 2001. http://www.health.gov.au/pubhlth/immunise/report.pdf

Table 11. Percentage of children immunised at 6 years of age, preliminary results by disease and State for the birth cohort 1 January to 31 March 1996; assessment date 30 June 2002

Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	1,031	21,859	15,885	12,715	4,818	6,621	1,555	881	65,365
Diphtheria, Tetanus, Pertussis (%)	83.7	83.2	85.0	84.5	84.7	81.2	82.4	75.8	83.7
Poliomyelitis (%)	83.7	83.2	85.6	84.9	84.9	81.3	83.1	76.4	84.0
Measles, Mumps, Rubella (%)	82.7	80.0	85.0	84.1	83.4	80.6	81.4	76.4	82.4
Fully immunised (%)	81.3	78.3	83.3	82.6	81.8	78.3	79.7	72.0	80.6

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.

Reported by 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 5701.

Reports to the National Enteric Pathogens Surveillance System of Salmonella *infection for 1 April to 30 June 2002 are included in Table 12. Data include cases reported and entered by 20 July 2002. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS. The top 25* Salmonella *types identified in each Australian State and Territory in the same period is shown in Table 13.*

During the second quarter of 2002, the 25 most common *Salmonella* types in Australia accounted for 1,310 (67%) of all 1,960 reported human infections.

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

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total all *Salmonella* for quarter	20	508	84	639	150	35	359	165	1,960
Total contributing *Salmonella* types	11	100	46	108	47	10	72	65	221

Table 13. Top 25 *Salmonella* types identified in Australian States and Territories, 1 April to 30 June 2002

National	*Salmonella* type	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 2nd quarter 2002	Last 10 years mean 2nd quarter	Year to date 2002	Year to date 2001	Total 2001
1	S. Typhimurium 135	4	55	3	18	2	3	66	21	172	109	445	361	636
2	S. Typhimurium 9	1	38	1	27	1	0	61	10	139	99	445	258	399
3	S. Typhimurium 170	1	32	0	23	1	0	69	1	127	14	265	39	148
4	S. Saintpaul	0	8	3	59	7	0	11	13	101	79	261	173	289
5	S. Typhimurium 126	1	42	1	6	7	1	16	1	75	20	140	129	313
6	S. Virchow 8	0	1	0	66	0	0	2	0	69	30	225	161	245
7	S. Bovismorbificans 24	6	56	0	2	0	0	0	4	68	3	75	13	18
8	S. Birkenhead	0	25	1	27	0	0	1	1	55	50	171	163	253
9	S. Typhimurium 8	0	0	1	2	43	0	0	6	52	10	60	16	26
10	S. Chester	0	9	6	27	2	1	1	4	50	37	107	99	166
11	S. Hvittingfoss	0	2	1	39	0	1	2	0	45	15	110	57	89
12	S. Muenchen	0	10	2	16	1	0	3	9	41	33	87	88	125
13	S. Mississippi	0	0	0	1	2	24	4	0	31	13	69	97	123
14	S. Aberdeen	0	0	0	26	1	0	2	0	29	26	100	60	88
15	S. Typhimurium U290	1	11	0	1	0	1	13	2	29	<1	56	7	26
16	S. Virchow 34	0	6	0	19	1	0	2	0	28	14	69	52	87
17	S. Potsdam	0	13	0	11	0	0	2	2	28	13	54	40	60
18	S. Agona	0	16	0	7	2	1	1	1	28	13	53	30	56
19	S. Waycross	0	7	0	18	0	0	0	0	25	25	75	33	54
20	S. Montevideo	0	11	0	7	0	0	5	0	23	6	55	17	27
21	S. Typhimurium 12	0	3	0	8	4	0	5	0	20	10	42	37	62
22	S. Ball	0	0	18	2	0	0	0	0	20	6	41	16	35
23	S. Infantis	0	7	0	4	2	0	5	1	19	27	61	70	123
24	S. Mgulani	0	0	3	15	0	0	0	0	18	10	48	36	67
25	S. Typhimurium 197	2	9	0	6	0	0	1	0	18	<1	22	4	8