Communicable diseases surveillance

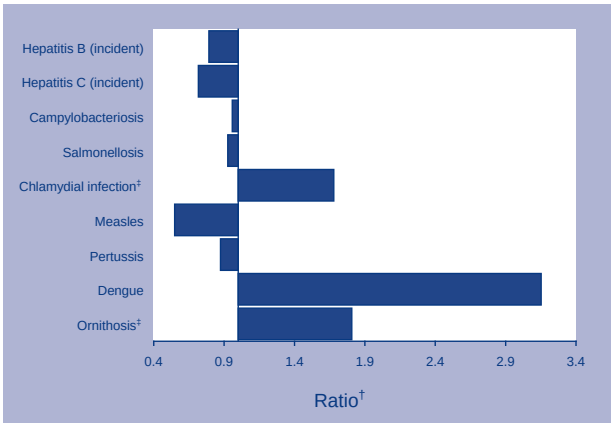
Highlights for 4th quarter, 2003

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 fourth quarter of 2003, compared with the 5-year mean of the same period. Disease notifications outside the 5-year mean plus or minus two standard deviations are marked. During the fourth quarter of 2003, notifications of chlamydial infection and ornithosis were above the 5-year mean plus two standard deviations. Chlamydial infection notifications have continued to increase for four consecutive quarters in 2003. Notifications for dengue were above the 5-year mean of the fourth quarter but were not significantly above historical levels. Notifications of incident hepatitis B, hepatitis C, campylobacteriosis, salmonellosis, measles and pertussis in the fourth quarter, were below the 5-year average (Figure 1).

Figure 1. Selected* diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 October to 31 December 2003 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

Gastrointestinal diseases

Salmonellosis

Salmonellosis notifications increased after the seasonal low in the third quarter of 2003. In the fourth quarter there were 1,551 cases of salmonellosis notified, an increase of 46 per cent from the third quarter. However, the number of notified cases was less than for the same quarter of 2002 and the year to date notifications were less than the mean of the last five years (Table 1).

Campylobacteriosis

There were 3,928 notifications of campylobacteriosis cases with onset in the fourth quarter of 2003. This represents a seasonal increase of notifications of 13 per cent during this quarter compared to the third quarter, however, compared to the 5-year mean there was a decrease of four per cent.

Vaccine preventable diseases

Measles

There were 17 cases of measles with onset in the fourth quarter reported to NNDSS. Of these 11 cases were notified in South Australia and two each in New South Wales, Queensland, and Victoria. For the fourth consecutive quarter there were no cases of measles reported from Tasmania, the Australian Capital Territory or Western Australia.

The 11 cases notified in South Australia were linked to an outbreak that started in Adelaide on 31 August 2003. The last case linked to this outbreak which affected 22 persons, was reported in mid-October 2003. The index case in this outbreak had a travel history to New Zealand prior to the onset of illness. Of these 11 cases, two were fully vaccinated, two partially vaccinated one of unknown vaccination status and the remaining six cases were not vaccinated.

There were also two cases linked to this outbreak reported from other jurisdictions—one in Victoria and the other in New South Wales.

Of the two measles cases reported in Queensland, one was linked to an earlier outbreak in the Whitsunday Islands, reported in the third quarter of 2003 and the other was acquired in Bali.

Pertussis

There were 1,629 cases of pertussis notified in the fourth quarter of 2003, a notification rate of 33 cases per 100,000 population. The number of notifications increased by five per cent from the previous quarter, however, compared to the same quarter of 2002 and to the year-to-date mean for last five years, it was lower by 13 per cent and 20 per cent, respectively.

Notifications of pertussis increased in the fourth quarter compared with the third quarter, in Tasmania (102 cases compared with 34) and Western Australia (144 cases compared with 29 cases). Notifications decreased in the fourth quarter compared with the third quarter, in the Australian Capital Territory (108 compared with 180) and South Australia (42 compared with 52 cases). There was no significant change in notifications of pertussis in the remaining jurisdictions.

Vectorborne diseases

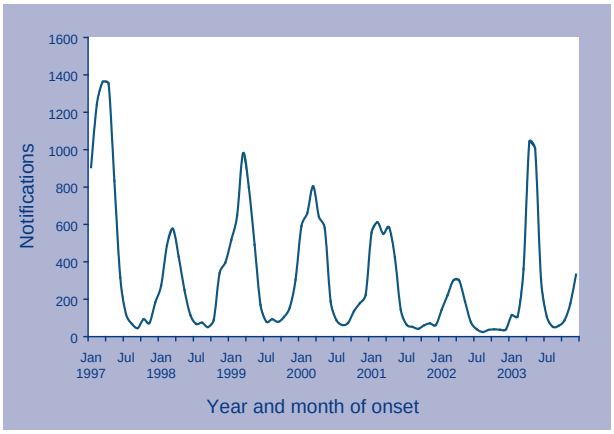
Dengue

There were 203 cases of dengue notified during the fourth quarter, a notification rate of four cases per 100,000 population. This represents a sixfold increase compared to the previous quarter. In Queensland, where 87 per cent (180/203) of notified cases occurred, two outbreaks of Dengue Type 2 were reported. The first outbreak started on Yam Island, Torres Strait, at the end of the third quarter 2003. This outbreak affected 98 persons and is now reported to be under control. The second outbreak on Thursday Island began in November 2003. This outbreak which has so far affected 100 persons is reported to have spread from Yam Island.

There have also been small clusters of cases of Dengue Type 2 cases in Cairns and Townsville. In Cairns, one recent case appeared to be locally acquired, although all others were imported cases. In Townsville, there was evidence of local transmission which was limited to two suburbs.

Overall, dengue notifications for 2003 peaked in the second quarter (Figure 2). Whether the increase in the number of notifications in the fourth quarter signals an early start for the dengue season remains to be seen. In the meantime, mosquito control and community education continues in the affected areas.

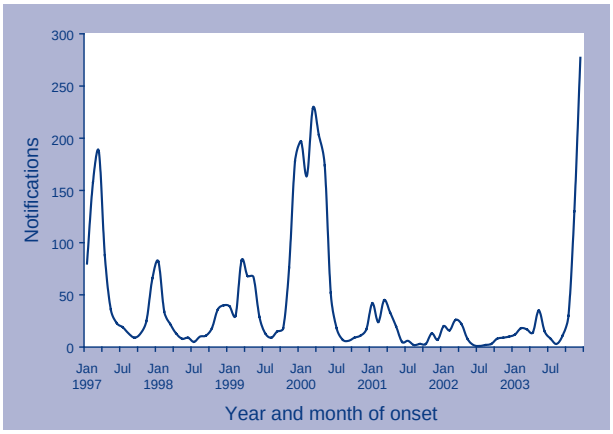
Figure 2. Notifications of dengue Australia, 1997 to 2003, by month of onset



Ross River virus

There were 478 cases of Ross River virus infection notified in the fourth quarter of 2003, a notification rate of 10 cases per 100,000 population. The number of notifications represents a 120 per cent increase on the previous quarter. This increase was accounted for by a large number of notifications (n=327) of Ross River virus infection in Western Australia (68% of all notified cases). Most of these notifications were from the south-west of the state. This area also experienced a large outbreak in the summer of 1998–99 with 650 cases notified.[1] Western Australia has also reported higher than usual notifications of Ross River virus in 1997 and 2000 (Figure 3). Notifications usually increase from the end of the fourth quarter well into the first quarter of the following year, depending on the breeding conditions for the vector mosquitoes. In 2003, notifications in Western Australia have already exceeded the number in the peak of notifications in 2000 and may continue to increase during the first quarter of 2004.

Figure 3. Notifications of Ross River virus infections. Western Australia, 1997 to 2003, by month of onset



Zoonoses

Ornithosis

There were 66 notifications of ornithosis in the fourth quarter 2003, which was a significant increase compared with historical data for this quarter (Figure 1). Most cases were reported from Victoria (33 cases) or New South Wales (24 cases).

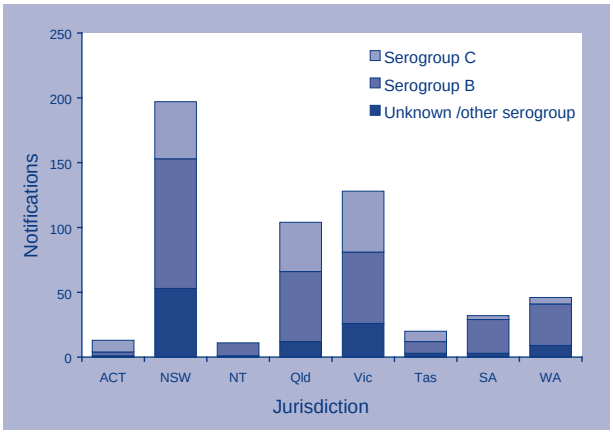
Other bacterial infections

Meningococcal infections

There were 144 cases of meningococcal infection notified in the fourth quarter of 2003, a notification rate of 2.9 cases per 100,000 population. This was a 30 per cent decrease on the previous quarter (206 cases). This decrease was expected as the disease activity traditionally peaks in spring. For the year to date, 545 cases of meningococcal disease have been reported overall: a decrease of 20 per cent compared with 2002 and 10 per cent lower than the 5-year average.

In 2003, serogroup B was the predominant meningococcal serogroup in all jurisdictions except in the Australian Capital Territory, where serogroup C was three times more common than serogroup B (Figure 4). In Victoria and Tasmania, in contrast to previous years, there were more reports of serogroup B disease than serogroup C. Nationally, the serogroup C to B ratio increased from 1:1.3 in 2002 to 1:2 in 2003. The proportion of serogroup B within the total notifications, increased from 39 per cent in 2002 to 53 per cent in 2003. Serogroup C notifications decreased from 30 per cent of total notified cases in 2002 to 28 per cent in 2003.

Figure 4. Notifications of meningococcal infections, Australia, 2002 and 2003, by jurisdiction and serogroup



* Notifications and deaths from unknown or other serogroups are not included.

There was also a decrease in the number of 'other' or 'unknown' serogroups from 33 per cent in 2002 to 19 per cent in 2003.

In 2003, serogroup C infections accounted for 56 per cent of meningococcal deaths (n=18) and serogroup B infections for 28 per cent of deaths (n=9).

References

1. Condon R. Epidemiology and acute symptomatology of epidemic polyarthritis in Western Australia, 1988–89. *Commun Dis Intell* 1991;15:442-446.

Tables

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 25,857 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 October and 31 December 2003 (Table 2). The notification rate of diseases per 100,000 population for each State or Territory is presented in Table 3.

There were 4,692 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 October to 31 December 2003 (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
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
Viral haemorrhagic fever	All jurisdictions
Yellow fever	All jurisdictions
Sexually transmissible infections	
Chlamydial infection	All jurisdictions
Donovanosis	All jurisdictions
Gonococcal infection	All jurisdictions
Syphilis	All jurisdictions

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

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	
Arbovirus infection NEC	All jurisdictions
Barmah Forest virus infection	All jurisdictions
Dengue	All jurisdictions
Japanese encephalitis	All jurisdictions
Kunjin	All jurisdictions except ACT*
Malaria	All jurisdictions
Murray Valley encephalitis	All jurisdictions 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	
Legionellosis	All jurisdictions
Leprosy	All jurisdictions
Meningococcal infection	All jurisdictions
Tuberculosis	All jurisdictions

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 October to 31 December 2003, by date of notification*

Disease	State or territory								Total 4th quarter 2003[1]	Total 3rd quarter 2003	Total 4th quarter 2002	Last 5 years mean 4th quarter	Year to date 2003	Last 5 years YTD mean	Ratio†
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Bloodborne diseases															
Hepatitis B (incident)	0	14	5	9	2	0	26	8	64	91	75	81	350	361	0.8
Hepatitis B (unspecified)	13	625	NN	227	62	46	427	88	1,488	1,644	1,644	1,865	6,468	7,393	0.8
Hepatitis C (incident)	4	6	NN	NN	23	2	21	29	85	131	95	119	461	452	0.7
Hepatitis C (unspecified)	62	1,726	59	670	138	128	862	311	3,956	4,181	3,739	4,392	15,907	18,378	0.9
Hepatitis D	0	4	0	0	0	0	2	0	6	10	2	6	27	19	1.0
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	0	0	0	0	0	0	0	0	1	2	0.0
Campylobacteriosis[2]	124	NN	26	870	487	352	1,550	519	3,928	3,482	4,256	4,102	15,723	14,064	1.0
Cryptosporidiosis‡	1	58	11	20	12	18	38	34	192	201	302	341	1,226	2,406	0.6
Haemolytic uraemic syndrome	0	3	0	0	1	0	2	0	6	3	3	5	16	14	1.3
Hepatitis A	2	41	6	4	3	2	4	25	87	93	84	218	416	1,155	0.4
Hepatitis E	0	0	0	0	0	0	0	0	0	5	1	1	8	9	0.0
Listeriosis	1	6	0	2	0	0	4	3	16	13	14	14	70	61	1.1
Salmonellosis	13	405	60	551	101	52	257	112	1,551	1,060	1,775	1,675	7,087	7,129	0.9
Shigellosis	0	13	20	6	6	2	8	26	81	97	108	123	437	538	0.7
SLTEC,VTEC[3]	0	0	0	0	7	0	0	0	7	9	11	11	47	42	0.6
Typhoid	0	7	0	2	0	0	2	1	12	13	14	14	51	68	0.8
Quarantinable diseases															
Cholera	0	0	0	0	0	0	0	0	0	0	1	0	1	3	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 2. Notifications of diseases received by State and Territory health authorities in the period 1 October to 31 December 2003, by date of notification,* *continued*

Disease	State or territory								Total 4th quarter 2003	Total 3rd quarter 2003	Total 4th quarter 2002	Last 5 years mean 4th quarter	Year to date 2003	Last 5 years YTD mean	Ratio[†]
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Sexually transmissible diseases															
Chlamydial (NEC)	140	1,964	334	1,809	425	280	1,427	918	7,297	7,875	5,958	4,345	30,232	17,307	1.7
Donovanosis	0	0	1	0	0	0	0	0	1	3	3	4	14	22	0.3
Gonococcal infection[4]	4	255	250	244	58	18	188	375	1,392	1,614	1,494	1,385	6,480	5,860	1.0
Syphilis	3	264	47	78	5	8	74	31	510	512	471	419	2,061	1,757	1.2
Syphilis - congenital	0	0	0	0	0	0	0	0	0	0	2	2	11	9	0.9
Vaccine preventable disease															
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Haemophilus influenzae type b	0	1	2	0	0	0	0	1	4	7	4	7	22	31	0.6
Influenza (laboratory confirmed)[‡]	0	57	31	72	19	0	14	62	255	3,123	197	194	3,610	2,480	1.3
Measles	0	2	0	2	11	0	2	0	17	25	3	31	91	161	0.5
Mumps	1	12	0	2	3	0	2	7	27	16	13	29	76	153	0.9
Pertussis	108	871	1	164	42	144	197	102	1,629	1,556	1,412	1,863	4,970	6,177	0.9
Pneumococcal disease (invasive)[‡]	6	180	15	110	39	26	106	38	520	830	524	460	2,219	1,980	1.1
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rubella	0	2	0	1	0	0	0	0	3	7	66	99	56	393	0.0
Rubella - congenital	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0
Tetanus	0	0	0	0	0	0	0	0	0	1	0	1	3	4	0.0
Vectorborne diseases															
Arbovirus infection NEC	0	2	0	23	0	0	2	0	27	20	5	9	85	52	2.9
Barmah Forest virus infection	0	55	1	89	1	0	1	5	152	167	139	136	1,358	767	1.1
Dengue	2	8	5	180	3	2	3	0	203	34	33	64	844	266	3.2
Japanese encephalitis[‡]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Kunjin virus[‡]	0	0	0	2	0	0	0	0	2	0	0	0	19	4	0.0
Malaria	0	28	3	59	8	28	11	16	153	136	106	144	635	703	1.1
Murray Valley encephalitis[‡]	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.0
Ross River virus infection	1	39	5	87	8	4	7	327	478	217	118	444	3,632	3,289	1.1

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 October to 31 December 2003, by date of notification,* *continued*

Disease	State or territory								Total 4th quarter 2003	Total 3rd quarter 2003	Total 4th quarter 2002	Last 5 years mean 4th quarter	Year to date 2003	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	2	0	0	0	0	2	4	11	11	17	37	0.2
Leptospirosis	0	3	2	9	1	0	4	2	21	27	23	51	122	232	0.4
Other lyssavirus (NEC)‡	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Ornithosis	0	24	0	0	1	0	33	2	60	66	22	33	198	120	1.8
Q fever	0	46	0	45	3	0	1	7	102	86	186	154	516	617	0.7
Other bacterial infections															
Legionellosis	0	11	1	7	25	0	16	29	89	61	86	79	322	322	1.1
Leprosy	0	0	0	0	0	0	0	0	0	0	0	1	4	4	0.0
Meningococcal infection	8	48	1	24	12	8	32	11	144	206	154	144	545	610	1.0
Tuberculosis	2	73	3	14	2	2	94	12	202	243	203	248	852	1,014	0.8
Total	495	6,853	889	5,384	1,508	1,122	5,417	3,101	25,857	27,869	23,357	12,673	107,291	93,526	2.1

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.

Table 3. Notification rates of diseases by state or territory, 1 October to 31 December 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	0.8	10.1	1.0	0.5	0.0	2.1	1.7	1.3
Hepatitis B (unspecified)[†,‡]	16.1	37.6	NN	24.3	16.3	38.9	34.9	18.2	30.5
Hepatitis C (incident)	5.0	0.4	NN	NN	6.0	1.7	1.7	6.0	2.2
Hepatitis C (unspecified)	77.0	103.7	119.4	71.9	36.3	108.2	70.5	64.3	80.2
Hepatitis D	0.0	0.2	0.0	0.0	0.0	0.0	0.2	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]	153.9	NN	52.6	93.3	127.9	297.4	126.8	107.3	120.2
Cryptosporidiosis	1.2	3.5	22.3	2.1	3.2	15.2	3.1	7.0	3.9
Haemolytic uraemic syndrome	0.0	0.2	0.0	0.0	0.3	0.0	0.2	0.0	0.1
Hepatitis A	2.5	2.5	12.1	0.4	0.8	1.7	0.3	5.2	1.8
Hepatitis E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Listeriosis	1.2	0.4	0.0	0.2	0.0	0.0	0.3	0.6	0.3
Salmonellosis	16.1	24.3	121.4	59.1	26.5	43.9	21.0	23.2	31.4
Shigellosis	0.0	0.8	40.5	0.6	1.6	1.7	0.7	5.4	1.6
SLTEC,VTEC[3]	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.1
Typhoid	0.0	0.4	0.0	0.2	0.0	0.0	0.2	0.2	0.2
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 diseases									
Chlamydial infection	173.8	118.0	675.8	194.0	111.7	236.6	116.8	189.8	148.0
Donovanosis	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Gonococcal infection[4]	5.0	15.3	505.8	26.2	15.2	15.2	15.4	77.5	28.2
Syphilis	3.7	15.9	95.1	8.4	1.3	6.8	6.1	6.4	10.3
Syphilis - congenital	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	4.0	0.0	0.0	0.0	0.0	0.2	0.1
Influenza (laboratory confirmed)	0.0	3.4	62.7	7.7	5.0	0.0	1.1	12.8	5.2
Measles	0.0	0.1	0.0	0.2	2.9	0.0	0.2	0.0	0.3
Mumps	1.2	0.7	0.0	0.2	0.8	0.0	0.2	1.4	0.5
Pertussis	134.1	52.3	2.0	17.6	11.0	121.7	16.1	21.1	33.0
Pneumococcal disease	7.4	10.8	30.3	11.8	10.2	22.0	8.7	7.9	10.5
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rubella	0.0	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0

Table 3. Notification rates of diseases by state or territory, 1 October to 31 December 2003. (Rate per 100,000 population), *continued*

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	2.5	0.0	0.0	0.2	0.0	0.5
Barmah Forest virus infection	0.0	3.3	2.0	9.5	0.3	0.0	0.1	1.0	3.1
Dengue	2.5	0.5	10.1	19.3	0.8	1.7	0.2	0.0	4.1
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	0.2	0.0	0.0	0.0	0.0	0.0
Malaria	0.0	1.7	6.1	6.3	2.1	23.7	0.9	3.3	3.1
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	1.2	2.3	10.1	9.3	2.1	3.4	0.6	67.6	9.7
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	0.2	0.0	0.0	0.0	0.0	0.0
Leptospirosis	0.0	0.2	4.0	1.0	0.3	0.0	0.3	0.4	0.4
Other lyssavirus (NEC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ornithosis	0.0	1.4	0.0	0.0	0.3	0.0	2.7	0.4	1.2
Q fever	0.0	2.8	0.0	4.8	0.8	0.0	0.1	1.4	2.1
Other bacterial infections									
Legionellosis	0.0	0.7	2.0	0.8	6.6	0.0	1.3	6.0	1.8
Leprosy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningococcal infection	9.9	2.9	2.0	2.6	3.2	6.8	2.6	2.3	2.9
Tuberculosis	2.5	4.4	6.1	1.5	0.5	1.7	7.7	2.5	4.1

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 *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 October to 31 December 2003, and total reports for the year[2]

	State or territory								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	18	-	1	-	21	1	71	16
Mumps virus	-	-	-	-	1	-	-	2	3	3	10	16
Rubella virus	-	-	-	3	1	-	2	1	7	12	26	92
Hepatitis virus												
Hepatitis A virus	-	1	3	-	2	-	2	15	23	17	87	71
Hepatitis D virus	-	-	-	-	1	-	-	3	4	1	19	7
Arboviruses												
Ross River virus	-	2	2	21	3	-	2	21	51	46	1,234	423
Barmah Forest virus	-	5	-	27	-	-	-	1	33	32	408	203
Dengue not typed	-	-	3	-	-	-	-	1	4	8	31	163
Flavivirus (unspecified)	-	-	1	9	-	-	4	-	14	6	122	43
Adenoviruses												
Adenovirus type 40	-	-	-	-	-	-	-	4	4	18	32	48
Adenovirus not typed/ pending	-	43	3	19	52	-	3	22	142	322	894	1,013
Herpesviruses												
Cytomegalovirus	3	51	3	17	33	-	8	2	117	275	819	1,124
Varicella-zoster virus	1	32	4	226	70	-	8	88	429	392	1,691	1,726
Epstein-Barr virus	-	18	23	171	136	-	12	48	408	482	1,716	1,798
Other DNA viruses												
Molluscum contagiosum	-	-	-	-	-	-	-	4	4	8	15	26
Contagious pustular dermatitis (Orf virus)	-	-	-	-	-	-	-	1	1	1	4	3
Parvovirus	1	2	-	37	1	-	15	34	90	73	258	324
Picornavirus family												
Coxsackievirus A9	-	1	-	-	-	-	-	-	1	-	23	2
Coxsackievirus A16	-	1	-	-	-	-	1	-	2	1	11	4
Echovirus type 6	-	1	-	-	-	-	-	-	1	3	9	63
Poliovirus type 1 (uncharacterised)	-	2	-	-	-	-	-	-	2	15	34	37
Poliovirus type 2 (uncharacterised)	-	2	-	-	-	-	-	-	2	6	11	18
Poliovirus type 3 (uncharacterised)	-	2	-	-	-	-	-	-	2	2	6	6
Rhinovirus (all types)	-	64	-	1	1	-	-	58	124	193	513	543
Enterovirus not typed/ pending	-	1	1	3	1	-	2	22	30	165	156	571
Ortho/paramyxoviruses												
Influenza A virus	-	2	6	10	113	-	6	66	203	144	1,949	1,809
Influenza B virus	-	1	-	-	17	-	-	3	21	51	118	547
Parainfluenza virus type 1	-	6	-	-	1	-	-	1	8	32	41	291
Parainfluenza virus type 2	-	-	-	-	-	-	-	1	1	10	67	79
Parainfluenza virus type 3	-	49	-	3	91	-	3	49	195	250	600	606
Respiratory syncytial virus	-	39	-	27	50	3	3	37	159	184	1,734	2,955
Other RNA viruses												
HTLV-1	-	-	-	-	-	-	-	1	1	4	11	7
Rotavirus	1	163	-	1	418	-	27	57	667	615	1,236	1,985
Calicivirus	-	-	5	-	-	-	-	66	71	14	174	22
Norwalk agent	-	1	-	-	-	-	97	-	98	281	189	537

Table 4. Virology and serology laboratory reports by state or territory[1] for the reporting period 1 October to 31 December 2003, and total reports for the year,[2] *continued*

	State or territory								This period 2003	This period 2002	Year to date 2003[3]	Year to date 2002
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Other												
Chlamydia trachomatis not typed	1	96	-	353	184	-	10	234	878	954	4,278	3,874
Chlamydia pneumoniae	-	-	-	-	-	-	-	4	4	17	15	32
Chlamydia psittaci	-	-	-	-	1	-	29	1	31	16	118	62
Chlamydia spp typing pending	-	-	-	-	-	-	1	-	1	-	1	5
Mycoplasma pneumoniae	-	25	3	74	76	-	54	8	240	237	1,143	1,234
Coxiella burnetii (Q fever)	-	2	-	16	12	-	4	2	36	59	177	251
Rickettsia prowazeki	-	-	-	-	-	-	-	1	1	-	3	-
Rickettsia tsutsugamushi	-	-	-	-	-	-	1	1	2	-	4	-
Rickettsia - Spotted fever group	-	-	1	-	-	-	1	-	2	1	2	1
Streptococcus group A	-	2	-	77	-	-	49	-	128	102	490	526
Yersinia enterocolitica	-	3	-	-	-	-	-	-	3	1	12	9
Brucella abortus	-	-	-	-	2	-	1	-	3	-	5	2
Brucella species	-	1	-	1	-	-	-	-	2	1	7	5
Bordetella pertussis	7	22	1	18	13	3	74	4	142	156	506	944
Legionella pneumophila	1	-	-	-	-	-	15	1	17	42	130	120
Legionella longbeachae	-	-	-	-	3	-	8	18	29	30	83	78
Legionella species	-	-	-	-	-	-	7	-	7	2	17	15
Cryptococcus species	-	-	-	2	3	-	-	-	5	5	25	30
Leptospira hardjo	-	-	-	-	-	-	-	1	1	-	2	-
Leptospira species	-	-	-	3	-	-	-	-	3	-	24	18
Treponema pallidum	-	28	-	107	56	-	5	3	199	301	1,157	1,400
Entamoeba histolytica	-	-	-	1	-	-	1	2	4	6	14	28
Toxoplasma gondii	-	2	-	3	-	-	1	-	6	5	38	28
Echinococcus granulosus	-	-	-	-	5	-	-	-	5	5	19	30
Total	15	670	59	1,232	1,365	6	457	888	4,692	5,607	22,589	25,870

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 October to 31 December 2003*

State or territory	Laboratory	October 2003	November 2003	December 2003	Total this period
Australian Capital Territory	The Canberra Hospital	-	-	-	-
New South Wales	Institute of Clinical Pathology and Medical Research, Westmead	63	96	31	190
	New Children's Hospital, Westmead	143	72	29	244
	Repatriation General Hospital, Concord	-	-	-	-
	Royal Prince Alfred Hospital, Camperdown	-	-	-	-
	South West Area Pathology Service, Liverpool	100	72	27	199
Queensland	Queensland Medical Laboratory, West End	490	426	387	1,303
	Townsville General Hospital	-	-	-	-
South Australia	Institute of Medical and Veterinary Science, Adelaide	691	672	-	1,363
Tasmania	Northern Tasmanian Pathology Service, Launceston	3	-	-	3
	Royal Hobart Hospital, Hobart	-	-	-	-
Victoria	Monash Medical Centre, Melbourne	55	8	-	63
	Royal Children's Hospital, Melbourne	66	63	24	153
	Victorian Infectious Diseases Reference Laboratory, Fairfield	64	86	87	237
Western Australia	PathCentre Virology, Perth	461	396	-	857
	Princess Margaret Hospital, Perth	-	-	-	-
	Western Diagnostic Pathology	38	18	24	80
Total		2,174	1,909	609	4,692

* 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 October to 31 December 2003 are shown as the rate per 1,000 consultations in Figures 5, 6, and 7.

Figure 5. Consultation rates for influenza-like illness, ASPREN, 1 October to 31 December 2003, by week of report

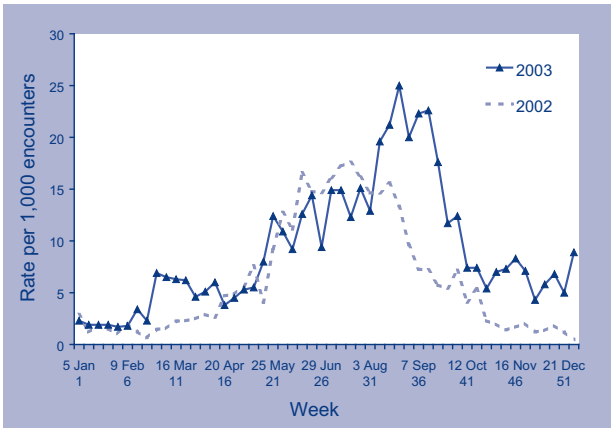


Figure 6. Consultation rates for gastroenteritis, ASPREN, 1 October to 31 December 2003, by week of report

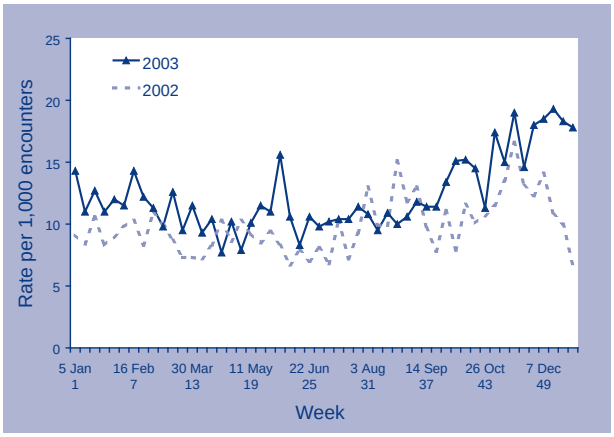
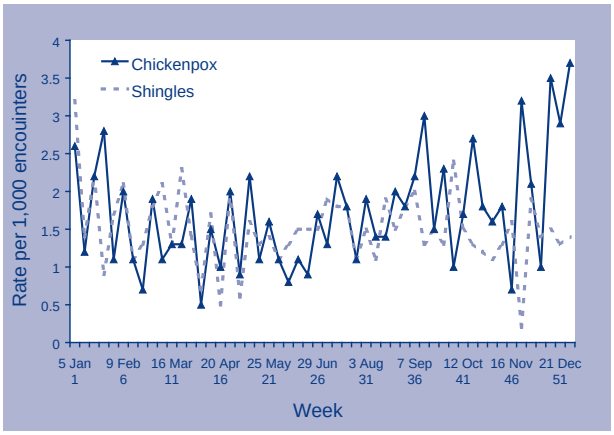


Figure 7. Consultation rates for varicella, ASPREN, 1 October to 31 December 2003, by week of report



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.*

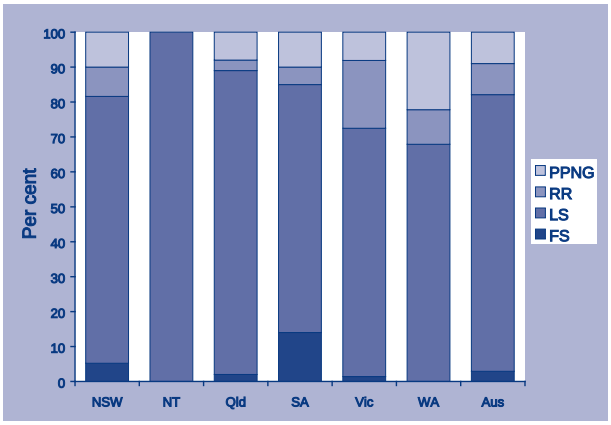
Reporting period 1 July to 30 September 2003

The Australian Gonococcal Surveillance Programme laboratories examined 857 isolates in this quarter and another 22 strains were non-viable. The total of 879 is slightly less than the 913 strains in the same period of 2002. About 29 per cent of this total was from New South Wales, 24 per cent from Victoria, 18 per cent from Queensland, 15 per cent from the Northern Territory, 10 per cent from Western Australia and 5 per cent from South Australia. Isolates from other centres were few. Numbers examined again decreased in New South Wales by about 30 per cent, but increased in Victoria by the same proportion when compared with data in the third quarter of 2002. Little change was seen in the numbers of isolates examined in other centres.

Penicillins

Figure 8 shows the proportions of gonococci fully sensitive (MIC ≤ 0.03 mg/L), less sensitive (MIC 0.06 – 1 mg/L), relatively resistant (MIC ≥ 1 mg/L) or else penicillinase producing (PPNG) aggregated for Australia and by state 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.

Figure 8. Categorisation of gonococci isolated in Australia, 1 July to 31 September 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.*

In this quarter, about 18 per cent of all isolates were penicillin resistant by one or more mechanisms. This proportion approximates the 17 per cent penicillin resistance seen in gonococci in the third quarter of 2002. PPNG and resistance by chromosomally mediated mechanisms (CMRNG) occurred in equal proportions. The proportion of penicillin resistant strains ranged from zero per cent in the Northern Territory to 32 per cent in Western Australia.

The number of PPNG isolated across Australia increased to 77 from the 59 seen in the September quarter of 2002 and the 66 detected in the same quarter of 2001. The highest proportion of PPNG was found in isolates from Western Australia (22%). In other states, PPNG accounted for 8–10 per cent of all isolates. No PPNG were detected in the Northern Territory.

The number (76) and proportion (8.9%) of isolates resistant to the penicillins by separate chromosomal mechanisms continued to decrease. In the same period in 2001, 173 CMRNG were detected and 93 in 2002. CMRNG were most prominent in Victoria (41 CMRNG, 19.4%), but were less than 10 per cent of isolates in other states. CMRNG were not detected in the Northern Territory.

Ceftriaxone

Low numbers of isolates with decreased susceptibility to ceftriaxone have been repeatedly detected in a number of jurisdictions for several years, but all isolates were fully susceptible in this quarter.

Spectinomycin

All isolates were susceptible to this injectable agent.

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 (136) and proportion (16%) of QRNG increased in this quarter when compared with the third quarter of 2002 when 96 QRNG represented 11 per cent of all isolates. The number and proportion of QRNG in the September quarter in 2001 (151, 17%) was similar to the current data.

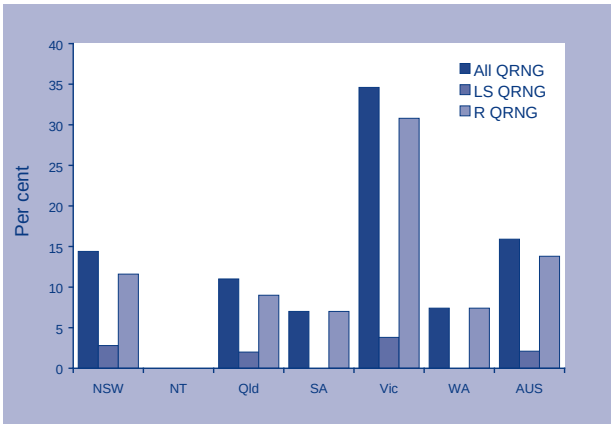
QRNG were again widely distributed, although none were detected in the Northern Territory. High rates were maintained in Victoria (35%) and increased in New South Wales (14%) and Queensland (11%).

In this quarter most (118 of 136) of the QRNG again exhibited higher levels of resistance MICs ≥ 1 mg/L (Figure 9).

High level tetracycline resistance

The number (98) and proportion (11%) of high level tetracycline resistance (TRNG) *Neisseria gonorrhoeae* was essentially unchanged from data in the September quarter of 2002. TRNG represented 28 per cent of isolates from Western Australia, and between 7 and 14 per cent of strains from Victoria, New South Wales, Queensland and South Australia.

Figure 9. The distribution of quinolone resistant isolates of *Neisseria gonorrhoeae*, Australia, 1 July to 30 September 2003, by jurisdiction



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L.

R QRNG Ciprofloxacin MICs ≥1 mg/L.

References

1. World Health Organization. Guidelines for the management of sexually transmitted infections. WHO/HIV_AIDS/(2001).01;WHO/RHR/o1.10:pp 1–5 World Health Organization, Geneva 2001.

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 *2003;27:57.*

HIV and AIDS diagnoses and deaths following AIDS reported for 1 July to 30 September 2003, as reported to 31 December 2003, are included in this issue of Communicable Diseases Intelligence *(Tables 6 and 7).*

Table 6. New diagnoses of HIV infection, new diagnoses of AIDS, and deaths following AIDS occurring in the period 1 July to 30 September 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	1	10	1	2	0	0	3	4	21	15	64	64
	Male	1	75	0	24	16	0	46	7	169	180	572	529
	Sex not reported	0	4	0	0	0	0	0	0	4	0	7	1
	Total[1]	2	89	1	26	16	0	49	12	195	197	644	598
AIDS diagnoses	Female	1	0	1	0	0	0	0	0	2	3	8	10
	Male	1	17	0	2	1	0	10	3	34	49	100	148
	Total[1]	2	17	1	2	1	0	10	3	36	52	109	159
AIDS deaths	Female	1	1	0	0	0	0	0	0	2	2	7	4
	Male	0	9	0	1	3	0	5	1	19	21	49	52
	Total	1	10	0	1	3	0	5	1	21	23	56	56

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

Table 7. Cumulative diagnoses of HIV infection, AIDS, and deaths following AIDS since the introduction of HIV antibody testing to 30 September 2003 and reported by 31 December 2003, by sex and state or territory

	Sex	State or territory								
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
HIV diagnoses	Female	29	718	15	203	78	7	285	158	1,493
	Male	243	12,243	119	2,351	783	85	4,542	1,048	21,414
	Not reported	0	239	0	0	0	0	24	0	263
	Total[1]	272	13,226	134	2,562	861	92	4,869	1,213	23,229
AIDS diagnoses	Female	10	213	1	56	30	4	88	33	435
	Male	92	4,984	39	936	378	47	1,802	402	8,680
	Total[1]	102	5,211	40	994	408	51	1,900	437	9,143
AIDS deaths	Female	6	126	0	38	20	2	57	22	271
	Male	71	3,417	26	614	255	31	1,339	275	6,028
	Total[1]	77	3,552	26	654	275	33	1,404	298	6,319

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

Childhood immunisation coverage

Tables 8, 9, and 10 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 July and 30 September 2002, at 24 months of age for the cohort born between 1 July and 30 September 2001, and at 6 years of age for the cohort born between 1 July and 30 September 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 for Australia has decreased from the last quarter by 0.7 percentage points to 91.0 per cent (Table 8). There were substantial decreases in 'fully immunised' coverage by state and territory in two jurisdictions, the Northern Territory (–4.3%) and the Australian Capital Territory (–3.3%). All other jurisdictions experienced either a small decrease or no change in coverage. The Northern Territory also experienced decreases in coverage for diphtheria, tetanus, pertussis (DTP) (–3.5%), poliomyelitis (OPV) (–4.1%), *Haemophilus influenzae* type b (Hib) (–1.5%) and hepatitis B (Hep B) (–0.9%). Significant decreases 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 small numbers of unimmunised children having a large impact on the coverage percentages.

Coverage measured by 'fully immunised' at 24 months of age for Australia increased significantly from the last quarter by 2.4 percentage points to 91.6 per cent (Table 9). Coverage for individual vaccines for Australia basically remained largely unchanged except for DTP, which increased substantially by 4.5 percentage points. In fact, DTP coverage increased significantly 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 coverage assessment for the 24-month cohort now excludes the requirement for the 18-month dose of DTP. Coverage for this cohort now looks for a third or a fourth dose of diphtheria, tetanus and pertussis vaccine. Prior to the change, the 24-month cohort assessment looked for the 4th dose only.

Table 10 shows immunisation coverage estimates for 'fully immunised' and for individual vaccines at six years of age for Australia and by state or territory. 'Fully immunised' coverage at six years of age for Australia increased again, this time by 0.6 percentage points from the previous quarter to 83.7 per cent with significant increases in the Australian Capital Territory (+1.6%) and Tasmania (+2.6%). Encouragingly, coverage for all individual vaccines at six years of age again increased in most states and territories with some substantial increases in some jurisdictions. Coverage for vaccines assessed at six years is now over 85 per cent in the majority of jurisdictions, and close to 85 per cent in most jurisdictions, although coverage in Western Australia for this age group decreased for all vaccines and remains well below other jurisdictions.

Table 8. Proportion of children immunised at 1 year of age, preliminary results by disease and state or territory for the birth cohort 1 July to 30 September 2002; assessment date 31 December 2003

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	1,071	21,811	899	12,651	4,510	1,485	15,818	6,028	64,273
Diphtheria, tetanus, pertussis (%)	92.8	92.5	88.8	92.5	93.0	92.9	93.1	90.7	92.5
Poliomyelitis (%)	92.6	92.4	87.9	92.3	92.7	93.0	93.0	90.4	92.3
Haemophilus influenzae type b (%)	91.7	94.2	93.3	94.4	94.7	95.8	95.0	93.3	94.4
Hepatitis B (%)	95.6	95.1	94.8	94.7	95.3	95.6	94.9	93.1	94.8
Fully immunised (%)	88.3	91.0	85.5	91.3	91.6	91.7	91.7	89.1	91.0
Change in fully immunised since last quarter (%)	-3.3	-0.5	-4.3	-0.8	0.0	-0.4	-0.9	-0.5	-0.7

Figure 10 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 two years, especially for children in the 12 and 24 month age groups.

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

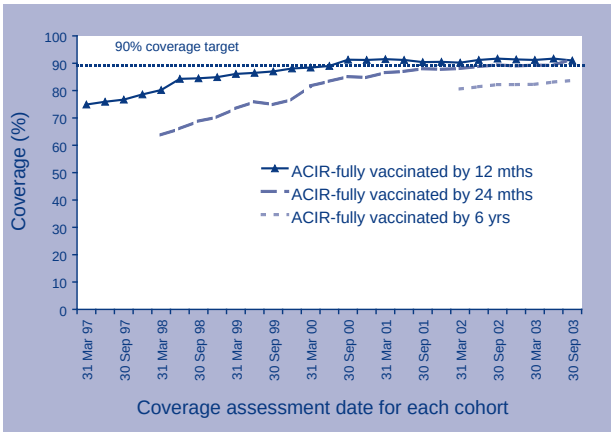


Table 9. Proportion of children immunised at 2 years of age, preliminary results by disease and state or territory for the birth cohort 1 July to 30 September 2001; assessment date 31 December 2003[1]

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,019	22,036	858	13,160	4,575	1,456	15,831	6,398	65,333
Diphtheria, tetanus, pertussis (%)	95.6	95.7	96.5	95.9	96.3	96.4	96.0	94.6	95.8
Poliomyelitis (%)	94.6	94.4	96.2	95.0	95.7	96.0	95.0	93.1	94.7
Haemophilus influenzae type b (%)	91.0	92.6	94.6	94.2	94.2	95.0	93.3	91.5	93.2
Measles, mumps, rubella (%)	91.1	92.7	94.9	94.2	94.5	95.0	93.7	92.1	93.4
Hepatitis B(%)	95.0	95.4	97.4	95.7	96.4	96.4	96.0	94.6	95.6
Fully immunised (%)[2]	89.0	90.8	93.6	92.5	92.9	94.4	92.1	89.8	91.6
Change in fully immunised since last quarter (%)	+3.9	+2.3	+4.2	+2.5	+2.7	+1.4	+2.2	+2.4	+2.4

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2003;27:88.
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 10. Proportion of children immunised at 6 years of age, preliminary results by disease and state or territory for the birth cohort 1 July to 30 September 1997; assessment date 31 December 2003

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,061	23,079	786	13,673	4,775	1,635	16,293	6,779	68,081
Diphtheria, tetanus, pertussis (%)	86.6	85.4	83.5	85.0	85.2	86.5	87.3	81.7	85.4
Poliomyelitis (%)	86.5	85.4	84.9	85.1	85.5	87.3	87.5	82.1	85.6
Measles, mumps, rubella (%)	85.9	84.2	84.5	84.8	84.8	86.1	87.4	81.6	84.9
Fully immunised (%)[1]	84.7	83.0	82.4	83.6	83.6	85.0	86.2	80.2	83.7
Change in fully immunised since last quarter (%)	+1.6	+0.9	+0.9	+1.2	+0.4	+2.6	+0.4	-1.0	+0.6

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.

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 October to 31 December 2003 are included in Tables 11 and 12. Data include cases reported and entered by 16 January 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 *2003;27:129.*

Fourth quarter 2003

The total number of reports to NEPSS of human *Salmonella* infection increased to 1,281 in the fourth quarter of 2003, 46 per cent more than the third quarter of 2003, and around the usual incidence at this time of year. The incidence of human salmonellosis typically begins to increase during the latter months of each year. Case counts to 16 January 2004 are approximately 90 per cent of the expected final counts for the quarter.

During the fourth quarter of 2003, the 25 most common *Salmonella* types in Australia accounted for 852 (67%) of all reported human *Salmonella* infections.

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

Counts of *S*. Typhimurium phage type 170 continue to exceed historical averages, and were mostly reported from New South Wales and Victoria. There were a further two reports of the similar phage type, *S*. Typhimurium phage type 108.

Increases in *S*. Anatum and *Salmonella* subspecies I serovar 16:l,v:- involved cases from most of the eastern mainland states.

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 11. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 October to 31 December 2003, as reported to 16 January 2004

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total all *Salmonella* for quarter	13	362	53	440	81	21	226	85	1,281
Total contributing *Salmonella* types	10	87	30	88	39	12	73	47	194

Table 12. Top 25 *Salmonella* types identified in Australia, 1 October to 31 December 2003, by state or territory

National rank	*Salmonella* type	State or territory								Total 4th quarter 2003	Last 10 years mean 4th quarter	Year to date 2003	Year to date 2002
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	*S.* Typhimurium 135	1	26	1	70	5	0	15	4	122	130	681	675
2	*S.* Typhimurium 170	0	63	0	5	0	0	22	0	90	33	431	461
3	*S.* Typhimurium 9	0	24	0	22	2	2	26	3	79	122	415	592
4	*S.* Virchow 8	0	22	0	42	0	0	1	0	65	29	195	304
5	*S.* Saintpaul	0	9	4	23	3	1	4	4	48	68	282	383
6	*S.* Chester	0	3	5	23	0	0	1	5	37	35	214	178
7	*S.* Typhimurium 197	0	6	0	27	1	0	2	0	36	8	167	123
8	*S.* Infantis	0	10	0	2	4	0	14	3	33	29	198	117
9	*S.* Anatum	0	5	2	13	9	0	2	2	33	16	117	84
10	*S.* Birkenhead	0	12	0	19	0	0	0	0	31	57	173	246
11	*S.* Typhimurium 12	0	17	0	0	3	0	11	0	31	7	105	76
12	*S.* Typhimurium U290	1	9	0	0	2	1	17	0	30	4.7	145	103
13	Sal subsp I ser 16:l,v:-	0	6	0	10	5	0	7	0	28	8	77	53
14	*S.* Muenchen	0	6	5	6	3	0	1	3	24	27	133	132
15	*S.* Typhimurium 4	0	7	1	4	6	0	5	0	23	13	78	58
16	*S.* Typhimurium 126	0	0	0	4	1	0	5	7	17	26	72	206
17	*S.* Stanley	0	3	0	1	0	2	6	5	17	11	52	59
18	*S.* Aberdeen	0	2	2	9	1	0	2	0	16	17	83	130
19	*S.* Typhimurium 6 var 1	2	9	0	3	0	0	2	0	16	0.6	38	9
20	*S.* Waycross	0	7	0	7	0	0	0	0	14	15	70	106
21	*S.* Typhimurium RDNC	0	4	0	4	3	0	2	0	13	18	66	60
22	*S.* Agona	0	5	1	4	0	1	0	2	13	15	66	88
23	*S.* Typhimurium U307	0	4	0	9	0	0	0	0	13	8	32	24
24	*S.* Give	0	2	1	2	0	0	6	1	12	4.9	36	21
25	*S.* Havana	0	1	1	5	1	0	2	1	11	11	62	34