Communicable diseases surveillance

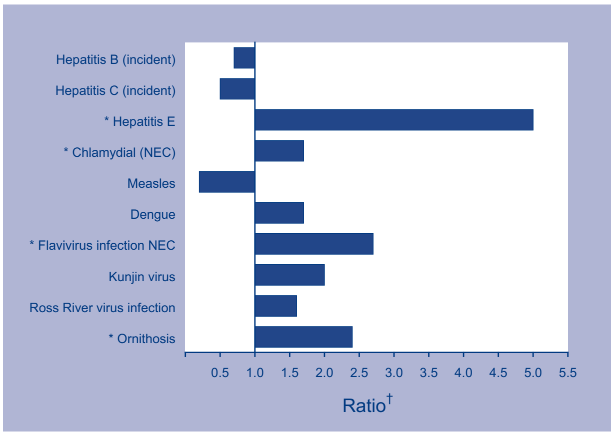
Highlights for 1st quarter, 2004

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 first quarter of 2004, compared with a 5-year mean of the same period. Disease notifications outside the 5-year mean plus or minus two standard deviations are marked.

Figure 1. Selected* diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 January to 31 March 2004 with historical data*



* Selected diseases are chosen each quarter according to current activity.

† Ratio of current quarter total to mean of corresponding quarter for the previous five years.

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

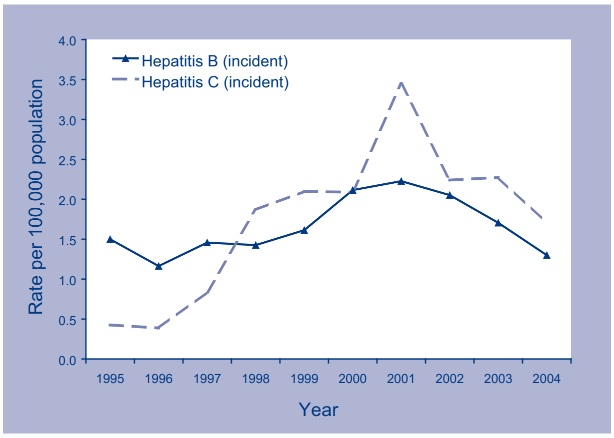
During the first quarter of 2004, there were increases in hepatitis E, *Chlamydia*, flavivirus (NEC) and ornithosis significantly above historical levels. Notifications of incident hepatitis B, incident hepatitis C and measles were lower than the five-year mean, but not outside the historical range of notifications for these diseases.

Bloodborne diseases

Incident hepatitis B and incident hepatitis C

Notification rates of incident hepatitis B and incident hepatitis C have continued to fall. There were 65 notifications of incident hepatitis B (compared to a 5-year average of 377 notifications for this quarter) and 67 notifications of incident hepatitis C (compared to an average of 472 for the quarter over the past 5 years). Trends in the national notification rates of incident hepatitis B and C are shown in Figure 2.

Figure 2. Notifications of incident hepatitis B and hepatitis C since 1995, by year of onset



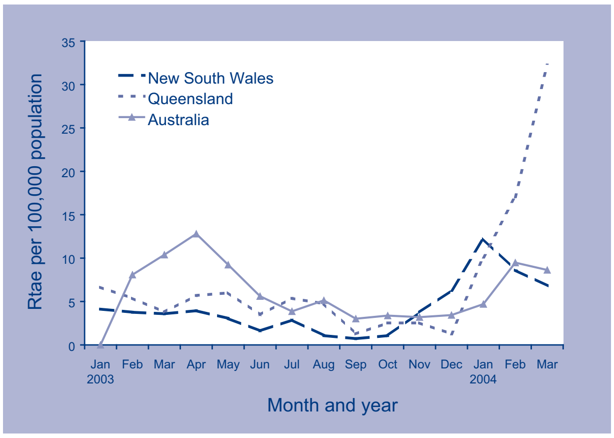
The rates of both diseases have fallen since peaking in 2001. Decreases in notifications are seen in all jurisdictions. It is unclear whether these declines represent a real decline in virus transmission or changes in testing practice or surveillance methods.

Gastrointestinal diseases

Cryptosporidiosis

Of the 503 notifications of cryptosporidiosis in the quarter, 188 were reported from Queensland and 150 from New South Wales. Although the rates of cryptosporidiosis were highest in the Northern Territory (84.7 per 100,000) and Queensland (19.8 per 100,000), the rates in New South Wales (9 per 100,000) were well above baseline (Figure 3) and the rate in January was the highest for the last three years. The NSW Health Department reported that investigations by public health units, including interviews with patients, had not identified any likely common sources of infection among cases. In Queensland, there was an increase in cryptosporidiosis in the Townsville area in February and March. Person-to-person transmission in public and private swimming pools and child-care centres was suspected.

Figure 3. Notification rates of cryptosporidiosis, New South Wales, Queensland and Australia, January 2003 to March 2004, by month of onset



Hepatitis E

There were 11 cases of hepatitis E reported in the quarter. Six cases were reported from Victoria, four from New South Wales and one from Queensland. On average over the past five years only two cases have been reported in first quarter.

Hepatitis E is the major enteric non-A, non-B hepatitis. Outbreaks have been reported from countries in South or Central Asia. Cases in Australia only occur among travellers returning from endemic areas. Travel histories of the 11 cases in the quarter revealed that all had travelled to Asian countries where hepatitis E is common (Bangladesh, India, Indonesia and China).

Shiga-like toxigenic *Escherichia coli*/verotoxin *E. coli*

Queensland reported two cases of shiga-like toxigenic *Escherichia coli* (STEC) infection presenting as haemolytic uraemic syndrome from a small rural town. One of the two cases, who were siblings, was confirmed as having an STEC infection. No common food source for this infection was identified.

Quarantinable diseases

Cholera

A single case of cholera was reported from Western Australia. The case was a 33-year-old man who had been holidaying in Bali, Indonesia. He was infected with *Vibrio cholerae* serogroup 01 and was treated without hospitalisation on his return to Western Australia.

Vaccine preventable diseases

Measles

In March, a mother and young child from New South Wales returned to Australia after acquiring measles while travelling in India. The cases were investigated by Public Health Unit (PHU) staff, who assessed the child to be in the highly infectious phase whilst returning home. The mother reported that she and the child had never received measles vaccine. Contacts at risk of infection in Australia included susceptible people who shared two flights to Brisbane, others at the airport, and other patients and staff at the medical clinic attended by the child. In response, NSW Health issued a media release warning other travellers to be alert for signs of measles, and the airline company agreed to contact passengers on the flight to alert them of the risk. Other social and health care contacts of the cases were contacted and offered immunisation or immunoglobulin.

Later in March the South Eastern Sydney Public Health Unit (SES PHU) investigated the case of a man in his twenties who developed measles after returning from Japan. Before the onset of his rash, he attended a concert at a local club. SES PHU traced close contacts at risk of infection, and issued local alerts to other patrons through the media and a sign at the club. Two weeks later three secondary cases in young adults who had attended the same concert were reported by alert clinicians. SES PHU found that these subsequent cases in turn had large numbers of contacts while infectious, including guests at a wedding, participants in a multi-day bike race, work and social contacts, and other patients sharing medical waiting rooms. A large number of people were also potentially exposed via public transport and other public venues and a general media alert was issued.

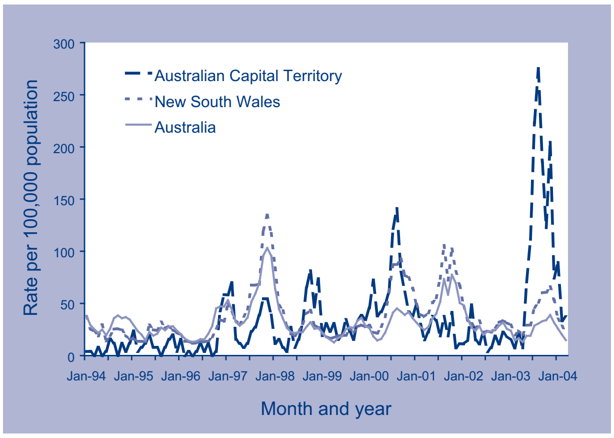
A total of 55 contacts between the ages of 0–38 years were identified. PHU staff contacted 49 of these. Of these, 44 were advised to attend an immunisation clinic provided the following day. Thirty-three of the 44 people contacted attended the clinic and received either the measles-mumps-rubella vaccine, normal human immunoglobulin (NHIG) or had serology tests for measles immunity. Remaining contacts over the age of 38 years as well as any people who accompanied them into the emergency department (ED) were contacted. Of 23 people contacted, four were advised to attend the ED for NHIG, of these two were found to be immunocompromised and two were within the susceptible age cohort.

Pertussis

There were 1,003 cases of pertussis reported to NNDSS in the first quarter of 2004, 468 of these were reported from New South Wales (rate 28 per 100,000) and 43 from the Australian Capital Territory (rate 53.3 per 100,000) (Figure 4). The number of notifications of pertussis have been high in the Australian Capital Territory since 2003, when 355 cases were reported, compared with 54 cases in 2002.

In response to the increase in notifications in the adolescent age group, the NSW Health Department sought advance funding from the Australian Government for the purchase of additional vaccines and will conduct a state-wide program commencing on 3 May 2004 to offer pertussis vaccine (DTPa) to all high school students.

Figure 4. Trends in notification rates of pertussis, New South Wales, the Australian Capital Territory and Australia, 1994 to 2004, by month of onset



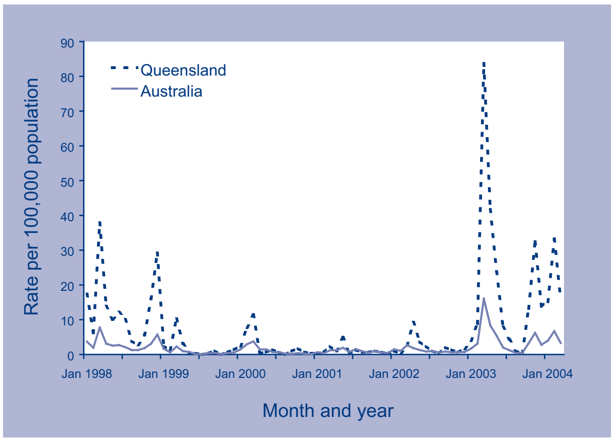
Vectorborne diseases

Dengue

During the quarter 204 of the 233 notifications of dengue were from Queensland, a rate of 21.5 cases per 100,000 population (Figure 5). This elevated rate was the product of three on-going outbreaks that began late in 2003 in the north Queensland towns of Cairns and Townsville and the Torres Strait islands. Up to the end of the quarter, more than 270 cases were recorded from the Torres Strait since the outbreak began in September 2003; more than 50 cases in Cairns and 30 cases in Townsville since October 2003. Several serotypes of dengue have been circulating in Queensland during these outbreaks. The first death from dengue haemorrhagic fever in Australia for 100 years was reported during the quarter. There have been more than 20 hospitalisations of cases of dengue haemorrhagic fever, a severe illness thought to be increased in populations exposed to different serotypes of the dengue virus.

The mosquito vector for dengue, *Aedes aegypti* was detected in Tennant Creek in the Northern Territory in February 2004. This species of mosquito has not been endemic in the Northern Territory for more than 50 years. Mosquito control activities including fogging in residential and public places, distribution of surface sprays, removal of water-filled receptacles and residual insecticide spraying were initiated along with public awareness campaigns. No human cases of dengue were reported in Tennant Creek up to the end of March.

Figure 5. Notification rate of dengue, Queensland and Australia, 1998 to 2004 (YTD)



Japanese encephalitis virus

Sentinel pigs tested positive for Japanese encephalitis virus (JEV) in Torres Strait and at Bamaga, Cape York. The latter is the first incursion into the Australian mainland since 1998, when there was a single human case of JEV infection in the Cape York region. Mosquito trappings are being conducted to ascertain whether the vectors are carrying the virus.

Murray Valley encephalitis virus

Sentinel chicken seroconversions for Murray Valley encephalitis virus (MVEV) were reported in the Northern Territory (Darwin), South Australia and Western Australia (Pilbara) in March. In early April a case of MVEV was confirmed in an infant in Central Australia. Although the arbovirus season is coming to an end with the onset of cooler weather, the Communicable Diseases Network Australia has recommended increased sentinel chicken surveillance for arboviruses in the coming season.

Ross River virus

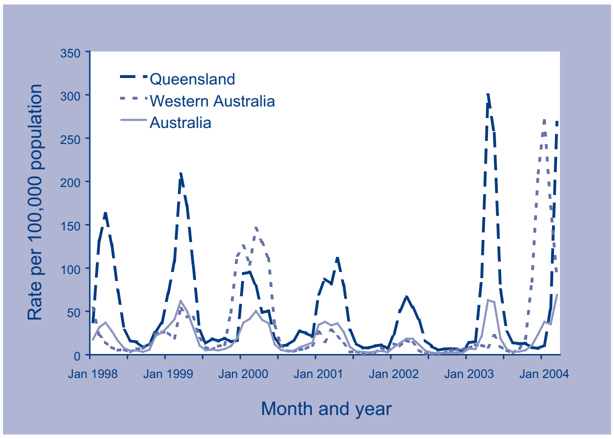
The outbreak of RRV, which began in the fourth quarter of 2003 in Western Australia, continued into the first quarter of 2004. Western Australia reported 522 cases with onset in the fourth quarter of 2003 and 844 cases reported in the first quarter of 2004 (compared to 27 and 46 cases for the fourth quarter in 2002 and first quarter of 2003, respectively). The majority of cases have been reported from the South-West region of the state in residents of, or visitors to, coastal areas stretching from Mandurah to Busselton. Transmission has also occurred across the Perth metropolitan area, particularly around the fringes.

The Swan coastal plain area contains two large estuarine systems (Peel-Harvey and Leschenault) and many other salt marshes and brackish wetland areas that are breeding sites of *Ochlerotatus camptorhynchus* and *Oc. vigilax*, the major vectors of RRV in the south-west of Western Australia. Historically, large epidemics occur every three or four years between October and March in South-West Western Australia, associated with spring or summer rains, high tides that flood salt marsh mosquito breeding areas, and low levels of immunity in kangaroos and other amplifying vertebrate animal species. Mosquito trapping this season revealed relatively low numbers of mosquitoes, but high levels of virus carriage.

Public health response to the epidemic has included local and state-wide media warnings including advice regarding mosquito avoidance, and local government mosquito control activities in mosquito breeding areas, especially those close to human population centres.

Increases in RRV were also seen in Queensland with 1,007 cases reported in the quarter of which 811 were reported with an onset in March. Cases were reported from across the State with north Queensland and the Darling Downs having a much higher number than their historical average.

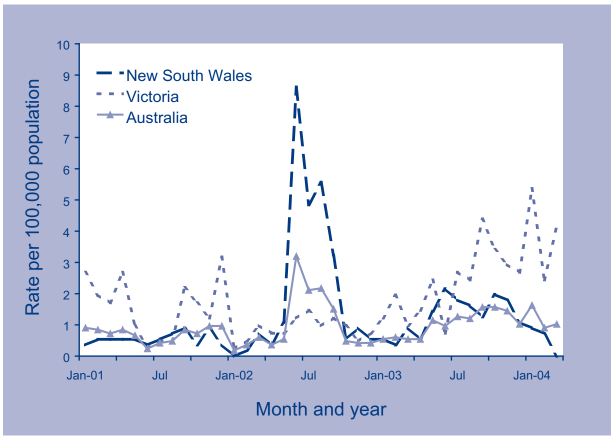
Figure 6. Notification rates for Ross River virus infections, Queensland, Western Australia and Australia, 1998 to 2004 (YTD)



Ornithosis

There were 60 cases of ornithosis reported in the quarter, which was 2.4 times the average for this period over the past five years. Forty-nine (82%) of these cases were reported from Victoria. Fourteen cases were linked to a duck processing plant in rural Victoria. In New South Wales eight cases were linked to a pet shop.

Figure 7. Trends in notifications of ornithosis, New South Wales, Victoria and Australia, 2001 to 2004 (YTD), by month of notification



Other bacterial infections

Legionellosis

There were 76 cases of legionellosis reported in the quarter, which was close to the historical average number of cases for this period of the year. Among the 20 cases reported from Victoria was a cluster of three cases of *Legionella pneumophila* serogroup 1. All three cases were male and aged more than 50 years.

Among the 22 cases reported from New South Wales were two clusters—one of *L. pneumophila* and the second of *L. longbeachae*.

In March 2004, investigations by the South Eastern Sydney Public Health Unit identified a possible linked cluster of six cases of Legionnaires' disease caused by *L. pneumophila*. The onset of illness for these cases ranged from late January to early March. They were aged between 23 and 65 years and four were male. Five reported movements in one small area of Oxford Street during their possible exposure period. Four also had movements in various other areas of the central business district (CBD). Another person with Legionnaires' disease due to *L. pneumophila* who was hospitalised in the Hunter Area, was also found to have stayed in the Sydney CBD for two days in this period.

SES PHU alerted local hospital and general practitioners, and worked with the Sydney City Council to assess the routine disinfection processes of nearby cooling towers and a large fountain. No source of the outbreak was identified. Sydney City Council wrote to the operators of all of the approximately 1,800 cooling towers in the CBD area to reinforce the need for careful assessment and disinfection of cooling towers. To identify any further related cases, all New South Wales public health units were advised of the cluster and requested to contact their local hospitals and laboratories for other possible cases of Legionnaires' disease and to question any suspected cases about their movements in the 10 days before onset of illness. NSW Health issued a state-wide media release to alert the public and building operators. By the end of March a further two possibly linked cases were identified, both with onset of illness in early March, but there were no reports of new linked cases acquired after the public health action was taken.

From January to March 2004, four cases of Legionnaires' disease due to *L. longbeachae* infection in the Illawarra and a fifth case in Sydney were reported. The patients were all aged over 60 years and three were men. Two of the cases died. Four of the five people reported using potting mix before the onset of their illness. *L. longbeachae* infection has previously been linked to gardening, particularly the use of potting mixes.

In response to this cluster of cases NSW Health released a media alert to again warn the public of the risk of Legionnaires' disease associated with gardening and potting mix. Reducing exposure to potting mix dust by following manufacturers instructions printed on the potting mix bags is vital in preventing infection from *Legionella* bacteria. People should avoid breathing in potting mix dust, wear gloves and a mask, and wash their hands immediately after handling potting mix or soil, especially before eating or drinking.

Invasive meningococcal disease

There were 89 cases of invasive meningococcal disease reported in the quarter. This level of disease is close to the historical average for the number of cases of this period. In Queensland among 20 cases reported in the quarter, six cases of serogroup B (of various serotypes) disease occurred in Indigenous children aged three months to 10 years. These six cases were spread across the State and had dates of onset from January to March. Three were vaccinated with the conjugate serogroup C vaccine and three were unvaccinated.

With contributions from:

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Tables

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 29,577 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 January and 31 March 2004 (Table 2). The notification rate of diseases per 100,000 population for each State or Territory is presented in Table 3.

There were 5,006 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 January to 31 March 2004 (Tables 4 and 5).

Table 1. Reporting of notifiable diseases by jurisdiction

Disease	Data received from:
Bloodborne diseases	
Hepatitis B (incident)	All jurisdictions
Hepatitis B (unspecified)	All jurisdictions except NT
Hepatitis C (incident)	All jurisdictions except Qld
Hepatitis C (unspecified)	All jurisdictions
Hepatitis D	All jurisdictions
Hepatitis (NEC)	All jurisdictions except WA
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 diseases	
Cholera	All jurisdictions
Plague	All jurisdictions
Rabies	All jurisdictions
Smallpox	All jurisdictions except ACT, NSW, Qld, SA
Tularemia	All jurisdictions except ACT, NSW, NT, Qld, SA
Viral haemorrhagic fever	All jurisdictions
Yellow fever	All jurisdictions
Sexually transmissible infections	
Chlamydial infection	All jurisdictions
Donovanosis	All jurisdictions
Gonococcal infection	All jurisdictions
Syphilis (unspecified)	All jurisdictions
Syphilis < 2 years duration	All jurisdictions except NSW, Qld, SA, Tas, Vic
Syphilis > 2 years duration	All jurisdictions except ACT, NT
Syphilis - congenital	All jurisdictions except ACT, NT

Disease	Data received from:
Vaccine preventable diseases	
Diphtheria	All jurisdictions
Haemophilus influenzae type b	All jurisdictions
Influenza	All jurisdictions
Measles	All jurisdictions
Mumps	All jurisdictions
Pertussis	All jurisdictions
Pneumococcal disease	All jurisdictions
Poliomyelitis	All jurisdictions
Rubella	All jurisdictions
Tetanus	All jurisdictions
Vectorborne diseases	
Barmah Forest virus infection	All jurisdictions
Flavivirus infection (NEC)	All jurisdictions
Dengue	All jurisdictions
Japanese encephalitis	All jurisdictions
Kunjin	All jurisdictions except ACT*
Malaria	All jurisdictions
Murray Valley encephalitis	All jurisdictions except ACT*
Ross River virus infection	All jurisdictions
Zoonoses	
Anthrax	All jurisdictions
Australian bat lyssavirus	All jurisdictions
Brucellosis	All jurisdictions
Leptospirosis	All jurisdictions
Ornithosis	All jurisdictions
Other lyssaviruses (NEC)	All jurisdictions
Q fever	All jurisdictions
Other bacterial infections	
Creutzfeldt-Jakob disease	All jurisdictions except, ACT, NSW, NT, Qld, SA
Legionellosis	All jurisdictions
Leprosy	All jurisdictions
Meningococcal infection	All jurisdictions
Tuberculosis	All jurisdictions

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

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 January to 31 March 2004, by date of notification*

Disease	State or territory								Total 1st quarter 2004[1]	Total 4th quarter 2003	Total 1st quarter 2003	Last 5 years mean 1st quarter	Year to date 2004	Last 5 years YTD mean	Ratio[†]
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Bloodborne diseases															
Hepatitis B (incident)	0	12	2	15	1	2	23	10	65	65	93	76	65	92	0.7
Hepatitis B (unspecified)	15	605	NN	212	60	23	391	114	1,420	1,464	1,628	1,654	1,420	1,738	0.8
Hepatitis C (incident)	1	6	NN	NN	15	2	14	29	67	87	124	72	67	130	0.5
Hepatitis C (unspecified)	63	1,711	64	782	153	70	766	272	3,881	3,887	3,866	4,525	3,881	4,627	0.8
Hepatitis D	0	4	0	0	0	0	0	0	4	6	6	4	4	5	0.9
Hepatitis (NEC)	0	0	0	0	0	0	0	0	0	18	16	0	0	3	0.0
Gastrointestinal diseases															
Botulism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Campylobacteriosis[2]	96	NN	63	1,118	450	171	1,777	568	4,243	3,890	4,490	4,735	4,243	3,624	1.2
Cryptosporidiosis[‡]	5	150	42	188	13	0	54	51	503	189	520	581	503	1,050	0.5
Haemolytic uraemic sy0ome	0	2	0	0	0	0	1	0	3	6	5	3	3	5	0.6
Hepatitis A	0	48	5	4	6	1	18	21	103	96	118	112	103	227	0.5
Hepatitis E	0	4	0	1	0	0	6	0	11	1	2	11	11	2	5.0
Listeriosis	0	6	1	3	0	1	2	3	16	17	20	20	16	19	0.8
Salmonellosis	27	773	120	1,143	143	41	302	191	2,740	1,602	2,761	3,105	2,740	2,640	1.0
Shigellosis	0	27	26	17	31	1	13	36	151	83	153	175	151	155	1.0
SLTEC,VTEC[3]	0	0	0	5	4	0	3	0	12	9	19	14	12	18	0.7
Typhoid	0	13	0	4	1	0	6	3	27	12	19	33	27	26	1.1
Quarantinable diseases															
Cholera	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1.3
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rabies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA
Tularemia	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA
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 2. Notifications of diseases received by State and Territory health authorities in the period 1 January to 31 March 2004, by date of notification,* *continued*

Disease	State or territory								Total 1st quarter 2004[1]	Total 4th quarter 2003	Total 1st quarter 2003	Last 5 years mean 1st quarter	Year to date 2004	Last 5 years YTD mean	Ratio[†]
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Sexually transmissible diseases															
Chlamydial (NEC)	162	2,496	371	2,152	539	136	1,976	1,054	8,886	7,323	7,343	9,955	8,886	5,176	1.7
Donovanosis	0	0	1	1	0	0	0	0	2	1	7	2	2	7	0.3
Gonococcal infection[4]	9	353	372	267	65	4	308	315	1,693	1,450	1,768	1,879	1,693	1,590	1.1
Syphilis (unspecified)	6	0	64	0	3	5	0	59	137	183	234	145	137	400	0.3
Syphilis < two years duration	0	57	0	29	0	0	16	0	102	62	97	106	102	NA	NA
Syphilis > two years duration	0	279	0	41	0	0	67	0	387	313	207	417	387	NA	NA
Syphilis - congenital	0	0	0	0	0	0	0	0	0	2	2	0	0	2	0.0
Vaccine preventable disease															
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Haemophilus influenzae type b	0	1	1	0	1	2	0	0	5	4	2	5	5	6	0.9
Influenza (laboratory confirmed)[‡]	0	46	1	22	10	0	16	10	105	256	98	117	105	90	1.2
Measles	0	6	0	0	1	0	4	0	11	17	22	12	11	45	0.2
Mumps	2	15	0	1	0	0	2	4	24	27	21	26	24	30	0.8
Pertussis	43	468	1	156	42	13	208	72	1,003	1,736	911	1,088	1,003	1,177	0.9
Pneumococcal disease (invasive)[‡]	9	100	17	60	40	2	70	17	315	526	299	376	315	260	1.2
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rubella	0	5	0	1	0	0	0	0	6	2	36	7	6	56	0.1
Rubella - congenital	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.0
Tetanus	0	0	0	1	0	0	0	0	1	0	2	1	1	2	0.6
Vectorborne diseases															
Barmah Forest virus infection	0	96	5	192	0	0	3	22	318	158	279	377	318	266	1.2
Dengue	3	9	10	204	3	1	2	1	233	203	346	246	233	139	1.7
Flavivirus infection NEC	0	4	1	54	0	0	4	0	63	27	20	77	63	24	2.7
Japanese encephalitis[‡]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Kunjin virus[‡]	0	0	0	6	0	0	0	0	6	2	12	6	6	3	2.0
Malaria	5	20	5	56	2	3	14	5	110	138	181	129	110	213	0.5
Murray Valley encephalitis[‡]	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.0
Ross River virus infection	2	235	182	1,007	19	13	50	844	2,352	658	584	2,881	2,352	1,433	1.6

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 January to 31 March 2004, by date of notification,* *continued*

Disease	State or territory								Total 1st quarter 2004[1]	Total 4th quarter 2003	Total 1st quarter 2003	Last 5 years mean 1st quarter	Year to date 2004	Last 5 years YTD mean	Ratio†
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Zoonoses															
Anthrax‡	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
Brucellosis	0	0	0	3	0	0	1	0	4	2	4	6	4	7	0.6
Leptospirosis	0	10	0	54	0	0	0	0	64	22	47	67	64	76	0.8
Other lyssavirus (NEC)‡	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Ornithosis	0	9	0	0	2	0	49	0	60	67	28	62	60	25	2.4
Q fever	1	46	2	41	3	0	3	1	97	107	208	101	97	174	0.6
Other bacterial infections															
Creutzfeldt-Jakob disease	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA
Legionellosis	0	22	0	9	9	1	20	15	76	93	86	87	76	80	1.0
Leprosy	0	1	0	1	0	0	0	0	2	0	2	2	2	1	1.4
Meningococcal infection	5	28	4	20	4	2	21	5	89	142	88	107	89	106	0.8
Tuberculosis	3	56	6	19	18	1	64	10	177	227	218	186	177	265	0.7
Total	457	7,723	1,366	7,889	1,638	495	6,274	3,735	29,577	25,181	26,992	33,591	29,577	26,074	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 New South Wales because it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.
3. Infections with shiga-like toxin (verotoxin) producing *Escherichia coli* (SLTEC/VTEC).
4. Northern Territory, Queensland, South Australia , Victoria and Western Australia: includes gonococcal neonatal ophthalmia.

* 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 quarter total to the mean of last 5 years.

‡ Notifiable from January 2001 only. Ratio and mean calculations are based the last two years.

NN Not notifiable

NEC Not elsewhere classified.

NA Not calculated as only notifiable for under 5 years.

Table 3. Notification rates of diseases by state or territory, 1 January to 31 March 2004. (Rate per 100,000 population)

Disease[1]	State or territory ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Bloodborne diseases									
Hepatitis B (incident)	0.0	0.7	4.0	1.6	0.3	1.7	1.9	2.0	1.3
Hepatitis B (unspecified)[†,‡]	18.6	36.2	NN	22.3	15.7	19.3	31.9	23.4	28.9
Hepatitis C (incident)	1.2	0.4	NN	NN	3.9	1.7	1.1	5.9	1.7
Hepatitis C (unspecified)	78.1	102.4	129.1	82.4	40.1	58.7	62.5	55.7	78.1
Hepatitis D	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
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	0.0	0.0	0.0	0.0	0.0
Campylobacteriosis[2]	118.9	NN	127.0	117.8	117.8	143.4	144.9	116.4	128.8
Cryptosporidiosis	6.2	9.0	84.7	19.8	3.4	0.0	4.4	10.4	10.1
Haemolytic uraemic syndrome	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Hepatitis A	0.0	2.9	10.1	0.4	1.6	0.8	1.5	4.3	2.1
Hepatitis E	0.0	0.2	0.0	0.1	0.0	0.0	0.5	0.0	0.2
Listeriosis	0.0	0.4	2.0	0.3	0.0	0.8	0.2	0.6	0.3
Salmonellosis	33.5	46.2	242.0	120.4	37.4	34.4	24.6	39.1	55.2
Shigellosis	0.0	1.6	52.4	1.8	8.1	0.8	1.1	7.4	3.0
SLTEC,VTEC[3]	0.0	0.0	0.0	0.5	1.0	0.0	0.2	0.0	0.2
Typhoid	0.0	0.8	0.0	0.4	0.3	0.0	0.5	1.0	0.6
Quarantinable diseases									
Cholera	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	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
Smallpox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tularemia	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	200.7	149.3	748.2	226.7	141.2	114.0	161.1	216.0	178.9
Donovanosis	0.0	0.0	2.0	0.1	0.0	0.0	0.0	0.0	0.0
Gonococcal infection[4]	11.2	21.1	750.2	28.1	17.0	3.4	25.1	64.5	34.1
Syphilis (unspecified)	7.4	0.0	129.1	0.0	0.8	4.2	0.0	12.1	2.8
Syphilis < 2 years duration	0.0	3.4	0.0	3.1	0.0	0.0	1.3	0.0	2.1
Syphilis > 2 years duration	0.0	16.7	0.0	4.3	0.0	0.0	5.5	0.0	7.8
Syphilis - congenital	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3. Notification rates of diseases by state or territory, 1 January to 31 March 2004. (Rate per 100,000 population) , *continued*

Disease[1]	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
	State or territory								
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	0.1	2.0	0.0	0.3	1.7	0.0	0.0	0.1
Influenza (laboratory confirmed)	0.0	2.8	2.0	2.3	2.6	0.0	1.3	2.0	2.1
Measles	0.0	0.4	0.0	0.0	0.3	0.0	0.3	0.0	0.2
Mumps	2.5	0.9	0.0	0.1	0.0	0.0	0.2	0.8	0.5
Pertussis	53.3	28.0	2.0	16.4	11.0	10.9	17.0	14.8	20.2
Pneumococcal disease	11.2	6.0	34.3	6.3	10.5	1.7	5.7	3.5	6.3
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rubella	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Rubella - congenital	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetanus	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Vectorborne diseases									
Barmah Forest virus infection	0.0	5.7	10.1	20.2	0.0	0.0	0.2	4.5	6.4
Dengue	3.7	0.5	20.2	21.5	0.8	0.8	0.2	0.2	4.7
Flavivirus infection NEC	0.0	0.2	2.0	5.7	0.0	0.0	0.3	0.0	1.3
Japanese encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kunjin virus	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.1
Malaria	6.2	1.2	10.1	5.9	0.5	2.5	1.1	1.0	2.2
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	2.5	14.1	367.0	106.1	5.0	10.9	4.1	172.9	47.4
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	0.3	0.0	0.0	0.1	0.0	0.1
Leptospirosis	0.0	0.6	0.0	5.7	0.0	0.0	0.0	0.0	1.3
Other lyssavirus (NEC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ornithosis	0.0	0.5	0.0	0.0	0.5	0.0	4.0	0.0	1.2
Q fever	1.2	2.8	4.0	4.3	0.8	0.0	0.2	0.2	2.0
Other bacterial infections									
Creutzfeldt-Jakob disease	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Legionellosis	0.0	1.3	0.0	0.9	2.4	0.8	1.6	3.1	1.5
Leprosy	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Meningococcal infection	6.2	1.7	8.1	2.1	1.0	1.7	1.7	1.0	1.8
Tuberculosis	3.7	3.3	12.1	2.0	4.7	0.8	5.2	2.0	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 *Escherichia coli* (SLTEC/VTEC).
4. Northern Territory, Queensland, South Australia, Victoria and Western Australia: includes gonococcal neonatal ophthalmia.

NN Not Notifiable.

NEC Not Elsewhere Classified.

Table 4. Virology and serology laboratory reports by state or territory[1] for the reporting period 1 January to 31 March 2004, and total reports for the year[2]

	State or territory								This period 2004	This period 2003	Year to date 2004[3]	Year to date 2003
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Measles, mumps, rubella												
Measles virus	0	0	0	3	2	0	2	0	7	14	7	14
Mumps virus	0	0	0	1	0	0	1	0	2	5	2	5
Rubella virus	0	0	0	4	0	0	2	0	6	8	6	8
Hepatitis virus												
Hepatitis A virus	0	3	1	2	3	0	1	0	10	17	10	17
Hepatitis D virus	0	1	0	2	0	0	0	0	3	6	3	6
Hepatitis E virus	0	0	0	0	0	0	5	0	5		5	
Arboviruses												
Ross River virus	0	11	10	383	14	3	8	2	431	212	431	212
Barmah Forest virus	0	7	1	73	1	0	2	0	84	77	84	77
Flavivirus (unspecified)	0	1	5	36	0	0	6	1	49	39	49	39
Adenoviruses												
Adenovirus not typed/ pending	0	35	1	21	76	0	30	0	163	213	163	213
Herpesviruses												
Cytomegalovirus	1	72	1	39	58	3	27	0	201	271	201	271
Varicella-zoster virus	0	46	3	267	106	1	15	1	439	419	439	419
Epstein-Barr virus	0	25	26	265	233	1	8	69	627	458	627	458
Other DNA viruses												
Poxvirus group not typed	0	0	0	0	0	1	0	0	1	1	1	1
Parvovirus	0	3	0	30	5	2	21	0	61	50	61	50
Picornavirus family												
Coxsackievirus A16	0	1	0	0	1	0	0	0	2	2	2	2
Echovirus type 11	0	1	0	0	0	0	0	0	1	1	1	1
Echovirus type 18	0	1	0	0	0	0	0	0	1		1	
Poliovirus type 1 (uncharacterised)	0	2	0	0	0	0	0	0	2	9	2	9
Poliovirus type 2 (uncharacterised)	0	1	0	0	0	0	0	0	1	1	1	1
Rhinovirus (all types)	0	57	0	0	9	0	1	0	67	124	67	124
Enterovirus type 71 (BCR)	0	2	0	0	0	0	0	0	2		2	
Enterovirus not typed/ pending	0	5	0	7	3	0	16	0	31	44	31	44
Picornavirus not typed	0	0	0	0	0	2	0	0	2	2	2	2
Ortho/paramyxoviruses												
Influenza A virus	0	3	0	6	24	0	5	0	38	103	38	103
Influenza B virus	0	0	0	0	12	0	0	0	12	27	12	27
Parainfluenza virus type 1	0	24	0	2	4	0	5	0	35	16	35	16
Parainfluenza virus type 2	0	0	0	0	2	0	0	0	2	19	2	19
Parainfluenza virus type 3	0	24	0	1	56	0	7	0	88	111	88	111
Respiratory syncytial virus	0	103	1	54	10	2	12	0	182	142	182	142

Table 4. Virology and serology laboratory reports by state or territory[1] for the reporting period 1 January to 31 March 2004, and total reports for the year,[2] *continued*

	State or territory								This period 2004	This period 2003	Year to date 2004[3]	Year to date 2003
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Other RNA viruses												
HTLV-1	0	0	0	0	2	0	0	0	2	4	2	4
Rotavirus	0	6	0	0	45	2	22	0	75	59	75	59
Norwalk agent	0	0	0	0	0	0	66	0	66	28	66	28
Other												
Chlamydia trachomatis - A-K	0	1	0	0	0	0	0	0	1	–	1	–
Chlamydia trachomatis - L1-L3	0	0	0	0	0	0	1	0	1	–	1	–
Chlamydia trachomatis - not typed	7	143	5	589	381	9	9	1	1,144	1,231	1,144	1,231
Chlamydia pneumoniae	0	0	0	0	0	0	2	0	2	4	2	4
Chlamydia psittaci	1	0	0	2	2	0	54	0	59	17	59	17
Mycoplasma pneumoniae	0	49	8	139	89	1	63	6	355	201	355	201
Mycoplasma hominis	0	1	0	0	0	0	0	0	1	4	1	4
Coxiella burnetii (Q fever)	0	3	1	13	29	0	2	0	48	56	48	56
Streptococcus group A	0	1	0	82	0	0	42	0	125	145	125	145
Yersinia enterocolitica	0	1	0	0	0	0	0	0	1	2	1	2
Brucella abortus	0	0	0	0	1	0	2	0	3	1	3	1
Bordetella pertussis	4	12	0	18	33	0	88	0	155	139	155	139
Legionella pneumophila	0	0	0	0	4	0	16	0	20	43	20	43
Legionella longbeachae	0	1	0	0	6	1	8	0	16	10	16	10
Legionella species	0	0	0	0	0	0	4	0	4	3	4	3
Cryptococcus species	0	0	0	3	10	0	0	0	13	3	13	3
Leptospira species	0	0	0	12	1	0	0	0	13	6	13	6
Treponema pallidum	0	44	0	173	106	0	2	0	325	372	325	372
Entamoeba histolytica	0	0	0	0	0	1	3	0	4	3	4	3
Toxoplasma gondii	0	4	0	4	2	2	2	0	14	14	14	14
Echinococcus granulosus	0	0	0	0	4	0	0	0	4	5	4	5
Total	13	694	63	2,231	1,334	31	560	80	5,006	4,741	5,006	4,741

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 reports by laboratories for the reporting period 1 January to 31 March 2004*

State or territory	Laboratory	January 2004	February 2004	March 2004	Total this period
Australian Capital Territory	The Canberra Hospital	–	–	–	–
New South Wales	Institute of Clinical Pathology and Medical Research, Westmead	40	36	121	197
	New Children's Hospital, Westmead	45	56	52	153
	Repatriation General Hospital, Concord	–	–	–	–
	Royal Prince Alfred Hospital, Camperdown	14	21	30	65
	South West Area Pathology Service, Liverpool	61	72	92	225
Queensland	Queensland Medical Laboratory, West End	482	996	857	2,335
	Townsville General Hospital	–	–	–	–
South Australia	Institute of Medical and Veterinary Science, Adelaide	431	427	473	1,331
Tasmania	Northern Tasmanian Pathology Service, Launceston	7	5	7	19
	Royal Hobart Hospital, Hobart	–	–	–	–
Victoria	Monash Medical Centre, Melbourne	11	18	4	33
	Royal Children's Hospital, Melbourne	90	95	78	263
	Victorian Infectious Diseases Reference Laboratory, Fairfield	79	104	94	277
Western Australia	PathCentre Virology, Perth	–	–	–	–
	Princess Margaret Hospital, Perth	–	–	–	–
	Western Diagnostic Pathology	15	50	43	108
Total		1,275	1,880	1,851	5,006

* The complete list of laboratories reporting for the 12 months, January to December 2004, 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 2004, nine conditions are being monitored, four of which are related to communicable diseases. These include influenza, gastroenteritis, varicella and shingles. There are two definitions for influenza for 2004. A patient may be coded once or twice depending on their symptoms. The definition for influenza 1 will include more individuals. Definitions of these conditions were published in Commun Dis Intell *2004;28:99–100.*

Data from 1 January to 31 March 2004 are shown as the rate per 1,000 consultations in Figures 8, 9, 10 and 11.

Figure 8. Consultation rates for influenza-like illness, ASPREN, 1 January to 31 March 2004, by week of report

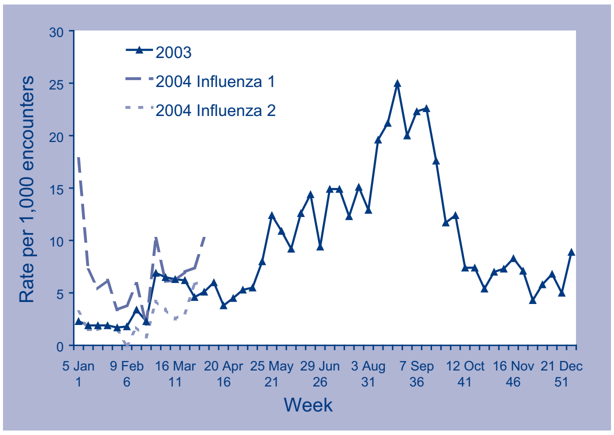


Figure 9. Consultation rates for gastroenteritis, ASPREN, 1 January to 31 March 2004, by week of report

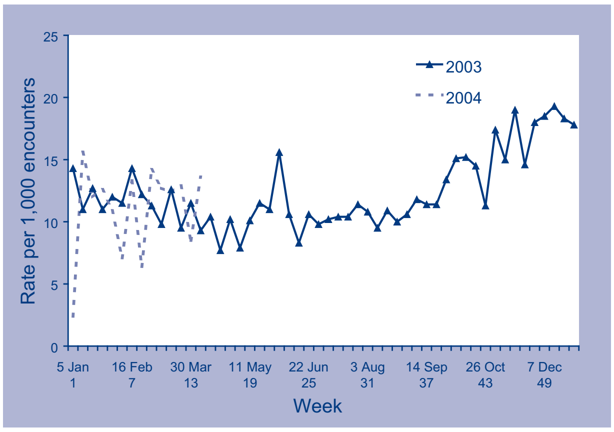


Figure 10. Consultation rates for varicella, ASPREN, 1 January to 31 March 2004, by week of report

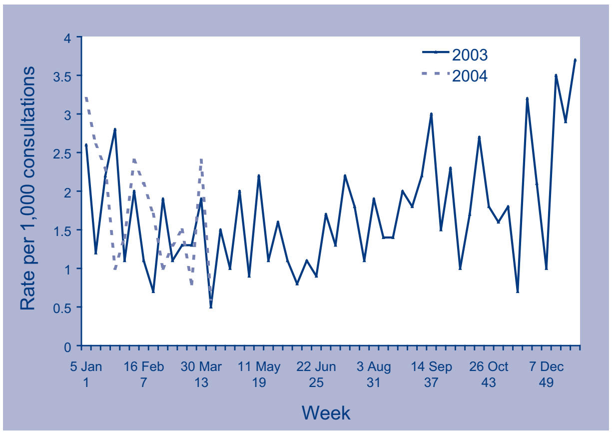
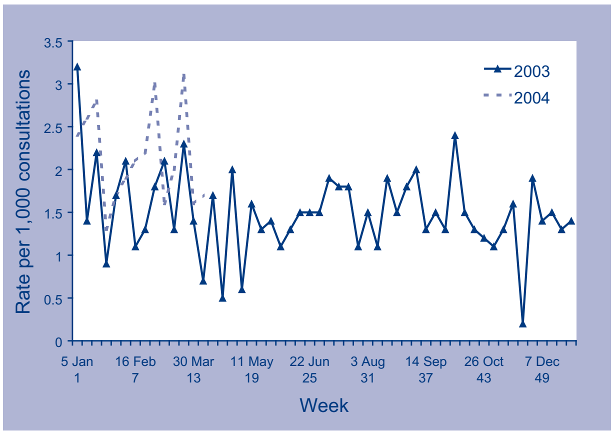


Figure 11. Consultation rates for shingles, ASPREN, 1 January to 31 March 2004, by week of report



Childhood immunisation coverage

Tables 10, 11 and 12 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 October and 31 December 2002, at 24 months of age for the cohort born between 1 October and 31 December 2001, and at 6 years of age for the cohort born between 1 October and 31 December 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.

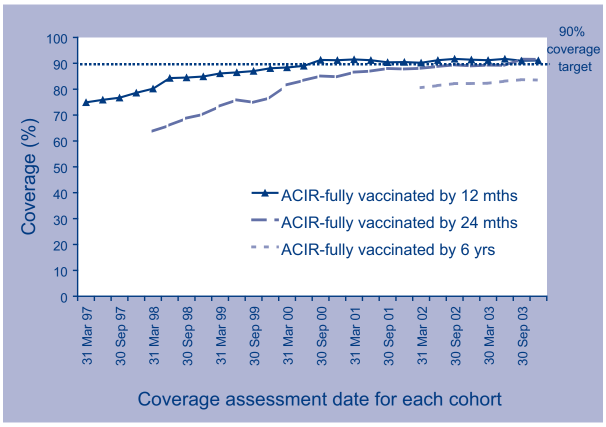
Immunisation coverage for children 'fully immunised' at 12 months of age for Australia increased marginally from the last quarter by 0.1 percentage points to 91.1 per cent (Table 10). There were substantial increases in 'fully immunised' coverage by state or territory in two jurisdictions, the Northern Territory (+3.5%) and the Australian Capital Territory (+4.8%), whilst all other jurisdictions experienced very little change in coverage. The Northern Territory and the Australian Capital Territory also experienced increases in coverage for diphtheria, tetanus, pertussis (DTP), poliomyelitis (OPV), and *Haemophilus influenzae* type b (Hib) vaccines. Significant changes in coverage in jurisdictions like the Northern Territory and the Australian Capital Territory, which have relatively small populations, are likely to be the result of a small number of children having a large impact on the coverage percentages.

National coverage for children 'fully immunised' at 24 months of age decreased marginally from the last quarter by 0.1 percentage points to 91.5 per cent (Table 11). Coverage for individual vaccines for Australia remained largely unchanged. DTP coverage remained high for this age group in all jurisdictions due to the removal of the 4th dose of DTP (due at 18 months) from the immunisation schedule from the December 2003 quarter onwards. The only other significant jurisdictional change in coverage for this age group was a decrease in 'fully immunised' coverage in Tasmania (–2.3%) with a decrease in DTP coverage (–1.1%), in contrast to the national trend.

Table 12 shows immunisation coverage estimates for 'fully immunised' and for individual vaccines at six years of age for Australia by state or territory. 'Fully immunised' coverage at six years of age for Australia decreased marginally by 0.2 percentage points from the previous quarter to 83.5 per cent with a significant decrease in coverage in the Northern Territory (–2.4%). Coverage for all individual vaccines at six years of age remained largely unchanged, except for the Northern Territory [DTP (–1.7%), OPV (–1.9%) and measles, mumps, rubella vaccine (–1.7%)] and in Tasmania [OPV (–1.1%)]. Coverage for vaccines assessed at six years is now at or close to 85 per cent in most jurisdictions, although coverage in Western Australia and the Northern Territory for this age group remains well below other jurisdictions.

Figure 12 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 six years, although the rate of increase has slowed over the past year for all age groups.

Figure 12. Trends in vaccination coverage, Australia, 1997 to 2003, by age cohorts



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.

Table 10. Percentage of children immunised at 1 year of age, preliminary results by disease and state or territory for the birth cohort 1 October to 31 December 2002; assessment date 31 March 2004

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	1,001	21,594	860	11,907	4,193	1,444	15,240	6,016	62,255
Diphtheria, tetanus, pertussis (%)	93.8	92.5	90.0	92.6	92.7	93.1	92.7	90.2	92.4
Poliomyelitis (%)	93.9	92.4	90.0	92.4	92.5	92.9	92.7	90.2	92.3
Haemophilus influenzae type b (%)	95.6	94.1	94.4	94.9	95.3	95.6	94.7	93.5	94.5
Hepatitis B (%)	95.9	94.8	95.1	95.2	95.3	95.3	94.4	93.1	94.7
Fully immunised (%)	93.1	91.0	89.1	91.5	91.8	91.8	91.5	89.0	91.1
Change in fully immunised since last quarter (%)	+4.8	+0.1	+3.5	+0.2	+0.1	+0.1	-0.3	-0.1	+0.1

Table 11. Percentage of children immunised at 2 years of age, preliminary results by disease and state or territory for the birth cohort 1 October to 31 December 2001; assessment date 31 March 2004*

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	966	21,040	862	12,186	4,314	1,500	15,236	6,053	62,157
Diphtheria, tetanus, pertussis (%)	95.2	95.6	97.0	95.5	96.1	95.3	95.9	94.7	95.6
Poliomyelitis (%)	94.2	94.5	96.8	94.7	95.3	96.3	95.1	93.8	94.7
Haemophilus influenzae type b (%)	91.2	92.7	94.2	93.7	94.2	94.6	93.9	91.9	93.3
Measles, mumps, rubella (%)	90.9	92.7	95.6	93.9	94.2	95.0	94.1	92.2	93.4
Hepatitis B(%)	94.8	95.1	98.0	95.3	96.0	97.1	96.1	94.5	95.5
Fully immunised (%)†	88.4	90.8	93.7	92.0	92.7	92.1	92.4	90.3	91.5
Change in fully immunised since last quarter (%)	-0.6	-0.0	+0.1	-0.5	-0.1	-2.3	+0.3	+0.5	-0.1

* The 12 months age data for this cohort was published in *Commun Dis Intell* 2003;27:302.

† 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 12. Percentage of children immunised at 6 years of age, preliminary results by disease and state or territory for the birth cohort 1 October to 31 December 1997; assessment date 31 March 2004*

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,032	22,306	795	12,782	4,655	1,558	16,144	6,395	65,667
Diphtheria, tetanus, pertussis (%)	86.1	85.3	81.8	84.5	84.8	86.3	87.2	81.5	85.2
Poliomyelitis (%)	86.1	85.3	83.0	84.5	85.3	86.2	87.2	81.6	85.3
Measles, mumps, rubella (%)	85.5	84.2	82.8	84.1	84.6	85.2	87.2	81.2	84.7
Fully immunised (%)[1]	84.1	83.2	80.0	83.0	83.3	84.1	85.9	79.6	83.5
Change in fully immunised since last quarter (%)	-0.6	+0.2	-2.4	-0.6	-0.3	-0.9	-0.3	-0.6	-0.2

* 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.

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 *2004;28:100.*

Reporting period 1 January to 31 March 2004

The AGSP laboratories received a total of 993 isolates in this quarter of which 915 underwent susceptibility testing. The total received numbered slightly less than the 1,051 isolated or referred in 2003. About 32 per cent of this total was from New South Wales, 28 per cent from Victoria, 13.5 per cent from Queensland, 11.9 per cent from the Northern Territory and 8.9 per cent from Western Australia. About five per cent of all isolates were from South Australia, but susceptibility data are not yet available from that centre. Isolates from other centres were few. Where comparisons of data in this quarter were made with those from the same period in 2003, South Australian data were excluded from both sets of data.

Penicillins

Figure 13 shows the proportions of gonococci fully sensitive (MIC ≤ 0.03 mg/L), less sensitive (MIC 0.06 – 0.5 mg/L), relatively resistant (MIC ≥ 1 mg/L) or else penicillinase producing (PPNG) aggregated for Australia and by state or territory. A high proportion of those strains classified as PPNG or else resistant by chromosomal mechanisms fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

In this quarter 20.9 per cent of all isolates examined were penicillin resistant by one or more mechanisms—nine per cent PPNG and 11.9 per cent by chromosomal mechanisms (CMRNG). The number of PPNG increased to 82 from the 67 seen in the same period in 2003, as did the number of CMRNG to 109 from 99. The proportion of all strains resistant to the penicillins by any mechanism ranged from 2.7 per cent in the Northern Territory to 33 per cent in Victoria.

The highest proportion of PPNG was found in Western Australia where the 17 PPNG accounted for 20 per cent of all isolates. Thirty-four PPNG, representing 10.8 per cent of all isolates, were found in New South Wales, 20 (7.3%) in Victoria and eight (6%) in Queensland. Three PPNG were found in the Northern Territory. More isolates were resistant to the penicillins by separate chromosomal mechanisms and CMRNG were especially prominent in Victoria (72 isolates, 26% of all gonococci tested). Twenty-two CMRNG were present in New South Wales (7% of NSW isolates), seven in Queensland and eight in Western Australia. No CMRNG were detected in the Northern Territory.

Ceftriaxone

Two isolates with decreased susceptibility to ceftriaxone were detected in New South Wales.

Spectinomycin

All isolates were susceptible to this injectable agent.

Figure 13. Categorisation of gonococci isolated in Australia, 1 January to 31 March 2004, 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.*

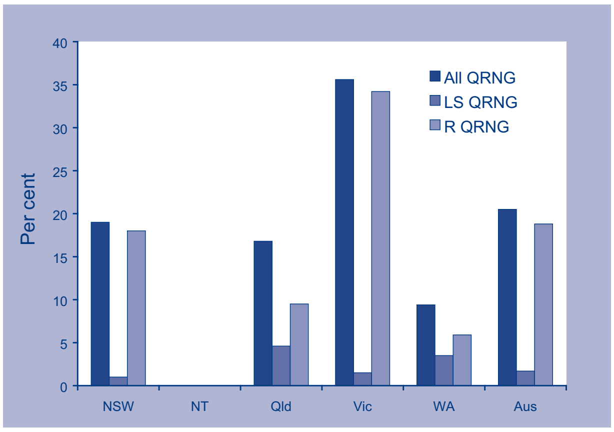
Quinolone antibiotics

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

The total number (188) and proportion (20.5%) of all QRNG were both substantially higher than the corresponding figures in the first quarter of 2003 (108 isolates,11.5%). The majority of QRNG (172 of 188, 91%) exhibited higher-level resistance.

QRNG were again widely distributed. The highest number (94) and proportion (36%) were found in Victoria. In New South Wales there were 60 QRNG (19% of isolates), in Queensland 16 (12%) and in Western Australia 8 (9)% (Figure 14). No QRNG detected in the Northern Territory.

Figure 14. The distribution of quinolone resistant isolates of *Neisseria gonorrhoeae* in Australia, 1 January to 31 March 2004, by jurisdiction



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L.

R QRNG Ciprofloxacin MICs ≥1 mg/L.

High level tetracycline resistance

The number (107) and proportion (11.7%) of high level tetracycline resistance (TRNG) detected decreased somewhat from the 2003 figures. TRNG represented between 10 per cent (Victoria and Queensland) and 26 per cent of isolates Western Australia. Two TRNG were 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.

Meningococcal surveillance

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

The reference laboratories of the Australian Meningococcal Surveillance Programme report data on the number of laboratory confirmed cases confirmed either by culture or by non-culture based techniques. Culture positive cases, where a Neisseria meningitidis is grown from a normally sterile site or skin, and non-culture based diagnoses, derived from results of nucleic acid amplification assays and serological techniques, are defined as invasive meningococcal disease (IMD) according to Public Health Laboratory Network definitions. Data contained in the quarterly reports are restricted to a description of the number of cases per jurisdiction, and serogroup, where known. A full analysis of laboratory confirmed cases of IMD is contained in the annual reports of the Programme, published in Communicable Diseases Intelligence.

Laboratory confirmed cases of invasive meningococcal disease for the period 1 January to 31 March 2004, are included in this issue of Communicable Diseases Intelligence *(Table 6).*

Table 6. Number of laboratory confirmed cases of invasive meningococcal disease, Australia, 1 January to 31 March 2004, by jurisdiction and serogroup

Jurisdiction	Serogroup					
	B	C	Y	W135	ND	All
Australian Capital Territory	0 (1)	2				2 (1)
New South Wales	19 (11)	5 (7)	1 (2)	1	5 (4)	31 (24)
Northern Territory	3 (1)					3 (1)
Queensland	12 (9)	7 (7)			2 (2)	21 (18)
South Australia	4 (4)	0 (1)				4 (5)
Tasmania	2	0 (1)			2 (1)	4 (2)
Victoria	9 (5)	4 (13)	2		1 (3)	16 (21)
Western Australia	4 (6)	1 (2)				5 (8)
Australia	53 (37)	19 (31)	3 (2)	1 (0)	10 (10)	86 (80)

ND Not diagnosed.

Numbers in parentheses are the laboratory confirmed diagnoses of invasive meningococcal disease made in the same period in 2003.

Australian Paediatric Surveillance Unit

The Australian Paediatric Surveillance Unit (APSU) conducts nationally based active surveillance of rare diseases of childhood, including specified communicable diseases and complications of rare communicable diseases in children. The primary objectives of the APSU are to document the number of Australian children under 15 years newly diagnosed with specified conditions, their geographic distribution, clinical features, current management and outcome.

Contributors to the APSU are clinicians known to be working in paediatrics and child health in Australia. In 2002, over 1,000 clinicians participated in the surveillance of 14 conditions through the APSU, with an overall response rate of 96 per cent. The APSU can be contacted by telephone: +61 2 9845 2200, email: apsu@chw.edu.au. For more information see Commun Dis Intell *2004;28:101.*

The results for the period 1 January to 31 December 2003 are shown in Table 7.

Table 7. Confirmed cases of communicable diseases reported to the Australian Paediatric Surveillance Unit between 1 January and 31 December 2003*

Condition	Previous reporting period Jan–Dec 2002	Current reporting period Jan–Dec 2003*
Acute flaccid paralysis	30	15
Congenital cytomegalovirus		
confirmed (< 3 weeks of age)	9	6
suspected (3–52 weeks of age)	8	3
Congenital rubella	3†	3
Perinatal exposure to HIV	25	14
HIV infection		1‡
Neonatal herpes simplex virus infection	11	8
Hepatitis C virus infection	commenced 2003	11

* Surveillance data are provisional and subject to revision

† Two imported cases i.e. children born to mothers who had rubella in Indonesia. One child was born in Indonesia, one child born in Australia. The third infant was born in Victoria in 2001, but was not notified to the APSU until 2002. The parents were Fijian, it is not known where the mother acquired her infection.

‡ HIV infection through heterosexual contact

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/nchecr. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. For more information see Commun Dis Intell *2004;28:99.*

HIV and AIDS diagnoses and deaths following AIDS reported for 1 October to 31 December 2003, as reported to 31 March 2004, are included in this issue of Communicable Diseases Intelligence *(Tables 8 and 9).*

Table 8. New diagnoses of HIV infection, new diagnoses of AIDS, and deaths following AIDS occurring in the period 1 October to 31 December 2003, by sex and state or territory of diagnoses

	Sex	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	8	0	5	2	0	4	1	20	26	84	89
	Male	0	79	1	25	12	0	47	7	171	213	758	744
	Sex not reported	0	4	0	0	0	0	0	0	4	0	1	5
	Total[1]	0	91	1	30	14	0	51	8	195	240	853	839
AIDS diagnoses	Female	0	0	0	0	0	0	1	0	1	3	9	16
	Male	0	23	2	4	1	0	13	1	44	45	175	195
	Total[1]	0	23	2	4	1	0	14	1	45	48	185	212
AIDS deaths	Female	0	0	0	0	0	0	1	0	1	3	8	7
	Male	1	11	0	3	1	0	3	1	20	22	71	75
	Total	1	11	0	3	1	3	4	1	21	25	79	82

1. Totals include people whose sex was reported as transgender.

Table 9. Cumulative diagnoses of HIV infection, AIDS, and deaths following AIDS since the introduction of HIV antibody testing to 31 December 2003 and reported by 31 March 2004, by sex and state or territory

	Sex	State or territory								
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
HIV diagnoses	Female	29	723	15	209	80	7	291	159	1,513
	Male	243	12,335	120	2,363	796	85	4,645	1,055	21,642
	Not reported	0	240	0	0	0	0	22	0	262
	Total[1]	272	13,325	135	2,580	876	92	4,976	1,221	23,477
AIDS diagnoses	Female	10	216	1	56	30	4	89	34	440
	Male	93	5,024	41	941	380	47	1,817	403	8,746
	Total[1]	103	5,255	42	999	410	51	1,916	439	9,215
AIDS deaths	Female	6	127	0	38	20	2	58	22	273
	Male	72	3,429	26	617	256	31	1,343	276	6,050
	Total[1]	78	3,565	26	657	276	33	1,409	299	6,343

1. Totals include people whose sex was reported as transgender.

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 *NEPSS 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.*

Interpret historical quarterly mean counts cautiously – these may be affected by outbreaks and surveillance artefacts such as newly recognised 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.

Reports to the National Enteric Pathogens Surveillance System of Salmonella infection for the period 1 January to 31 March 2004 are included in Tables 13 and 14. Data include cases reported and entered by 28 April 2004. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS. For more information see Commun Dis Intell *2004;28:101–102.*

1 January to 31 March 2004

The total number of reports to NEPSS of human *Salmonella* infection increased to 2,703 in the first quarter of 2004, more than double the count in the fourth quarter of 2003, and 10 per cent more than in the comparable first quarter of 2003. The incidence of human salmonellosis typically peaks in the first few months of each year. Case counts to 28 April 2004 are approximately 95 per cent of the expected final counts for the quarter.

During the first quarter of 2004, the 25 most common *Salmonella* types in Australia accounted for 1,857 cases, 69 per cent of all reported human *Salmonella* infections.

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

Among the most common salmonellae in the nation, there were typical widespread seasonal increases in counts of *S*. Typhimurium phage type 135 and *S*. Typhimurium phage type 9.

S. Typhimurium phage type 170 (and the similar *S*. Typhimurium phage type 108) were uncommon before emerging as a common human pathogen during 2000 and 2001, and are now among the most common salmonellae in New South Wales, Victoria and South Australia.

Reports of *S*. Typhimurium phage type 197 and *S*. Typhimurium phage type U290 increased markedly during 2002, particularly in the south-eastern states, and remain elevated.

Reports of other common salmonellae with counts exceeding historical averages include *S*. Typhimurium phage type 12 (particularly in New South Wales), and *S*. Virchow phage type 8 and *S*. Hvittingfoss (both in Queensland).

Acknowledgement

We thank scientists, diagnostic and reference laboratories, State and Territory health departments, and the Australian Government Department of Health and Ageing for their contributions to NEPSS.

Table 13. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 January to 31 March 2004, as reported to 28 April 2004

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total all *Salmonella* for quarter	28	796	110	1,088	128	47	319	187	2,703
Total contributing *Salmonella* types	17	121	41	114	47	13	84	69	225

Table 14. Top 25 *Salmonella* types identified in Australia, 1 January to 31 March 2004, by state or territory

National rank	*Salmonella* type	State or territory								Total 1st quarter 2004	Last 10 years mean 1st quarter	Year to date 2004	Year to date 2003
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	*S.* Typhimurium 135	4	80	2	59	5	0	18	32	200	229	200	407
2	*S.* Typhimurium 170	5	117	2	16	0	1	55	0	196	57	196	205
3	*S.* Typhimurium 9	3	48	0	30	7	1	53	2	144	177	144	128
4	*S.* Typhimurium 12	1	113	0	19	3	0	3	1	140	13	140	42
5	*S.* Virchow 8	0	12	1	109	0	2	15	0	139	71	139	69
6	*S.* Saintpaul	0	9	10	90	5	0	5	10	129	122	129	124
7	*S.* Birkenhead	1	19	0	85	0	0	1	0	106	92	106	81
8	*S.* Typhimurium 197	1	14	0	58	0	0	13	0	86	9	86	79
9	*S.* Chester	1	14	5	41	4	0	5	8	78	63	78	113
10	*S.* Hvittingfoss	0	8	0	53	1	0	1	3	66	25	66	34
11	*S.* Waycross	0	12	0	49	0	0	0	0	61	40	61	30
12	*S.* Typhimurium U290	1	29	0	5	1	1	13	3	53	7	53	36
13	*S.* Infantis	3	24	2	5	3	0	11	3	51	48	51	71
14	*S.* Anatum	0	7	3	26	2	0	2	5	45	31	45	33
15	*S.* Muenchen	0	4	8	19	0	1	1	9	42	58	42	61
16	*S.* Mississippi	0	1	1	2	1	34	3	0	42	35	42	40
17	*S.* Singapore	1	12	1	15	9	0	0	1	39	20	39	29
18	*S.* Typhimurium 108	0	10	5	0	24	0	0	0	39	6	39	16
19	*S.* Aberdeen	0	0	0	34	0	0	0	0	34	38	34	35
20	*S.* Typhimurium 126	0	6	0	7	1	0	12	5	31	31	31	24
21	*S.* Agona	0	9	1	14	0	0	4	3	31	19	31	20
22	*S.* Typhimurium 4	0	24	0	1	0	0	4	0	29	20	29	25
23	*S.* Potsdam	0	5	1	14	1	1	3	1	26	21	26	22
24	*S.* Typhimurium RDNC	0	6	0	11	4	1	1	2	25	36	25	18
25	*S.* Havana	0	5	6	0	6	0	1	7	25	18	25	21