

Communicable diseases surveillance

Highlights for 2nd quarter, 2003

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.

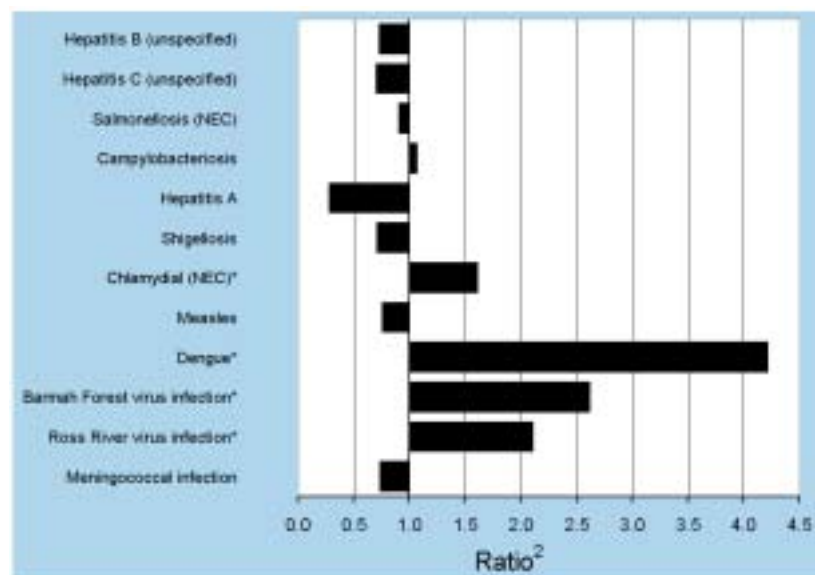
The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. NNDSS collates data on notifiable communicable diseases from State or Territory health departments. The Virology and Serology Laboratory Reporting Scheme (LabVISE) is a sentinel surveillance scheme which collates 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 2003, 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 quarter in the last five years were dengue, Ross River virus infection, Barmah Forest virus infection and Chlamydial (NEC) infections. The rest of notifiable diseases were within the expected range (2 standard deviations) of the five year second quarter mean (Figure 1).

Foodborne disease outbreaks

This quarter's highlights incorporates the OzFoodNet quarterly report for the second quarter of 2003. Data were received from all OzFoodNet sites. During the second quarter of 2003, OzFoodNet sites reported 61 outbreaks of gastrointestinal infections of which 11 were either confirmed or suspected to be foodborne (Table 1). These 11 outbreaks affected 174 identified persons but the number of persons not identified may be considerably higher. The agent responsible for three outbreaks was unknown.

Figure 1. Selected¹ diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 April to 30 June 2003 with historical data²



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.

Disease outbreaks associated with the consumption of fish

Three of the outbreaks, which occurred in home settings, were associated with the consumption of fish: escolar, cod head and giant trevally. The Australian Capital Territory OzFoodNet site reported an outbreak of a diarrhoea following the consumption of escolar fish by three members of one family. Escolar is an ocean fish which is caught as a by-catch from tuna longlines. Consumption of escolar causes oily diarrhoea in 45 to 67 per cent of people due to a high per cent of indigestible wax-ester oil content.¹⁻⁵

Two outbreaks of ciguatera poisoning following the consumption of cod head and giant trevally were reported from Queensland. Ciguatera poisoning causes neurological symptoms and is mainly reported in Queensland and the Northern Territory. The disease is associated with the consumption of fish contaminated by algal dinoflagellate associated with coral reefs. Ciguatoxin is concentrated in the liver, roe, head and other viscera of the fish and is thermostable, that is; it can not be destroyed by cooking or freezing. In 2002 OzFoodNet reported four outbreaks of ciguatera poisoning in home settings following the consumption of coral trout, Spanish mackerel, spotted mackerel and barracuda. These outbreaks resulted in 11 hospitalisations and one death.⁶ A large outbreak of ciguatera poisoning in a restaurant setting was reported in Victoria in 1997.⁷

Clostridium perfringens

The Victorian OzFoodNet site reported two diarrhoea outbreaks in nursing homes, affecting 14 residents in one and 12 in another. Stool samples (four and three from each outbreak) tested positive for *C. perfringens*. Whilst no enterotoxin was detected in the faecal specimens, the symptoms, duration of illness and isolation of the organism in the faeces, were consistent with *C. perfringens* as the cause of illness. Heather O'Donnell, Communicable Diseases Section, Victorian Department of Human Services, said that site investigations conducted by local Council and Regional Environmental Health Officers could not identify specific food sources, but identified poor food handling and storage (cooling) practices in one of the outbreak sites and deficiencies in food safety plan in the other.

In Mackay, Queensland an investigation of an outbreak of gastrointestinal illness in a cohort of 30 guests at a catered function, identified *C. perfringens* as a suspected agent of illness. Sixty-three per cent of guests (n=19) reported diarrhoea and abdominal cramps. Russell Stafford, OzFoodNet Epidemiologist in Queensland said that a retrospective cohort study identified curried prawns as the likely food vehicle. Whilst the *C. perfringens* spore-count from stool

samples was not diagnostic, the median incubation period (13 hours), symptomatology and isolation of the bacteria from stool samples, were suggestive of *C. perfringens*.

C. perfringens is a spore-forming bacillus, ubiquitous in the environment and a frequent contaminant of meat. It can survive high temperatures by sporulating during initial cooking; its spores germinate during cooling of the food, and vegetative forms of the organism multiply if the food is subsequently held at temperatures of 16° C – 52° C.⁸ If served without adequate reheating, live vegetative forms of *C. perfringens* may be ingested causing the characteristic symptoms. Gastrointestinal illness outbreaks associated with *C. perfringens* occur in institutions where food is prepared in bulk increasing the likelihood of poor holding or reheating.

Salmonella

There were 1,568 reports of salmonellosis received by the National Notifiable Diseases Surveillance System (NNDSS) during the second quarter of 2003, representing a 43 per cent reduction in notifications from the previous quarter and a 22 per cent reduction from the same quarter last year. Queensland and New South Wales OzFoodNet sites each reported one outbreak of *Salmonella* infection (Table 1).

In Queensland, an outbreak of *S. Typhimurium* U307 infection, associated with eating at two Sunshine Coast surf clubs was investigated. There were 15 laboratory-confirmed and six probable cases identified during the investigation. Microbiological testing of food and condiment samples, environmental swabs and faecal specimens from 36 food handlers were negative for *Salmonella*. A case control study, identified roast pork (OR 12.0, 95%CI 1.6-91.1, p=0.03) as the likely source of infection. In 2002, *S. Typhimurium* U307 was among the top 10 *Salmonella* infections reported in the Hunter, New South Wales.⁹

In New South Wales, the South Western Sydney Public Health Unit investigated an outbreak of gastrointestinal illness among 112 persons attending a birthday party held at a restaurant on 25 May 2003. Fifty-one per cent (n=57) of attendees reported illness, including diarrhoea, vomiting, abdominal pain, nausea, headache, fever and chills with onset on 26 May. Among persons who reported ill, 86 per cent (n=49) consulted medical practitioners and 9 per cent (n=5) were hospitalised. Microbiological testing isolated *S. Typhimurium* 99 from all stool samples tested (n=26) and from samples of pigeon meat consumed at the party. Leonie Neville, OzFoodNet Epidemiologist in New South Wales said that steps had been taken to educate the food handlers at the venue. In the past *S. Typhimurium* 99 has been linked to the consumption of lamb's fry at a local hotel buffet in southern Victoria.¹⁰

Table 1. Outbreaks reported by OzFoodNet sites, Australia, April to June 2003

State	Setting	Agent responsible	Number exposed	Number affected	Evidence	Responsible vehicle
ACT	Home	Escolar fish	3	3	D	Escolar fish
NSW (Hunter)	Restaurant	Unknown	Unknown	24	D	Unknown
NSW	Restaurant	<i>Salmonella</i> Typhimurium 99	112	57	M	Pigeon meat
NT	–	–	–	–	–	–
Qld	Catered function	<i>Clostridium perfringens</i>	Unknown	19	C	Curried prawns
	Restaurant	<i>Salmonella</i> Typhimurium U307	Unknown	21	D & CC	Unknown
	Home	Ciguatera		2	D	Cod fish heads
	Home	Ciguatera		5	D	Giant Trevally
SA	–	–	–	–	–	–
Tas	–	–	–	–	–	–
Vic	Nursing Home	<i>Clostridium perfringens</i>	110	14	D	Unknown
	Nursing Home	<i>Clostridium perfringens</i>	unknown	12	D	Unknown
	Restaurant	Unknown	40	7	D	Unknown
WA	Catered function	Unknown	Unknown	10	D	Meat suspected

* D= Descriptive Study; M=Microbiological evidence; C=Cohort study; CC=Case control study

Campylobacter

There were 3,307 reports of campylobacteriosis infection received by the NNDSS in the second quarter of the year; a decrease of 26 per cent from the last quarter but an increase of 3 per cent from the same quarter last year. No disease outbreaks were associated with campylobacteriosis in this quarter of 2003.

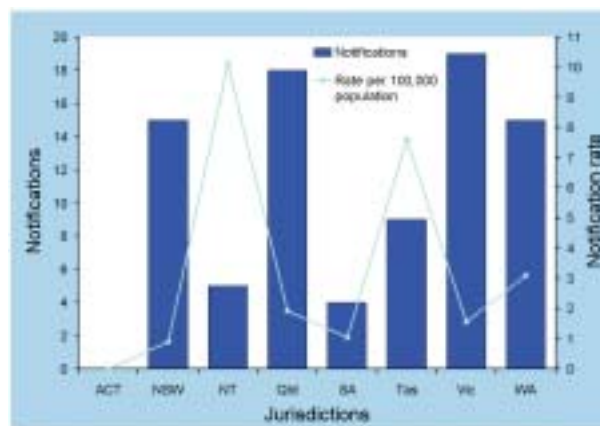
Hepatitis A

There were 85 hepatitis A cases reported with an onset in the second quarter of 2003; 72 per cent lower than the mean number of notifications of the same quarter for the last five years (Figure 1), and 26 per cent lower than the number of notifications received during the first quarter of 2003. The national notification rate in this quarter was 1.7 cases per 100,000 population. The Northern Territory had the highest notification rate at 10 cases per 100,000 population (Figure 2); representing a 73 per cent reduction from the number of notifications reported in the Northern Territory during the first quarter.

Multi-jurisdiction hepatitis A outbreak investigation

Twenty-five per cent of cases notified during the second quarter were linked to a hepatitis A outbreak that occurred at an interstate gathering in the Northern Territory.

Figure 2. Number of notifications and notification rate per 100,000 population of hepatitis A, Australia, April to June 2003, by jurisdiction



On 29 May 2003 OzFoodNet and the Communicable Diseases Network Australia (CDNA) initiated a multi-state/territory outbreak investigation of the disease. The investigation was triggered by the identification by Tasmanian health authorities of six cases of hepatitis A infection in people who had attended a public gathering of 300 persons in the Northern Territory between 24 and 27 April 2003. Persons from Queensland, Tasmania, Victoria, New South

Wales and Western Australia attended the gathering. Public health authorities contacted all exposed persons in their jurisdiction in order to identify cases and to offer prophylaxis to prevent secondary cases among their contacts. The CDNA had also issued a health alert to the public. Rosie Ashbolt, OzFoodNet Epidemiologist in Tasmania said that 21 cases were identified: 8 of 111 persons who attended the Northern Territory gathering from Tasmania, 8 of 75 persons from Queensland, 4 of 47 persons from Victoria and 1 of 45 persons from New South Wales. Two cases were hospitalised. No new cases have been reported since 13 June.

Hepatitis A is commonly spread from person to person via close contact or from food or water that had been inadvertently contaminated by infected persons. Rosie Ashbolt said that the investigation, which included serological testing of food handlers, testing of water samples, food samples and a site investigation by a Northern Territory environmental health officer, did not reveal any likely sources of contamination. Health authorities conducted a national cohort study to determine the likely source for the outbreak and data are currently being analysed. In 2002, overseas travel and household contact with a confirmed case were the main risk factors hepatitis A infection.¹¹

Vaccine preventable diseases

Measles

Twenty-six measles cases, 18 in Victoria, five in New South Wales, two in South Australia and one in Queensland were reported in the second quarter. No cases of measles with onset in this period were reported from Tasmania, the Northern Territory, the Australian Capital Territory or Western Australia.

In New South Wales, two unrelated cases of measles in young adults were reported in April and a cluster of three cases was reported in June. The index case in the cluster was a 29-year-old male whose exposure was suspected to have occurred during recent travel in Nepal. The two secondary cases were a six-week-old male and his 27-year-old father. Mark Bartlett, Communicable Diseases Branch NSW Health Department, said that the outbreak is ongoing with further transmission past the two secondary cases noted for the period of this report.

The two cases in South Australia were linked to each other with the index case having a history of travel to South Africa.

Three cases in Victoria were linked to a measles (Genotype H1) outbreak geographically clustered around two towns in central northern Victoria that started in the first quarter of the year, bringing the

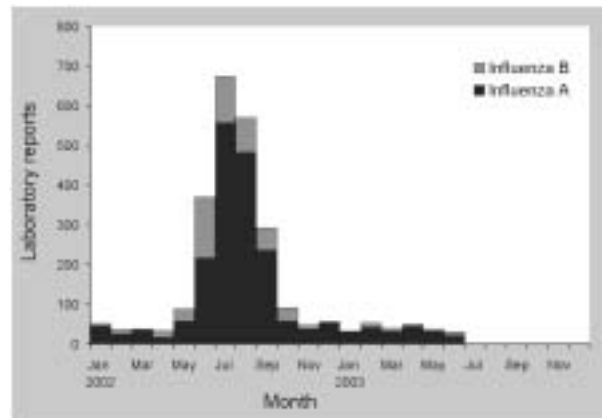
number of cases in the outbreak to 20 cases, including three unvaccinated children. The disease mostly affected adults and resulted in three generations of infections. No new cases linked to the outbreak had been reported since April 2003. However, in the same state, in April, 11 cases of measles including a vaccinated two-year-old and a nine-month-old, were linked to a cluster of measles (Genotype D8) in Western metropolitan Melbourne. The index case in this cluster was a student who travelled to Australia from Germany via Singapore.

The exposure history of the measles cases in Queensland was not known.

Influenza

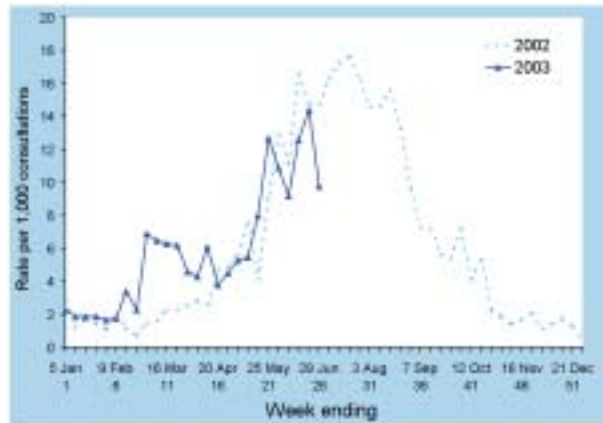
There were 121 notifications of laboratory-confirmed influenza reported to the NNDSS in the quarter, a 31 per cent rise from the previous quarter but an 84 per cent decrease from the second quarter of 2002. Reports to LabVISE this quarter show that the ratio of influenza A to B remained stable at 4:1 (Figure 3).

Figure 3. Laboratory reports of influenza A and B to LabVISE, Australia, 2002 to 2003, by month of specimen collection



The low level of influenza activity this quarter was reflected in the reports from the Australian Sentinel Practice Research Network (ASPREN). Presentations of 'influenza-like illness' (ILI) during the week ending on 29 June (week 26) were 9.8 cases per 1,000 consultations. The highest rate per 1,000 consultations this year to date was 14.4, reported in the week ending on 15 June 2003 (Figure 4). ASPREN is a network of general practices, that collects data on clinical presentations of ILI from between 35 and 70 practices per week, located mostly on the east coast of Australia.

Figure 4. Comparison of consultation rates of influenza-like illness reported to the Australian Sentinel Practice Research Network, in 2002 to 2003, by week



Influenza activity in the tropical north of Australia was reported to be at base line level during the quarter. The Northern Territory Tropical Influenza Surveillance reported a decrease in ILI rates since the peak rate of ILI consultations (21 cases per 1,000 consultations) during week 14 (7 April). No ILI was reported in the period between 9 May and mid-June.

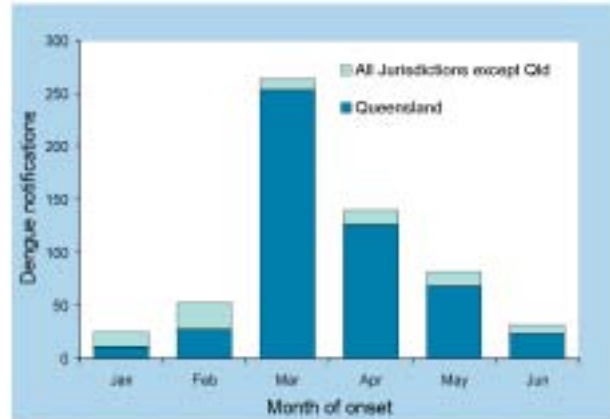
Vectorborne diseases

Dengue

The number of dengue notifications continued to exceed the mean number of notifications for the second quarter in the last five years (Figure 1). There were 247 cases reported to NNDSS in the second quarter of 2003. Of these 211 (85%) notifications were in Queensland (Figure 5) and 17 (7%) in New South Wales. In Queensland, this number of notifications represents a 27 per cent reduction from the previous quarter, when a number of dengue outbreaks were reported in the state. The first outbreak of dengue type 2 occurred in Cairns, two other dengue type 2 outbreaks were identified in Townsville and Mareeba and a fourth, a dengue type 1 outbreak, occurred in Cairns. Despite different serotypes of dengue viruses circulating in the area (the 1997-1999 Cairns dengue outbreak was of dengue type 3), there has been no dengue haemorrhagic fever cases or deaths to date.

The Cairns Public Health Unit continued public health activities during the second quarter of the year to curtail the dengue outbreak. This has significantly contributed to the decline in the number of cases in the second quarter of the year. The Dengue Action Response Team undertook inspections of premises for mosquito breeding sites, and interviewed potential cases. Local general practitioners were alerted to look for symptoms, and numerous media alerts were

Figure 5. Cairns dengue fever outbreak, Australia, 1 January to 14 July 2003, by onset date



issued to raise public awareness. Craig Davis, Epidemiologist, Queensland Health, said that although the extent to which increased serological testing for dengue may have resulted in increased number of notifications in Queensland is not known, it is likely to have had some impact.

Barmah Forest virus infection and Ross River virus infection

The number of notifications for Barmah Forest virus infection and Ross River virus infection during the second quarter of 2003 was 715 (15 cases per 100,000 population) notifications and 2,267 (46 cases per 100,000 population) notifications, respectively. These numbers surpassed the mean plus two standard deviation of the number of notifications for the second quarter in the last five years (Figure 1).

Sixty-nine per cent of Barmah Forest virus infection notifications and 84 per cent of Ross River virus infection notifications were received from Queensland, where the notification rates for Barmah Forest virus infection and Ross River virus infection were 52 cases per 100,000 population and 203 cases per 100,000 population, respectively. While a late autumn increase in notifications was expected in this state, the size of the increase was higher than expected. Increases on previous years were widespread, although the highest rates (more than one third of all notifications) were recorded in the Statistical Divisions of Fitzroy and West Moreton (Figures 6a and 6b). Information obtained from Queensland public health units suggests that media releases in early April 2003 regarding the increases of Barmah Forest and Ross River virus infections and vector control activity in the Sunshine Coast area (Moreton Statistical Division) may have contributed to increased testing and notifications compared with previous years.

New South Wales contributed 30 per cent of Barmah Forest virus infection and 12 per cent of Ross River virus infection to the notifications received by the NNDSS in the second quarter of 2003. Mark Bartlett, Communicable Diseases Branch, NSW Health Department, said, that 85 per cent of Barmah Forest virus infection and 79 per cent of Ross River virus infection notifications occurred on the far north coast of New South Wales. This area is adjacent to the affected south east corner of Queensland where these two vectorborne diseases are endemic (Figures 6a and 6b).

In response to the rise in the number of cases throughout April and May, the Public Health Unit in the north coast region of New South Wales intensified media messages about arboviruses and personal protective measures against mosquito bites. Currently, it is organising a forum involving health agencies, medical entomologists and Councils, to look at human activity and environmental management in relation to vectorborne diseases.

Meningococcal infections

There were 101 notifications of meningococcal disease in the quarter, an increase of 15 per cent from the last quarter but a decrease of 41 per cent from the same quarter last year, and 30 per cent less than the mean of the same quarter for the last five years (Figure 7). For the year to date (30 June 2003) 189 cases of meningococcal disease resulting in eight deaths, were reported to the Communicable Disease Network Australia. Of the eight deaths, three were due to serotype B infection and five due to serotype C infection. As at June 2003, 32 per cent of all isolates were typed. The serotype B to C ratio for the year to date nationally was 1.5:1; however Victoria reported a higher proportion of cases of serotype C than serotype B.

Figure 7. Meningococcal notifications, Australia, 1992 to 2003, by year and month of onset

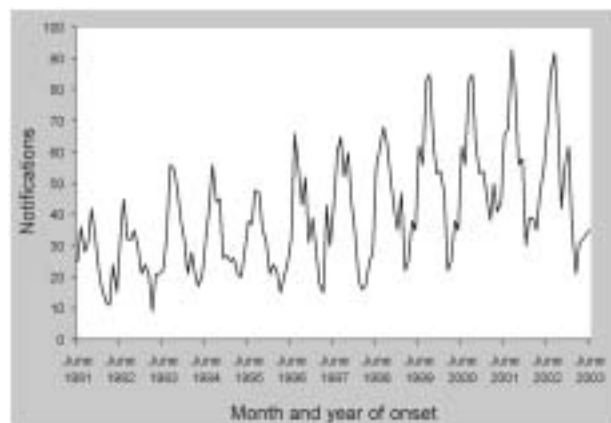


Figure 6a. Geographic distribution of notified cases of Barmah Forest virus infection in Queensland, Australia, April to June 2003

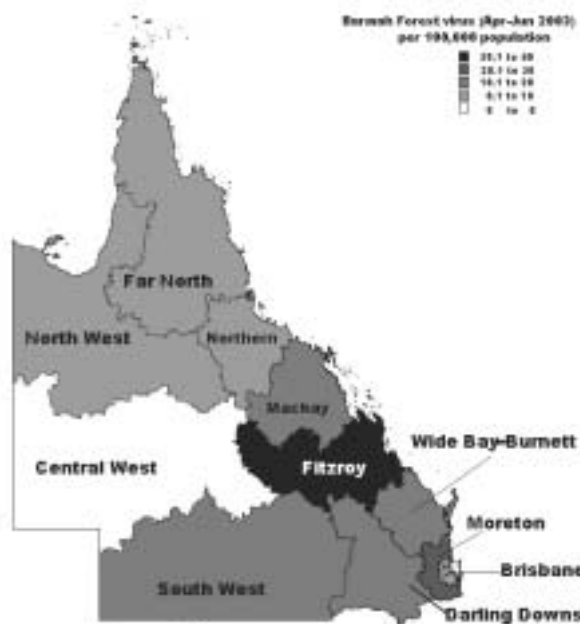
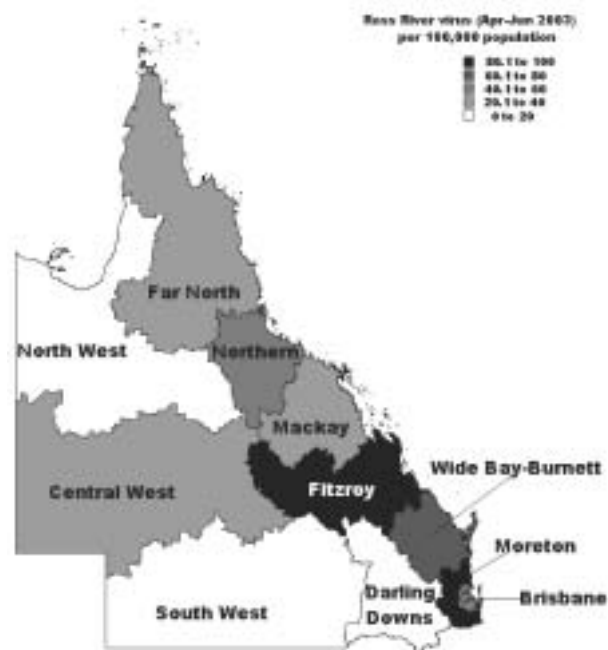


Figure 6b. Geographic distribution of notified cases of Ross River virus infection in Queensland, Australia, April to June 2003



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Russell Stafford, OzFoodNet, Queensland

Joy Gregory, OzFoodNet, Victoria

Leonie Neville, OzFoodNet, New South Wales

Geoff Millard, OzFoodNet, Australian Capital Territory

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Tables

A summary of diseases currently being reported by each jurisdiction is provided in Table 2. There were 24,512 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 April and 30 June 2003 (Table 3). The notification rate of diseases per 100,000 population for each State or Territory is presented in Table 4.

There were 5,331 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 April to 30 June 2003 (Tables 5 and 6).

Table 2. Reporting of notifiable diseases by jurisdiction

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

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

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

Table 3. Notifications of diseases received by State and Territory health authorities in the period 1 April to 30 June 2003, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 2nd quarter 2003 ¹	Total 1st quarter 2003 ¹	Total 2nd quarter 2002 ¹	Last 5 years mean 2nd quarter	Year to date 2003	Last 5 years YTD mean	Ratio [†]
Bloodborne diseases															
Hepatitis B (incident)	0	15	6	7	3	6	35	10	82	84	83	92	135	126	0.9
Hepatitis B (unspecified)	15	631	NN	205	58	13	382	119	1,423	1,489	1,444	1,795	2,207	2,396	0.8
Hepatitis C (incident)	2	15	NN	NN	12	2	21	30	82	81	79	105	162	159	0.8
Hepatitis C (unspecified)	55	1,362	43	550	147	100	897	281	3,435	3,790	3,400	4,405	5,315	6,326	0.8
Hepatitis D	0	3	0	1	0	0	1	0	5	4	2	5	6	6	1.0
Hepatitis E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Hepatitis (NEC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Gastrointestinal diseases															
Botulism	0	0	0	0	1	0	0	0	1	0	0	1	1	2	1.0
Campylobacteriosis ²	95	NN	76	873	633	143	1,093	394	3,307	4,482	3,696	3,100	5,905	4,738	1.1
Cryptosporidiosis	4	43	18	47	25	2	41	112	292	504	2,094	N/A	676	N/A	N/A
Haemolytic uraemic syndrome	0	1	0	0	0	0	0	1	2	5	2	3	6	6	0.7
Hepatitis A	0	15	5	18	4	9	19	15	85	116	137	302	151	456	0.3
Hepatitis E	0	0	0	0	0	0	0	0	0	2	1	5	2	4	0.0
Listeriosis	0	10	0	0	1	0	7	1	19	20	14	15	30	25	1.3
Salmonellosis	20	386	92	515	105	30	265	155	1,568	2,747	2,765	1,738	3,529	3,470	0.9
Shigellosis	0	10	33	7	6	1	15	28	100	149	136	142	192	221	0.7
SLTEC, VTEC ³	0	0	0	1	9	0	0	1	11	20	16	8	26	19	1.3
Typhoid	0	0	0	1	1	0	2	2	6	19	29	12	21	29	0.5
Quarantinable diseases															
Cholera	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.0
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rabies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Viral haemorrhagic fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Yellow fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0

Table 3 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 April to 30 June 2003, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 2nd quarter 2003 ¹	Total 1st quarter 2003 ¹	Total 2nd quarter 2002 ¹	Last 5 years mean 2nd quarter	Year to date 2003	Last 5 years YTD mean	Ratio [†]
Sexually transmissible infections															
Chlamydia infection	138	1,527	340	1,835	468	158	1,576	861	6,903	7,230	5,410	4,286	9,873	6,534	1.6
Donovanosis	0	0	0	2	0	0	0	1	3	7	8	5	11	10	0.6
Gonococcal infection ⁴	7	286	374	239	77	3	304	287	1,577	1,679	1,479	1,532	2,410	2,166	1.0
Syphilis ⁵	5	223	63	31	2	2	74	25	425	465	257	449	636	596	0.9
Vaccine preventable diseases															
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
<i>Haemophilus influenzae</i> type b	0	3	1	0	1	1	0	0	6	2	10	11	7	9	0.6
Influenza [†]	0	41	2	47	16	0	7	8	121	87	107	N/A	149	N/A	N/A
Measles	0	5	0	1	2	0	18	0	26	21	6	34	34	68	0.8
Mumps	0	5	0	3	2	0	1	1	12	19	16	45	27	50	0.3
Pertussis	44	312	0	130	47	12	97	24	666	862	1,625	1,161	1,165	1,758	0.6
Pneumococcal disease [†]	14	160	15	126	40	12	100	32	499	286	242	N/A	436	N/A	N/A
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rubella ⁶	0	7	0	4	1	0	0	1	13	38	53	88	43	105	0.1
Tetanus	0	0	0	0	0	0	0	0	0	1	2	1	2	2	0.0
Vectorborne diseases															
Arbovirus infection NEC	0	2	0	22	0	0	2	0	26	28	7	13	31	31	2.0
Barmah Forest virus infection	0	216	3	493	0	0	2	1	715	277	251	273	668	434	2.6
Dengue	2	17	9	211	2	0	2	4	247	336	73	59	500	194	4.2
Japanese encephalitis	0	0	0	0	0	0	0	0	0	0	0	N/A	0	N/A	N/A
Kunjin virus infection	-	0	0	5	0	0	0	0	5	4	0	N/A	14	N/A	N/A
Malaria	8	20	17	60	10	3	8	21	147	175	142	173	234	287	0.8
Murray Valley encephalitis	0	0	0	0	0	0	0	0	0	0	3	N/A	0	N/A	N/A
Ross River virus infection	0	289	22	1,891	5	0	1	59	2,267	571	623	1,074	1,833	2,172	2.1

Table 3 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 April to 30 June 2003, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 2nd quarter 2003 ¹	Total 1st quarter 2003 ¹	Total 2nd quarter 2002 ¹	Last 5 years mean 2nd quarter	Year to date 2003	Last 5 years YTD mean	Ratio [†]
Zoonoses															
Anthrax [‡]	0	0	0	0	0	0	0	0	0	0	0	N/A	0	N/A	N/A
Australian bat lyssavirus [‡]	0	0	0	0	0	0	0	0	0	0	0	N/A	0	N/A	N/A
Brucellosis	0	0	0	6	0	0	0	0	6	4	13	5	6	9	1.2
Leptospirosis	0	6	1	15	0	0	1	1	24	46	62	70	58	100	0.3
Other lyssavirus (NEC [‡])	0	0	0	0	0	0	0	0	0	0	0	N/A	0	N/A	N/A
Ornithosis	0	11	0	0	0	0	16	1	28	24	13	31	38	32	0.9
Q fever	0	57	0	30	5	0	3	5	100	199	158	156	260	226	0.6
Other bacterial infections															
Legionellosis	1	17	0	10	9	0	27	8	72	83	54	111	123	136	0.6
Leprosy	0	0	0	0	0	0	1	0	1	1	2	2	3	2	0.5
Meningococcal infection	2	38	3	21	4	2	23	8	101	86	114	138	130	141	0.7
Tuberculosis	1	40	4	5	8	0	34	12	104	168	175	236	258	348	0.4
Total	413	5,773	1,127	7,412	1,704	499	5,075	2,509	24,512	26,211	24,804	22,504	37,313	34,362	1.1

1. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.

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

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

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

5. Includes congenital syphilis.

6. Includes congenital rubella.

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

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

‡ Notifiable from January 2001 only.

NA Not calculated as only notifiable for under 5 years.

NDR No data received.

NN Not Notifiable

NEC Not Elsewhere Classified.

- Elsewhere Classified.

**Table 4. Notification rates of diseases by State or Territory, 1 April to 30 June 2003.
(Rate per 100,000 population)**

Disease ¹	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Bloodborne diseases									
Hepatitis B (incident)	0.0	0.9	12.1	0.8	0.8	5.1	2.9	2.1	1.7
Hepatitis B (unspecified)	18.6	37.9	NN	22.0	15.2	11.0	31.3	24.6	29.1
Hepatitis C (incident)	2.5	0.9	NN	NN	3.2	1.7	1.7	6.2	2.1
Hepatitis C (unspecified)	68.3	81.8	87.0	59.0	38.6	84.5	73.4	58.1	69.6
Hepatitis D	0.0	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.1
Hepatitis E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hepatitis (NEC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gastrointestinal diseases									
Botulism	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Campylobacteriosis ²	117.9	NN	153.8	93.6	166.3	120.8	89.4	81.5	101.2
Cryptosporidiosis	5.0	2.6	36.4	5.0	6.6	1.7	3.4	23.2	5.9
Haemolytic uraemic syndrome	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Hepatitis A	0.0	0.9	10.1	1.9	1.1	7.6	1.6	3.1	1.7
Hepatitis E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Listeriosis	0.0	0.6	0.0	0.0	0.3	0.0	0.6	0.2	0.4
Salmonellosis	24.8	23.2	186.1	55.2	27.6	25.3	21.7	32.0	31.8
Shigellosis	0.0	0.6	66.8	0.8	1.6	0.8	1.2	5.8	2.0
SLTEC,VTEC ³	0.0	0.0	0.0	0.1	2.4	0.0	0.0	0.2	0.2
Typhoid	0.0	0.0	0.0	0.1	0.3	0.0	0.2	0.4	0.1
Quarantinable diseases									
Cholera	0.0	0.0	0.0	0.0	0.0	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									
Chlamydial infection	171.3	91.7	687.9	196.8	123.0	133.5	129.0	178.0	140.0
Donovanosis	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.1
Gonococcal infection ⁴	8.7	17.2	756.7	25.6	20.2	2.5	24.9	59.3	32.0
Syphilis ⁵	6.2	13.4	127.5	3.3	0.5	1.7	6.1	5.2	8.6
Vaccine preventable									
Diphtheria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Haemophilus influenzae</i> type b	0.0	0.2	2.0	0.0	0.3	0.8	0.0	0.0	0.1
Influenza	0.0	2.5	4.0	5.0	4.2	0.0	0.6	1.7	2.5
Measles	0.0	0.3	0.0	0.1	0.5	0.0	1.5	0.0	0.5
Mumps	0.0	0.3	0.0	0.3	0.5	0.0	0.1	0.2	0.2
Pertussis	54.6	18.7	0.0	13.9	12.3	10.1	7.9	5.0	13.5
Pneumococcal disease	17.4	9.6	30.3	13.5	10.5	10.1	8.2	6.6	10.1
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	0.0	0.4	0.3	0.0	0.0	0.2	0.3
Tetanus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Table 4 (continued). Notification rates of diseases by State or Territory, 1 April to 30 June 2003.
(Rate per 100,000 population)**

Disease ¹	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Vectorborne diseases									
Arbovirus infection NEC	0.0	0.1	0.0	2.4	0.0	0.0	0.2	0.0	0.5
Barmah Forest virus infection	0.0	13.0	6.1	52.9	0.0	0.0	0.2	0.2	14.5
Dengue	2.5	1.0	18.2	22.6	0.5	0.0	0.2	0.8	5.0
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	0.5	0.0	0.0	0.0	0.0	0.1
Malaria	9.9	1.2	34.4	6.4	2.6	2.5	0.7	4.3	3.0
Murray Valley encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ross River virus infection	0.0	17.4	44.5	202.8	1.3	0.0	0.1	12.2	46.0
Zoonoses									
Anthrax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Australian bat lyssavirus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brucellosis	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.1
Leptospirosis	0.0	0.4	2.0	1.6	0.0	0.0	0.1	0.2	0.5
Other lyssavirus (NEC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ornithosis	0.0	0.7	0.0	0.0	0.0	0.0	1.3	0.2	0.6
Q fever	0.0	3.4	0.0	3.2	1.3	0.0	0.2	1.0	2.0
Other bacterial infections									
Legionellosis	1.2	1.0	0.0	1.1	2.4	0.0	2.2	1.7	1.5
Leprosy	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Meningococcal infection	2.5	2.3	6.1	2.3	1.1	1.7	1.9	1.7	2.0
Tuberculosis	1.2	2.4	8.1	0.5	2.1	0.0	2.8	2.5	2.1

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 5. Virology and serology laboratory reports by State or Territory¹ for the reporting period 1 April to 30 June 2003, and total reports for the year²

	State or Territory ¹								This period 2003	This period 2002	Year to date 2003 ³	Year to date 2002
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Measles , mumps, rubella												
Measles virus	-	-	-	-	2	-	21	1	24	4	38	9
Mumps virus	-	-	-	-	-	-	1	-	1	6	6	11
Rubella virus	-	-	-	1	2	-	-	1	4	29	12	49
Hepatitis viruses												
Hepatitis A virus	1	-	1	8	5	-	-	4	19	18	36	39
Hepatitis D virus	-	-	-	-	-	-	1	1	2	2	8	3
Arboviruses												
Ross River virus	1	46	4	809	3	-	-	36	899	146	1,111	348
Barmah Forest virus	-	39	1	219	1	-	-	3	263	63	340	129
Dengue type 1	-	-	-	-	-	-	-	1	1	1	3	1
Dengue not typed	-	1	2	-	-	-	-	4	7	34	22	144
Flavivirus (unspecified)	-	-	-	62	-	-	3	-	65	18	104	28
Adenoviruses												
Adenovirus type 40	-	-	-	-	-	-	-	9	9	12	20	21
Adenovirus not typed/pending	-	23	6	8	118	-	3	42	200	204	400	369
Herpes viruses												
Herpes virus type 6	-	-	-	-	-	-	1	-	1	-	2	-
Cytomegalovirus	7	35	-	30	122	4	8	-	206	246	467	538
Varicella-zoster virus	1	24	5	174	52	1	11	92	360	404	776	896
Epstein-Barr virus	1	4	11	158	152	-	16	36	378	384	836	883
Other DNA viruses												
Molluscum contagiosum	-	-	-	-	-	-	-	1	1	7	9	12
Contagious pustular dermatitis (Orf virus)	-	-	-	-	-	-	1	-	1	-	2	-
Parvovirus	-	-	-	14	3	-	22	12	51	76	100	174
Picornavirus family												
Coxsackievirus A16	-	1	-	-	-	-	-	-	1	2	3	2
Coxsackievirus B3	-	1	-	-	-	-	-	-	1	-	1	-
Echovirus type 9	-	1	-	-	-	-	-	-	1	6	5	14
Echovirus type 11	-	1	-	-	-	-	-	-	1	1	2	1
Poliovirus type 1 (uncharacterised)	-	7	-	-	-	-	-	-	7	10	16	14
Poliovirus type 2 (uncharacterised)	-	2	-	-	-	-	-	-	2	6	2	8
Rhinovirus (all types)	1	46	1	1	2	-	-	54	105	100	229	194
Enterovirus not typed/pending	-	1	1	7	-	-	-	19	28	141	67	266
Picornavirus not typed	-	-	-	-	-	-	2	-	2	-	4	12

Table 5 (continued). Virology and serology laboratory reports by state or territory¹ for the reporting period 1 April to 30 June 2003, and total reports for the year²

	State or Territory ¹								This period 2003	This period 2002	Year to date 2003 ³	Year to date 2002
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Ortho/paramyxoviruses												
Influenza A virus	-	6	-	12	75	-	1	2	96	289	198	390
Influenza B virus	-	-	-	-	26	-	-	4	30	204	57	230
Parainfluenza virus type 1	-	4	-	-	3	-	1	1	9	141	25	183
Parainfluenza virus type 2	1	9	-	1	15	-	-	1	27	36	46	45
Parainfluenza virus type 3	-	15	-	6	53	-	-	7	81	89	192	150
Parainfluenza virus type 4	-	-	-	-	-	-	-	1	1	1	1	1
Respiratory syncytial virus	-	261	1	54	38	3	4	25	386	981	521	1,106
Other RNA viruses												
HTLV-1	-	-	1	-	2	-	-	-	3	1	7	1
Rotavirus	-	14	-	-	13	2	1	42	72	295	131	386
Calicivirus	-	-	2	1	-	-	-	43	46		80	8
Norwalk agent	-	-	-	-	-	-	8	-	8	86	35	137
Other												
<i>Chlamydia trachomatis</i> not typed	6	116	7	397	298	18	2	197	1,041	956	2,272	1,879
<i>Chlamydia pneumoniae</i>	2	3	-	-	-	-	-	-	5	5	9	7
<i>Chlamydia psittaci</i>	-	1	-	1	1	-	21	-	24	16	41	28
<i>Mycoplasma pneumoniae</i>	3	30	3	91	40	5	53	4	229	301	429	583
<i>Coxiella burnetii</i> (Q fever)	1	-	-	9	21	-	4	1	36	53	92	112
<i>Rickettsia australis</i>	-	-	-	-	-	-	1	-	1	1	1	1
<i>Rickettsia tsutsugamushi</i>	-	-	-	-	-	-	-	1	1		1	
<i>Streptococcus</i> group A	1	3	-	83	-	-	39	-	126	123	271	217
<i>Streptococcus</i> group B	1	-	-	-	-	-	-	-	1	1	75	1
<i>Yersinia enterocolitica</i>	-	1	-	-	-	-	-	-	1	2	3	4
<i>Brucella abortus</i>	-	-	-	-	-	-	1	-	1	1	2	1
<i>Bordetella pertussis</i>	4	6	-	10	52	-	42	-	114	193	250	564
<i>Legionella pneumophila</i>	-	-	-	-	1	-	6	1	8	30	50	46
<i>Legionella longbeachae</i>	-	-	-	-	6	-	5	6	17	15	27	22
<i>Legionella</i> species	-	-	-	-	-	-	1	-	1	3	4	5
<i>Cryptococcus</i> species	-	-	-	4	5	-	-	-	9	8	12	14
<i>Leptospira</i> species	-	-	-	5	-	-	-	-	5	5	11	16
<i>Treponema pallidum</i>	-	17	-	122	154	-	-	3	296	411	668	690
<i>Entamoeba histolytica</i>	-	1	-	-	-	-	1	1	3	10	6	15
<i>Toxoplasma gondii</i>	-	1	-	1	5	-	-	-	7	5	21	15
<i>Echinococcus granulosus</i>	-	-	-	-	6	-	-	-	6	10	11	20
Total	31	720	46	2,288	1,276	33	281	656	5,331	6,192	10,170	11,042

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

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

3. Totals comprise data from all laboratories. Cumulative figures are subject to retrospective revision, so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.

- No data received this period.

Table 6. Virology and serology laboratory reports by laboratories for the reporting period 1 April to 30 June 2003¹

State or Territory	Laboratory	April 2003	May 2003	June 2003	Total this period
Australian Capital Territory	The Canberra Hospital	7	6	5	18
New South Wales	Institute of Clinical Pathology and Medical Research, Westmead	69	96	18	183
	New Children's Hospital, Westmead	36	96	119	251
	Repatriation General Hospital, Concord	-	-	-	-
	Royal Prince Alfred Hospital, Camperdown	5	20	20	45
	South West Area Pathology Service, Liverpool	36	3	92	131
Queensland	Queensland Medical Laboratory, West End	941	983	492	2,416
	Townsville General Hospital	-	-	-	-
South Australia	Institute of Medical and Veterinary Science, Adelaide	406	474	394	1,274
Tasmania	Northern Tasmanian Pathology Service, Launceston	10	10	14	34
	Royal Hobart Hospital, Hobart	-	-	-	-
Victoria	Monash Medical Centre, Melbourne	12	8	-	20
	Rickettsia Reference Laboratory, Geelong*	-	-	-	-
	Royal Children's Hospital, Melbourne	25	40	31	96
	Victorian Infectious Diseases Reference Laboratory, Fairfield	67	57	38	162
Western Australia	PathCentre Virology, Perth	8	329	317	654
	Princess Margaret Hospital, Perth	-	-	-	-
	Western Diagnostic Pathology	-	47	-	47
Total		1,622	2,169	1,540	5,331

1. The complete list of laboratories reporting for the 12 months, January to December 2003, 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

Additional reports

Australian Sentinel Practice Research Network

The Research and Health Promotion Unit of the Royal Australian College of General Practitioners operates the Australian Sentinel Practice Research Network (ASPREN). ASPREN is a network of general practitioners who report presentations of defined medical conditions each week. The aim of ASPREN is to provide an indicator of the burden of disease in the primary health setting and to detect trends in consultation rates.

There are currently about 50 general practitioners participating in the network from all states and territories. Seventy-five per cent of these are in metropolitan areas and the remainder are rural based. Between 4,000 and 6,000 consultations are recorded each week.

The list of conditions is reviewed annually by the ASPREN management committee and an annual report is published.

In 2003, 13 conditions are being monitored, five of which are related to communicable diseases. These include influenza, gastroenteritis, antibiotic prescription for acute cough, varicella and shingles. Definitions of these conditions were published in *Commun Dis Intell* 2003;27:125–126.

Data from 1 April to 30 June 2003 are shown as the rate per 1,000 consultations in Figures 8, 9 and 10.

Figure 9. Consultation rates for gastroenteritis, ASPREN, 1 January to 30 June 2003, by week of report

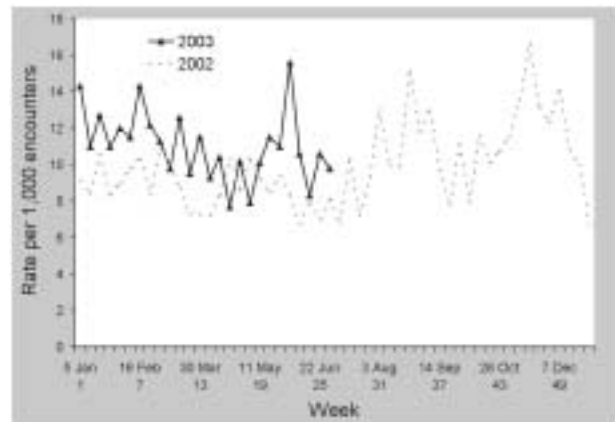


Figure 10. Consultation rates for varicella, ASPREN, 1 January to 30 June 2003, by week of report

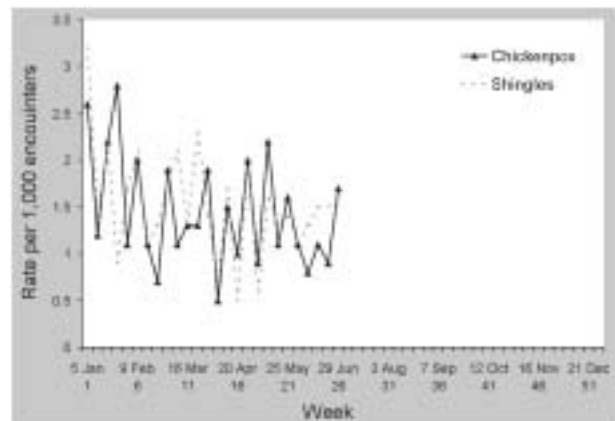
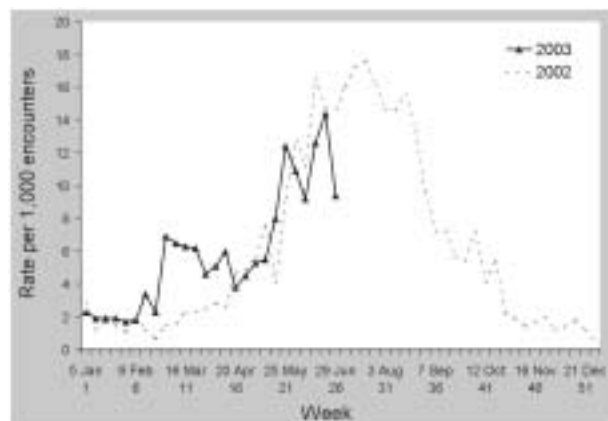


Figure 8. Consultation rates for influenza-like illness, ASPREN, 1 January to 30 June 2003, by week of report



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* 2003;27:128.

Reporting period 1 January to 31 March 2003

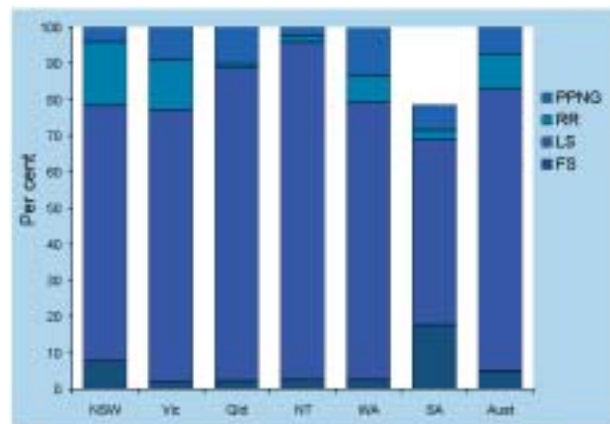
The AGSP laboratories received a total of 1,051 isolates in the first quarter of 2003 of which 1,010 remained viable for susceptibility testing. This number is almost identical to that examined in 2002. About 32 per cent of this total was from New South Wales, 22.5 per cent from Victoria, 17.6 per cent from Queensland, 12 per cent from the Northern Territory, 8 per cent from Western Australia and 7 per cent from South Australia. Isolates from other centres were few. Numbers decreased in New South Wales, but increased in Victoria, Queensland and South Australia when compared with the same period in 2002.

Penicillins

In this quarter about 17.3 per cent of all isolates were penicillin resistant by one or more mechanisms—7.3 per cent penicillinase producing *Neisseria gonorrhoeae* (PPNG) and 10 per cent by chromosomal mechanisms (CMRNG). The number and proportion of PPNG was unchanged from the same period in 2002, but the number of CMRNG decreased. The proportion of all strains resistant to the penicillins by any mechanism ranged from 4.3 per cent in the Northern Territory to 22.8 per cent in Victoria.

Figure 11 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 or territory. A high proportion 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 11. Categorisation of gonococci isolated in Australia, 1 January to 31 March 2003, 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=74) was little different from the corresponding period in 2002 (n=75). The highest proportion of PPNG was found in isolates from Western Australia (13.4%). PPNG were present in all jurisdictions including three (2.5%) in the Northern Territory. More isolates were resistant to the penicillins by separate chromosomal mechanisms (n=101) but this number was less than the 142 identified in the first quarter of 2002. CMRNG were especially prominent in New South Wales (17.6% of isolates there) and Victoria (13.6%). Only two CMRNG were detected in the Northern Territory.

Ceftriaxone

Three isolates with decreased susceptibility to ceftriaxone were present in New South Wales and one in South Australia.

Spectinomycin

All isolates were susceptible to this injectable agent.

Quinolone antibiotics

The total number (114) and proportion (11.3%) of all quinolone resistant *N. gonorrhoeae* (QRNG) was higher than seen in the first quarter of 2002 (95 isolates, 9%). The majority of QRNG (92 of 114, 80%) continue to exhibit higher level resistance. QRNG are defined as those isolates with an MIC to ciprofloxacin equal to or greater than 0.06 mg/L. QRNG are further subdivided into less sensitive (ciprofloxacin MICs 0.06 – 0.5 mg/L) or resistant (MIC \geq 1 mg/L) groups.

QRNG were again widely distributed. The highest number (39) was found in both Victoria and New South Wales with the highest rate (17%) in Victoria (Figure 12). High rates were maintained in all other centres except for the Northern Territory (2.5%). Local and overseas acquisitions, where known, were in equal proportions and MICs ranged up to 16mg/L.

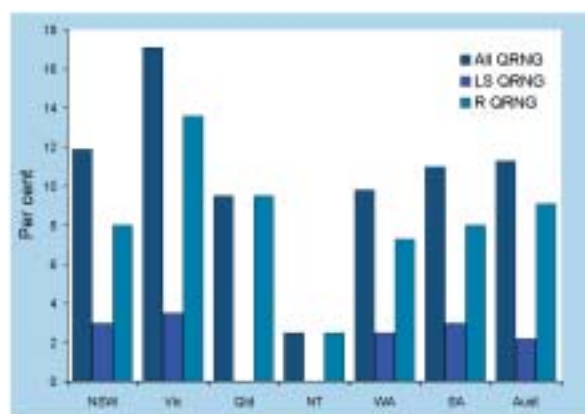
High level tetracycline resistance

The number (127) and proportion (12.5%) of tetracycline resistance *N. gonorrhoeae* (TRNG) was little changed from the 2002 figures. TRNG represented between 5 and 19.5 per cent of isolates from Queensland, Victoria, South Australia, Western Australia and New South Wales with three TRNG present in the Northern Territory.

Reference

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

Figure 12. Distribution in Australia of *N. gonorrhoeae* showing quinolone resistance, 1 January to 31 March 2003



LS QRNG = Ciprofloxacin MICs 0.06 – 0.5 mg/L

R QRNG = Ciprofloxacin MICs \geq 1 mg/L

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. Internet: <http://www.med.unsw.edu.au/nchechr>. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. For more information see *Commun Dis Intell* 2003;27:57.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 January to 31 March 2003, as reported to 30 June 2003, 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 2003, by sex and State or Territory of diagnosis

	State or territory								Totals for Australia				
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2003	This period 2002	Year to date 2003	Year to date 2002	
HIV diagnoses	Female	0	9	0	5	0	0	4	3	21	32	21	32
	Male	0	108	1	35	2	0	44	5	195	188	195	188
	Sex not reported	0	1	0	0	0	0	0	0	1	1	1	1
	Total ¹	0	118	1	40	2	0	48	8	217	223	217	223
AIDS diagnoses	Female	0	0	0	0	0	0	0	1	1	7	1	7
	Male	0	5	0	3	0	0	8	2	18	56	18	56
	Total ¹	0	5	0	3	0	0	8	3	19	64	19	64
AIDS deaths	Female	0	1	0	1	1	0	0	1	4	2	4	2
	Male	0	5	0	2	1	0	4	1	13	14	13	14
	Total ¹	0	6	0	3	2	0	4	2	17	16	17	16

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 2003, by sex and State or Territory

	State or Territory									Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA		
HIV diagnoses	Female	28	699	14	198	78	7	275	150	1,449
	Male	238	12,053	117	2,296	755	85	4,443	1,025	21,012
	Sex not reported	0	235	0	0	0	0	24	0	259
	Total ¹	266	13,013	131	2,501	833	92	4,760	1,181	22,777
AIDS diagnoses	Female	9	212	0	54	30	4	85	33	427
	Male	90	4,920	38	931	376	47	1,788	396	8,586
	Total ¹	99	5,145	38	987	406	51	1,882	431	9,039
AIDS deaths	Female	4	125	0	38	19	2	57	22	267
	Male	71	3,396	26	610	252	31	1,332	273	5,991
	Total ¹	75	3,530	26	650	271	33	1,396	296	6,277

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 2002, at 24 months of age for the cohort born between 1 January and 31 March 2001, and at 6 years of age for the cohort born between 1 January and 31 March 1997 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 the NCIRS at telephone: +61 2 9845 1256, Email: brynleyh@chw.edu.au.

Immunisation coverage for 'fully immunised' children at 12 months for Australia has decreased marginally from the last quarter by 0.3 percentage points to 91.2 per cent (Table 9). There was very little change in 'fully immunised' coverage by state and territory. The Northern Territory showed the biggest change (+0.8%). Only three jurisdictions had changes in coverage of greater than 0.5 per cent for individual vaccines: Tasmania, with decreases in coverage for diphtheria, tetanus, pertussis (DTP) (-0.9%), and poliomyelitis (OPV) (-1.1%); Queensland, with decreases in coverage for DTP (-0.9%) and OPV (-0.9%); and the Northern Territory, with increases in

coverage for *Haemophilus influenzae* type b (Hib) (1.4%) and hepatitis B (Hep B) (1.2%).

Of note is the difference in coverage between Hep B and DTP antigens at 12 months of age for the jurisdictions that use the combined DTP/HepB vaccine (New South Wales, Queensland, South Australia, the Australian Capital Territory and the Northern Territory). These range from 1.7 to 5 per cent. This is accounted for by the way coverage is calculated at the 12 month milestone. To be consistent with those jurisdictions that use the combined Hib/Hep B vaccine (Comvax), the coverage algorithm allows receipt of either two or three doses for a child to be considered up-to-date for Hep B. In contrast, receipt of three doses is required for a child to be considered up-to-date for DTP at 12 months. This means that hepatitis B and Hib coverage (where only 2 doses are required) is uniformly higher than DTP and OPV coverage.

Coverage measured by 'fully immunised' at 24 months of age for Australia increased marginally from the last quarter by 0.3 percentage points to 89.3 per cent (Table 10). Coverage for individual vaccines for Australia remained unchanged with DTP still almost 3 percentage points lower than other vaccines for this age group. This difference is again due to the greater number of DTP doses required to be considered up-to-date at 24 months of age.

The only important jurisdictional changes in coverage at 24 months of age occurred in the Northern Territory, with a 2.3 per cent increase in DTP and a 2 per cent increase in 'fully immunised' coverage. This is the second consecutive quarter where 'fully immunised' coverage in the Northern Territory has increased by 2 percentage points at 24 months.

Table 9. Percentage of children immunised at 1 year of age, preliminary results by disease and State or Territory for the birth cohort 1 January to 31 March 2002; assessment date 30 June 2003

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	904	19,432	845	11,209	4,132	1,326	13,812	5,632	57,292
Diphtheria, tetanus, pertussis (%)	92.6	92.2	92.3	92.0	92.4	92.9	92.7	90.9	92.2
Poliomyelitis (%)	92.6	92.1	91.9	91.9	92.2	92.7	92.6	90.8	92.1
Hepatitis B (%)	93.8	94.3	96.8	94.3	94.9	95.5	95.1	94.0	94.6
<i>Haemophilus influenzae</i> type b (%)	94.3	95.1	97.3	94.7	95.2	95.4	95.0	93.8	94.9
Fully immunised (%)	91.5	91.0	91.7	91.1	91.5	91.9	91.8	89.9	91.2
Change in fully immunised since last quarter (%)	-1.4	-0.3	+0.8	-0.6	+0.0	-0.9	-0.1	-0.2	-0.3

Table 10. Proportion of children immunised at 2 years of age, preliminary results by disease and State or Territory for the birth cohort 1 January to 31 March 2001; assessment date 30 June 2003¹

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	885	18,785	767	11,164	4,004	1,415	13,631	5,394	56,045
Diphtheria, tetanus, pertussis (%)	90.4	90.8	90.5	91.8	91.8	94.3	92.1	89.2	91.3
Poliomyelitis (%)	93.4	94.7	97.6	94.8	95.3	96.7	95.6	94.2	95.0
<i>Haemophilus influenzae</i> type b (%)	92.9	93.5	95.2	93.8	94.4	96.2	94.4	92.5	93.8
Measles, mumps, rubella (%)	93.4	93.8	96.3	93.9	94.5	96.0	94.7	93.3	94.1
Hepatitis B (%)	94.6	95.4	98.5	95.2	95.7	97.5	96.4	95.1	95.7
Fully immunised (%) ²	86.9	88.4	89.0	89.8	90.4	93.6	90.5	87.0	89.3
Change in fully immunised since last quarter (%)	+0.2	+0.4	+1.9	+0.1	+0.4	+0.7	+0.5	-0.3	+0.3

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2002;26:490.
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.

Table 11. Proportion of children immunised at 6 years of age, preliminary results by disease and State for the birth cohort 1 January to 31 March 1997; assessment date 30 June 2003¹

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	861	17,900	13,389	10,367	3,806	5,307	1,234	662	53,526
Diphtheria, tetanus, pertussis (%)	82.3	84.3	86.5	83.6	83.2	82.5	83.7	82.0	84.4
Poliomyelitis (%)	82.5	84.1	87.0	83.9	83.7	82.9	84.1	84.9	84.6
<i>Haemophilus influenzae</i> type b (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Measles, mumps, rubella (%)	81.8	82.7	86.5	83.5	82.7	82.2	82.6	83.0	83.7
Hepatitis B (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fully immunised (%) ¹	80.4	81.2	85.3	82.0	81.3	80.6	82.2	81.1	82.3
Change in fully immunised since last quarter (%)	-1.4	+0.7	-1.1	-0.3	+0.5	-1.6	-0.1	+0.6	+0.1

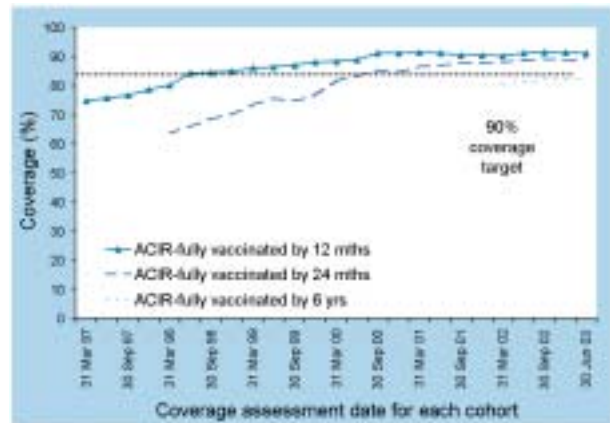
1. These data relating to 6 year-old children should be considered as preliminary. The proportions shown as 'fully immunised' appear low when compared with the proportions for individual vaccines. This is at least partly due to poor identification of children on immunisation encounter forms.

Table 11 shows immunisation coverage estimates for 'fully immunised' and for individual vaccines at 6 years of age for Australia and by state or territory. 'Fully immunised' coverage at 6 years of age for Australia remained virtually unchanged from the previous quarter at 82.3 per cent but decreased in Tasmania (-1.6%) and the Northern Territory (-1.1%).

Figure 13 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, 24 months and 6 years, although the rate of increase has slowed over the past two years.

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.

Figure 13. Trends in vaccination coverage, Australia, 1997 to 2003, by age cohorts



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 quarterly reports include only *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 counts should be interpreted with caution, and are affected by surveillance artefacts such as newly recognised (such as *S. Typhimurium* 197 and *S. Typhimurium* U290) and incompletely typed *Salmonella*.

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. NEPSS can be contacted at the above address or by telephone: +61 3 8344 5701, facsimile: +61 3 9625 2689. For more information see *Commun Dis Intell* 2003;27:129.

Reports to the National Enteric Pathogens Surveillance System of *Salmonella* infection for the period 1 April to 30 June 2003 are included in Tables 12 and 13. Data include cases reported and entered by 11 July 2003. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS.

1 April to 30 June 2003

The total number of reports to NEPSS of human *Salmonella* infection declined to 1,505 in the second quarter of 2003, 39 per cent less than the first quarter of 2003. This represents typical seasonal decline in the overall incidence of human salmonellosis. Case counts to 11 July 2003 are approximately 90 per cent of the expected final counts for the quarter.

During the second quarter of 2003, the 25 most common *Salmonella* types in Australia accounted for 985 (65%) of all reported human *Salmonella* infections.

Twenty-one of the 25 most common *Salmonella* infections in the second quarter of 2003 were amongst the 25 most commonly reported in the previous quarter.

Notable increases in particular salmonellae include *S. Typhimurium* phage type 9 (in New South Wales and Victoria), *S. Typhimurium* phage type 99 (in New South Wales), and *S. Typhimurium* phage type U307 (in Queensland).

S. Typhimurium phage type 170 was the third most commonly reported *Salmonella* in Australia in the second quarter of 2003. There were a further 8 reports of the similar phage type, *S. Typhimurium* phage type 108.

The incidence of *S. Typhimurium* phage type 135 decreased, particularly in the eastern mainland States.

Acknowledgement: Thanks to contributing laboratories and scientists.

Table 12. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 April to 30 June 2003, as reported to 11 July 2003

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Aust
Total all <i>Salmonella</i> for quarter	19	410	73	453	82	34	291	143	1,505
Total contributing <i>Salmonella</i> types	7	90	38	100	42	10	82	56	200

Table 13. Top 25 *Salmonella* types identified in Australian States and Territories, 1 April to 30 June 2003

National rank	<i>Salmonella</i> type	State or territory								Total 2nd quarter 2003	Last 10 years mean 2nd quarter	Year to date 2003	Year to date 2002
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	<i>S. Typhimurium</i> 9	2	61	2	10	6	2	76	5	164	105	295	439
2	<i>S. Typhimurium</i> 135	10	32	1	13	3	2	18	20	99	121	509	441
3	<i>S. Typhimurium</i> 170	2	54	0	13	0	0	27	1	97	24	302	260
4	<i>S. Infantis</i>	1	35	3	7	3	0	8	5	62	25	133	62
5	<i>S. Saintpaul</i>	0	5	7	38	1	1	2	6	60	83	185	255
6	<i>S. Virchow</i> 8	0	2	1	41	0	0	1	0	45	37	114	223
7	<i>S. Birkenhead</i>	0	15	0	26	0	0	1	0	42	53	123	167
8	<i>S. Anatum</i>	0	5	7	19	1	0	3	7	42	25	77	51
9	<i>S. Chester</i>	0	6	2	15	3	0	0	11	37	38	150	108
10	<i>S. Typhimurium</i> U290	2	5	0	3	0	2	24	1	37	3	73	56
11	<i>S. Typhimurium</i> 197	0	10	0	12	0	0	6	0	28	2	107	24
12	<i>S. Muenchen</i>	0	2	3	12	1	0	1	8	27	35	89	88
13	<i>S. Mississippi</i>	0	0	0	0	0	22	2	0	24	16	66	69
14	<i>S. Typhimurium</i> 99	0	22	0	0	1	1	0	0	24	2	25	9
15	<i>S. Aberdeen</i>	0	0	0	21	0	0	0	0	21	27	56	98
16	<i>S. Hvitvingfoss</i>	0	0	1	19	0	0	0	1	21	19	56	111
17	<i>S. Agona</i>	0	7	2	3	2	1	6	0	21	15	41	53
18	<i>S. Typhimurium</i> 12	0	4	0	11	1	0	4	0	20	11	62	43
19	<i>S. Waycross</i>	0	4	0	14	0	0	1	0	19	26	49	73
20	<i>S. Havana</i>	0	3	1	7	0	0	3	4	18	11	39	17
21	<i>S. Typhimurium</i> 126	0	10	0	1	1	0	4	0	16	26	42	141
22	<i>S. Typhimurium</i> 4	1	5	0	2	4	0	4	0	16	9	41	46
23	<i>S. Mbandaka</i>	0	3	1	2	1	0	0	8	15	18	32	17
24	<i>S. Singapore</i>	0	7	0	4	2	0	0	2	15	16	45	35
25	<i>S. Typhimurium</i> U307	0	2	1	11	0	0	1	0	15	2	17	18