

Communicable diseases surveillance

Highlights for 3rd quarter, 2005

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.

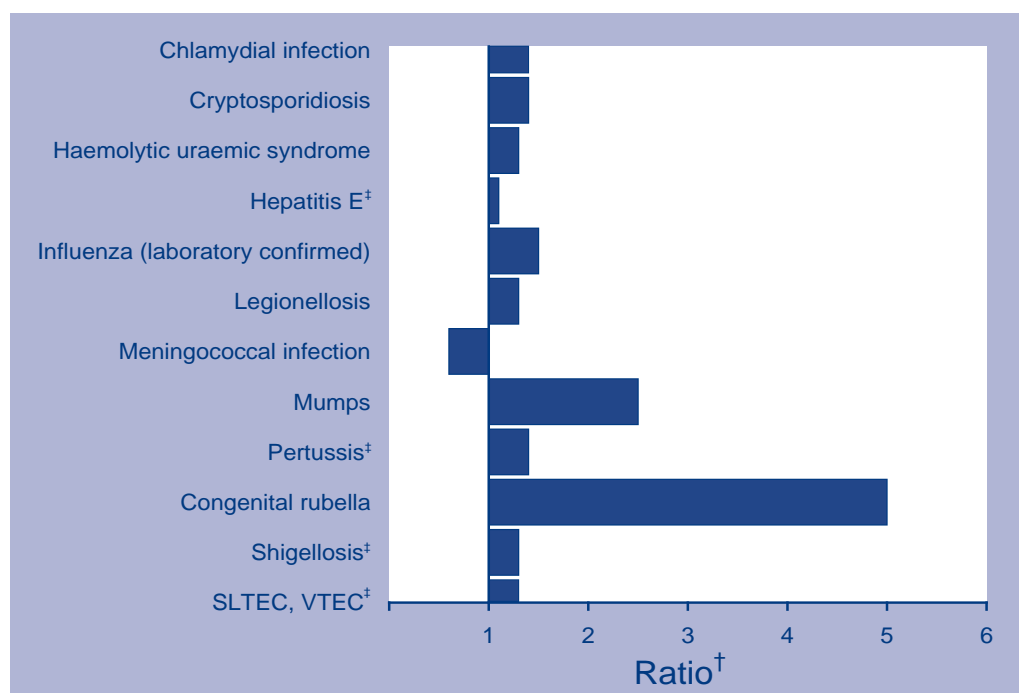
The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. NNDSS collates data on notifiable communicable diseases from State or Territory health departments. The Virology and Serology Laboratory Reporting Scheme (LabVISE) is a sentinel surveillance scheme which collates 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 select disease notifications with an onset in the third quarter of 2005 compared with the five-year mean for the same period. The number of notifications received in the quarter was above the five-year mean for hepatitis D, cryptosporidiosis, Shiga-like toxin-producing *Escherichia coli*/verotoxin-producing *E. coli* (STLEC/VTEC), haemolytic uraemic syndrome, hepatitis E, shigellosis, gonococcal infection, chlamydial infection, salmonella infection, laboratory-confirmed influenza,

mumps, pertussis, congenital rubella, syphilis, congenital syphilis, Barmah Forest virus infection, Ross River virus infection and legionellosis. The number of notifications received was below the five-year mean for meningococcal infection.

The number of notifications of the following diseases were above the five-year mean plus two standard deviations: hepatitis E, pertussis, shigellosis and STLEC/VTEC (Figure 1).

Figure 1. Selected* diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 July to 30 September 2005 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 two standard deviations for the same period.

Gastrointestinal illnesses

Botulism

One case of infant botulism in a 5-month-old male from Queensland was reported in this quarter. The source of infection was unknown.

Cryptosporidiosis

There were 311 notifications of cryptosporidiosis during the quarter which is 1.4 times the five-year mean for the same period. The majority of cases were reported by New South Wales and Victoria (87 cases each), and Queensland (64).

Two hundred and thirty-eight notifications (76.5%) were identified as *Cryptosporidium parvum* infection which is the most important species in human disease.¹ There was no species information provided for the remaining 23.5 per cent of cases.

Shiga-like toxin-producing *Escherichia coli* verotoxin-producing *E. coli*

Thirteen notifications of SLTEC/VTEC were received during the quarter, which is 1.3 times the five-year mean for the same period. South Australia notified four cases, Victoria reported three, and New South Wales, Queensland and Western Australia reported two cases each. Of the five cases with serotype information, two were *E. coli* serotype O157, two were serotype O26 and one was serotype O77.

Hepatitis E

Four notifications of hepatitis E were received in the quarter. There were two cases each from New South Wales and Queensland. Two of the four cases were acquired overseas and the place of acquisition was unknown for the other cases. There have been 28 cases for the year to date in 2005.

Shigellosis

There were 137 notifications of shigellosis during the quarter, which is 1.3 times the five-year mean for the same period. The notifications were from the Northern Territory (36), Western Australia (31), New South Wales (24), and Victoria (21).

Ten per cent (14/137) of cases were reported as imported from overseas, 36 per cent were locally acquired and the place of acquisition of the rest was unknown (54%). Thirty per cent (41/137) of cases occurred in children aged under five years, and 23 per cent (32/137) were in the 15–34 year age range. Of the 137 notifications, 65 (47%) were notifications of *Shigella sonnei*, and 60 (44%) were *Shigella flexneri*. Twelve cases did not have subtyping information.

Sexually transmissible infections

Chlamydial infection

During the quarter there were 9,003 notifications of chlamydial infection received from states and territories, which is 1.4 times the five-year mean for the same period. The majority of these notifications were reported by New South Wales (2,372), Queensland (2,226), Victoria (1,853) and Western Australia (1,377).

Thirty-eight per cent (3,416/9,003) of the total number of infections occurred in the 20–24 year age group and 23 per cent (2,099/9,003) occurred in the 15–19 year age group. The highest rate of chlamydial infection (307 cases per 100,000 population) occurred in females in the 20–24 year age group. The highest rate in males was 179 cases per 100,000 population in the same age range.

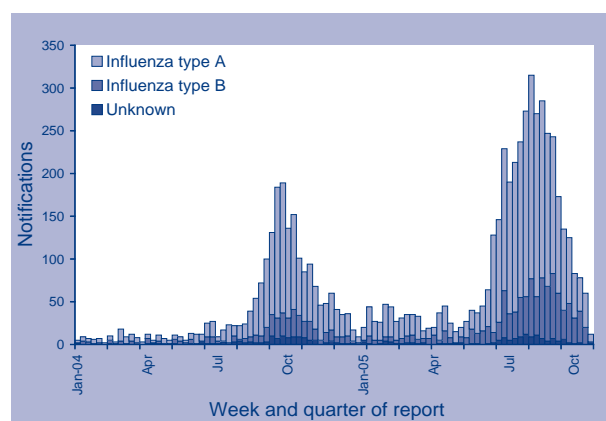
Vaccine preventable diseases

Laboratory confirmed influenza

There were 2,814 cases of laboratory-confirmed influenza in the third quarter of 2005. This was one and a half times the five-year mean for the same period.

One thousand two hundred and fifty-three cases were from Queensland, 603 from New South Wales, 355 from Western Australia and 318 from Victoria. Seventy-four per cent of the national laboratory-confirmed influenza notifications were type A, 22 per cent were type B, one per cent were mixed infections (mainly from New South Wales), and three per cent were of unknown type. During this quarter, influenza notifications peaked for 2005, with 315 notifications in the week ending 9 August. In 2004, the greatest number of notifications was 189 in the week ending 28 September (Figure 2).

Figure 2. Notifications of laboratory confirmed influenza, Australia, 1 January 2004 to 31 October 2005



Mumps

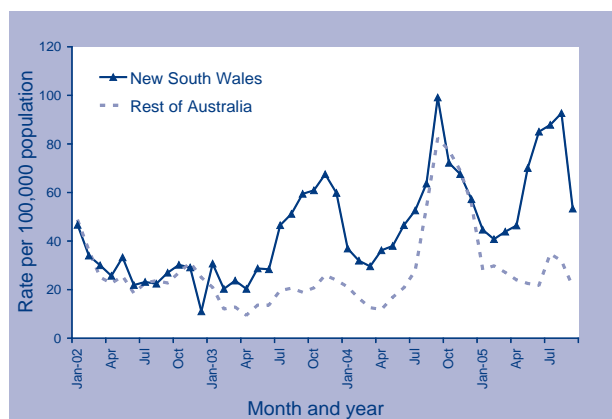
There were 73 notifications of mumps in the third quarter of 2005, which is 2.4 times the five-year mean for the same period. The majority of cases were reported from Queensland (34), New South Wales (21) and Western Australia (10). Of the 73 cases, 41 (56%) cases were reported from the 20–34 year age range.

There were 10 mumps cases notified in the Perth metropolitan area, compared to three in the corresponding period in 2004. Six cases were aged between 19 and 24 years, and four cases were aged over 35 years. Three cases with onset dates within a four week period were students at the same university, two of whom resided at different residential colleges. No epidemiological links could be established between any of the students, however, two had returned from overseas trips recently and hence may have imported the infection coincidentally. Public health response included isolation of the students, contact tracing and promotion of the measles-mumps-rubella vaccination for students residing at the colleges.

Pertussis

For the third quarter, 3,056 pertussis notifications were received, which is 1.4 times the five-year mean for the same period. Of these 1,749 (57%) cases were reported from New South Wales where the pertussis notification rate has remained greater than the overall Australian rate since 2003 and has mirrored national trends (Figure 3).

Figure 3. Notification rates of pertussis, New South Wales compared to the rest of Australia, 1 January 2002 to 30 September 2005



Three per cent (92 cases) of the 3,056 notifications were reported in infants less than one year of age. Rates of pertussis infection were generally highest in the over 55 year age groups, and were generally higher in females than in males.

Congenital rubella

One case of congenital rubella was reported from Victoria this quarter. The child's mother was born overseas, and during pregnancy was found to have no immunity to rubella so was vaccinated after delivery. There are some doubts concerning this diagnosis that will be followed up with further laboratory testing in several months. The last reported case prior to this occurred in March 2004.

Other bacterial infections

Legionellosis

Eighty-one cases of legionellosis were notified this quarter, of which 24 were from Queensland, 21 from New South Wales and 13 each from South Australia and Western Australia. This is 1.3 times the five-year mean for the same period.

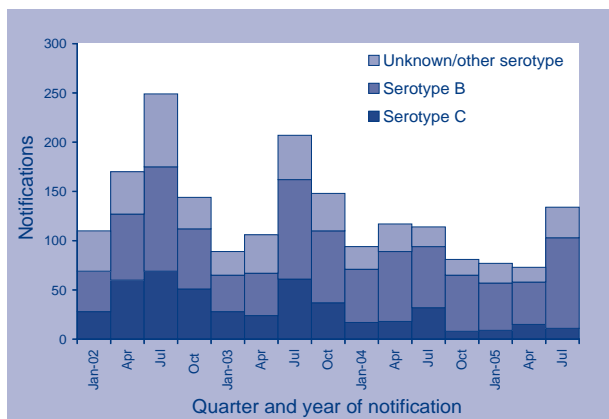
Of the 81 cases, 45 cases (55%) were *Legionella pneumophila* and 30 were *Legionella longbeachae* (37%). Forty-seven cases (58%) occurred in males giving a 1.3:1 male to female ratio.

Meningococcal infection

There were 135 notifications of meningococcal infection in Australia in the third quarter of 2005. This number is well below the five-year mean for this period (208 notifications) although this is the peak season. There were 38 cases in New South Wales, 36 in Victoria, 20 in Queensland and 19 in Western Australia.

Meningococcal B infection accounted for 92 (68%) notifications this quarter, and 11 (8%) cases were meningococcal C infection. In previous years, the proportion of meningococcal C infections notified in the third quarter has been between 27 per cent and 29 per cent (Figure 4). Twenty per cent of the cases this quarter were not typed. There were four cases of W135 and one case of 29-E, imported from New Zealand. In Australia, the last reported case of 29-E serotype prior to this occurred in 1997.

Figure 4. Notifications of meningococcal disease, Australia, 1 January 2002 to 30 September 2005



In Victoria in August there were three separate instances of epidemiologically-linked cases of invasive meningococcal disease. The first occurred in two children aged two and three years, respectively, who attended the same family day care centre. The first case was laboratory-confirmed as serogroup B while the second case, with a date of onset seven days after the first case, was classified as probable. Both cases had been vaccinated with serogroup C vaccine.

The second outbreak occurred in two vaccinated children aged 8 and 10 years who attended the same small primary school. The first case was laboratory-confirmed as serogroup B and the second, with an onset three days after the first case, was confirmed by serology only as culture and polymerase chain reaction tests were negative.

The third outbreak involved two females aged 17 and 44 years with the same date of onset. Both had attended a family reunion six days earlier and both cases were confirmed as serogroup B.

References

1. Kosek M, Alcantara C, Lima AAM, Guerrant RL. Cryptosporidiosis: an update. *Lancet Infect Dis* 2001;1:262-268.

Acknowledgements

Thanks to James Fielding (DHS, Victoria) and Carolien Giele (WA Health) for their contributions.

Tables

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 27,665 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 July and 30 September 2005 (Table 2). The notification rate of diseases per 100,000 population for each State or Territory is presented in Table 3.

There were 7,022 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 July to 30 September 2005 (Tables 4 and 5).

Table 1. Reporting of notifiable diseases by jurisdiction

Disease	Data received from:	Disease	Data received from:
Bloodborne diseases		Vaccine preventable diseases	
Hepatitis B (incident)	All jurisdictions	Diphtheria	All jurisdictions
Hepatitis B (unspecified)	All jurisdictions	<i>Haemophilus influenzae</i> type b	All jurisdictions
Hepatitis C (incident)	All jurisdictions except Qld	Influenza (laboratory confirmed)*	All jurisdictions
Hepatitis C (unspecified)	All jurisdictions	Measles	All jurisdictions
Hepatitis D	All jurisdictions	Mumps	All jurisdictions
Gastrointestinal diseases		Pertussis	All jurisdictions
Botulism	All jurisdictions	Pneumococcal disease (invasive)	All jurisdictions
Campylobacteriosis	All jurisdictions except NSW	Poliomyelitis	All jurisdictions
Cryptosporidiosis	All jurisdictions	Rubella	All jurisdictions
Haemolytic uraemic syndrome	All jurisdictions	Rubella - congenital	All jurisdictions
Hepatitis A	All jurisdictions	Tetanus	All jurisdictions
Hepatitis E	All jurisdictions	Vectorborne diseases	
Listeriosis	All jurisdictions	Barmah Forest virus infection	All jurisdictions
Salmonellosis	All jurisdictions	Flavivirus infection (NEC) [†]	All jurisdictions
Shigellosis	All jurisdictions	Dengue	All jurisdictions
SLTEC, VTEC	All jurisdictions	Japanese encephalitis virus	All jurisdictions
Typhoid	All jurisdictions	Kunjin virus	All jurisdictions
Quarantinable diseases		Malaria	All jurisdictions
Cholera	All jurisdictions	Murray Valley encephalitis virus	All jurisdictions
Plague	All jurisdictions	Ross River virus infection	All jurisdictions
Rabies	All jurisdictions	Zoonoses	
Smallpox	All jurisdictions	Anthrax	All jurisdictions
Tularemia	All jurisdictions	Australian bat lyssavirus	All jurisdictions
Viral haemorrhagic fever	All jurisdictions	Brucellosis	All jurisdictions
Yellow fever	All jurisdictions	Leptospirosis	All jurisdictions
Sexually transmissible infections		Lyssaviruses unspecified	All jurisdictions
Chlamydial infection	All jurisdictions	Ornithosis	All jurisdictions
Donovanosis	All jurisdictions	Q fever	All jurisdictions
Gonococcal infection	All jurisdictions	Other bacterial infections	
Syphilis (all)	All jurisdictions	Legionellosis	All jurisdictions
Syphilis < 2 years duration	All jurisdictions	Leprosy	All jurisdictions
Syphilis > 2 years or unspecified duration	All jurisdictions	Meningococcal infection	All jurisdictions
Syphilis - congenital	All jurisdictions	Tuberculosis	All jurisdictions

* Laboratory confirmed influenza is not notifiable in South Australia but reports are forwarded to NNDSS.

† Flavivirus (NEC) replaced Arbovirus (NEC) from 1 January 2004.

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 July to 30 September 2005, by date of onset*

Disease	State or territory								Total 3rd quarter 2005†	Total 2nd quarter 2005	Total 3rd quarter 2004	Last 5 years mean 3rd quarter	Year to date 2005	Last 5 years YTD mean	Ratio‡
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Bloodborne diseases															
Hepatitis B (incident)	1	6	2	12	1	1	16	5	44	61	78	102.4	179	291.6	0.4
Hepatitis B (unspecified)	20	704	35	285	52	9	417	85	1,607	1,902	1,504	1,811.4	5,390	5,185.2	0.9
Hepatitis C (incident)	0	9	3	NN	7	1	10	20	50	87	128	132.0	211	388.8	0.4
Hepatitis C (unspecified)	47	1,420	59	739	87	45	721	202	3,320	3,754	3,079	4,046.8	10,647	12,437.8	0.8
Hepatitis D	0	7	0	5	0	0	0	0	12	4	10	8.2	20	21.2	1.5
Gastrointestinal diseases															
Botulism	0	0	0	1	0	0	0	0	1	1	0	0.0	3	0.3	0.0
Campylobacteriosis§	68	NN	36	1,124	392	170	1,183	463	3,436	3,521	3,766	3,603.2	11,112	10,776.8	1.0
Cryptosporidiosis	1	87	5	64	26	4	87	37	311	826	245	227.3	2,384	1,591.5	1.4
Haemolytic uraemic syndrome	0	1	0	1	0	0	0	1	3	4	4	2.4	11	7.4	1.3
Hepatitis A	0	19	23	8	4	0	15	5	74	86	71	108.4	241	389.2	0.7
Hepatitis E	0	2	0	2	0	0	0	0	4	7	5	3.8	28	13.2	1.1
Listeriosis	2	3	0	0	1	0	1	1	8	14	16	12.6	35	50.0	0.6
Salmonellosis (NEC)	17	277	69	352	96	19	203	142	1,175	1,960	1,171	1,089.4	5,829	5,415.4	1.1
Shigellosis	3	24	36	11	10	1	21	31	137	182	88	103.4	547	388.0	1.3
SLTEC, VTEC††	0	2	0	2	4	0	3	2	13	30	11	10.4	56	37.4	1.3
Typhoid	0	5	0	0	0	0	2	2	9	10	15	14.2	41	51.8	0.6
Quarantinable diseases															
Cholera	0	0	0	0	0	0	0	1	1	1	2	1.4	4	3.0	0.7
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

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 July to 30 September 2005, by date of onset,*
continued

Disease	State or territory								Total 3rd quarter 2005†	Total 2nd quarter 2005	Total 3rd quarter 2004	Last 5 years mean 3rd quarter	Year to date 2005	Last 5 years YTD mean	Ratio†
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Sexually transmissible infections															
Chlamydia infection**	172	2,372	284	2,226	528	191	1,853	1,377	10,895	8,889	6,469.6	30,203	19,173.6	1.4	
Donovanosis	0	0	1	1	0	0	0	0	2	3	4.0	9	15.0	0.5	
Gonococcal infection	13	333	314	316	63	10	277	347	2,060	1,685	1,582.0	5,776	4,975.2	1.1	
Syphilis (all)	2	224	30	71	1	10	107	58	629	589	510.2	1,708	350.2	1.0	
Syphilis < two years duration	1	29	16	30	1	2	22	4	105	166	NN	405	356.0	NN	
Syphilis > two years or unspecified duration	1	195	14	41	0	8	85	54	398	423	NN	1,303	962.0	NN	
Syphilis - congenital	0	1	0	1	3	0	2	0	7	7	3.8	20	10.4	1.8	
Vaccine preventable disease															
Diphtheria	0	0	0	0	0	0	0	0	0	0	0.0	0	0.2	0.0	
<i>Haemophilus influenzae</i> type b	0	0	1	1	0	0	0	1	3	6	6.4	11	19.2	0.5	
Influenza (laboratory confirmed)††	27	603	37	1,253	209	12	318	355	794	1,095	1,931.5	3,989	2,299.3	1.5	
Measles	0	1	0	0	0	0	0	1	2	10	18.0	9	64.4	0.1	
Mumps	0	21	1	34	2	0	5	10	74	21	29.0	195	90.2	2.5	
Pertussis	68	1,749	15	537	350	3	266	68	2,522	3,034	2,144.4	7,812	4,576.2	1.4	
Pneumococcal disease (invasive)††	4	213	24	131	44	18	90	51	455	961	852.8	1,292	1,701.3	0.7	
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0.0	
Rubella	0	1	0	3	0	0	1	1	15	5	48.0	27	124.6	0.1	
Rubella - congenital	0	0	0	0	0	0	1	0	1	0	0.2	1	0.8	5.0	
Tetanus	0	0	0	0	0	0	0	0	0	0	0.4	0	3.4	0.0	
Vectorborne diseases															
Barmah Forest virus infection	0	72	6	105	4	0	5	5	435	193	143.2	992	846.2	1.4	
Dengue	1	7	1	8	1	0	9	4	43	30	30.8	170	289.8	1.0	
Flavivirus infection (NEC)	0	0	0	5	0	0	1	0	8	6	10.0	23	52.0	0.6	
Japanese encephalitis virus††	0	0	0	0	0	0	0	0	0	0	0.0	0	0.4	0.0	
Kunjin virus††	0	0	0	0	0	0	0	0	0	1	0.2	1	8.0	0.0	
Malaria	2	26	10	60	10	6	23	18	167	137	149.8	670	515.6	1.0	
Murray Valley encephalitis virus††	0	0	0	0	0	0	0	0	0	0	0.2	2	2.3	0.0	
Ross River virus infection	1	71	20	117	9	0	6	19	556	152	170.8	1,715	3,036.0	1.4	

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 July to 30 September 2005, by date of onset,*
continued

Disease	State or territory								Total 3rd quarter 2005†	Total 2nd quarter 2005	Total 3rd quarter 2004	Last 5 years mean 3rd quarter	Year to date 2005	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	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	1	0	7	0	0	0	0	0	8	11	7.8	24	20.4	1.0
Leptospirosis	0	4	1	11	0	0	2	2	33	20	29	31.0	93	155.6	0.6
Lyssavirus unspecified	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0.0
Ornithosis	0	21	0	2	0	0	4	1	50	28	54	52.6	115	133.4	0.5
Q fever	0	24	0	16	1	0	9	2	113	52	123	139.4	244	463.0	0.4
Other bacterial infections															
Legionellosis	1	21	1	24	13	0	8	13	74	81	59	64.8	240	260.8	1.3
Leprosy	0	0	0	0	0	0	0	0	1	0	2	1.4	5	5.2	0.0
Meningococcal infection ^{††}	3	39	3	20	12	3	36	19	77	135	114	208.0	285	451.2	0.6
Tuberculosis	0	22	1	35	5	4	98	13	248	178	256	252.8	659	720.6	0.7
Total	453	8,392	1,018	7,590	1,935	507	5,800	3,360	31,714	29,055	27,665	26,193.0	93,028	78,731.6	1.1

* Date of onset = the true onset. If this is not available, the 'date of onset' is equivalent to the earliest of two dates: (i) specimen date of collection, or (ii) the date of notification to the public health unit. Hepatitis B and C unspecified were analysed by the date of notification.

† 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.

‡ Ratio = ratio of current quarter total to the mean of last 5 years for the same quarter.

§ Not reported for New South Wales where it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.

|| Notifiable from January 2001 only. Ratio and mean calculations are based the last three years.

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

** Includes *Chlamydia trachomatis* identified from cervical, rectal, urine, urethral, throat and eye samples, except for South Australia which reports only genital tract specimens, Northern Territory which excludes ocular specimens, and Western Australia which excludes ocular and perinatal infections.

†† Only invasive meningococcal disease is nationally notifiable. However, New South Wales, the Australian Capital Territory and South Australia also report conjunctival cases.

NN Not notifiable.

NEC Not elsewhere classified.

Table 3. Notification rates of diseases, 1 July to 30 September 2005, by state or territory. (Rate per 100,000 population)

Disease*	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Bloodborne diseases									
Hepatitis B (incident)	1.2	0.4	4.0	1.2	0.3	0.8	1.3	1.0	0.9
Hepatitis B (unspecified)	24.7	41.8	70.0	29.4	13.6	7.5	33.5	17.2	32.0
Hepatitis C (incident)	0.0	0.5	6.0	NN	1.8	0.8	0.8	4.0	1.2
Hepatitis C (unspecified)	58.0	84.4	118.1	76.1	22.7	37.3	58.0	40.8	66.0
Hepatitis D	0.0	0.4	0.0	0.5	0.0	0.0	0.0	0.0	0.2
Gastrointestinal diseases									
Botulism	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Campylobacteriosis†	83.9	NN	72.0	115.8	102.2	141.0	95.2	93.4	102.7
Cryptosporidiosis	1.2	5.2	10.0	6.6	6.8	3.3	7.0	7.5	6.2
Haemolytic uraemic syndrome	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.1
Hepatitis A	0.0	1.1	46.0	0.8	1.0	0.0	1.2	1.0	1.5
Hepatitis E	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.1
Listeriosis	2.5	0.2	0.0	0.0	0.3	0.0	0.1	0.2	0.2
Salmonellosis (NEC)	21.0	16.5	138.1	36.3	25.0	15.8	16.3	28.7	23.4
Shigellosis	3.7	1.4	72.0	1.1	2.6	0.8	1.7	6.3	2.7
SLTEC, VTEC‡	0.0	0.1	0.0	0.2	1.0	0.0	0.2	0.4	0.3
Typhoid	0.0	0.3	0.0	0.0	0.0	0.0	0.2	0.4	0.2
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 infections									
Chlamydial infection§	212.3	141.0	568.2	229.4	137.7	158.5	149.1	277.9	179.1
Donovanosis	0.0	0.0	2.0	0.1	0.0	0.0	0.0	0.0	0.0
Gonococcal infection	16.0	19.8	628.3	32.6	16.4	8.3	22.3	70.0	33.3
Syphilis (all)	0.6	3.3	14.9	1.8	0.1	2.1	2.1	2.9	2.5
Syphilis < 2 years duration	0.3	0.4	8.0	0.8	0.1	0.4	0.4	0.2	0.5
Syphilis > 2 years or unspecified duration	0.3	2.9	7.0	1.0	0.0	1.7	1.7	2.7	2.0
Syphilis - congenital	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0

Table 3. Notification rates of diseases, 1 July to 30 September 2005, by state or territory. (Rate per 100,000 population), *continued*

Disease*	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Vaccine preventable diseases									
Diphtheria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Haemophilus influenzae</i> type b	0.0	0.0	2.0	0.1	0.0	0.0	0.0	0.2	0.1
Influenza (laboratory confirmed)	33.3	35.8	74.0	129.1	54.5	10.0	25.6	71.6	56.0
Measles	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Mumps	0.0	1.2	2.0	3.5	0.5	0.0	0.4	1.6	1.4
Pertussis	83.9	103.9	30.0	55.3	91.2	2.5	21.4	13.7	60.8
Pneumococcal disease (invasive)	4.9	12.7	48.0	13.5	11.5	14.9	7.2	10.3	11.4
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	0.3	0.0	0.0	0.1	0.2	0.1
Rubella - congenital	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Tetanus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vectorborne diseases									
Barmah Forest virus infection	0.0	4.3	12.0	10.8	1.0	0.0	0.4	1.0	3.9
Dengue	1.2	0.4	2.0	0.8	0.3	0.0	0.7	0.8	0.6
Flavivirus infection (NEC)	0.0	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.1
Japanese encephalitis virus	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	0.0	0.0	0.0	0.0	0.0	0.0
Malaria	2.5	1.5	20.0	6.2	2.6	5.0	1.9	3.6	3.1
Murray Valley encephalitis virus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ross River virus infection	1.2	4.2	40.0	12.1	2.3	0.0	0.5	3.8	4.8
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	0.1	0.0	0.7	0.0	0.0	0.0	0.0	0.2
Leptospirosis	0.0	0.2	2.0	1.1	0.0	0.0	0.2	0.4	0.4
Lyssavirus unspecified	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ornithosis	0.0	1.2	0.0	0.2	0.0	0.0	0.3	0.2	0.6
Q fever	0.0	1.4	0.0	1.6	0.3	0.0	0.7	0.4	1.0
Other bacterial infections									
Legionellosis	1.2	1.2	2.0	2.5	3.4	0.0	0.6	2.6	1.6
Leprosy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningococcal infection	3.7	2.3	6.0	2.1	3.1	2.5	2.9	3.8	2.7
Tuberculosis	0.0	1.3	2.0	3.6	1.3	3.3	7.9	2.6	3.5

* Rates are subject to retrospective revision.

† Not reported for New South Wales where it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.

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

§ Includes *Chlamydia trachomatis* identified from cervical, rectal, urine, urethral, throat and eye samples, except for South Australia which reports only genital tract specimens, Northern Territory which excludes ocular specimens, and Western Australia which excludes ocular and perinatal infections.

|| Only invasive meningococcal disease is nationally notifiable. However, New South Wales, the Australian Capital Territory and South Australia also report conjunctival cases.

NN Not notifiable.

NEC Not elsewhere classified.

Table 4. Virology and serology laboratory reports by state or territory* for the reporting period 1 July to 30 September 2005, and total reports for the year†

	State or territory								This period 2005	This period 2004	Year to date 2005	Year to date 2004
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Measles, mumps rubella												
Measles virus	–	–	–	1	–	–	–	–	1	8	4	21
Mumps virus	–	–	–	2	2	–	2	1	7	2	25	5
Rubella virus	–	–	–	2	–	–	1	–	3	3	10	11
Hepatitis viruses												
Hepatitis A virus	–	3	–	5	12	–	–	1	21	17	38	36
Hepatitis D virus	–	–	–	1	4	–	1	–	6	4	12	7
Hepatitis E virus	–	–	–	2	–	–	–	–	2	2	11	13
Arboviruses												
Ross River virus	–	–	9	21	13	–	3	5	51	26	333	707
Barmah Forest virus	–	1	–	21	6	–	–	–	28	42	158	168
Flavivirus (unspecified)	–	–	–	7	–	–	2	–	9	16	29	94
Adenoviruses												
Adenovirus type 1	–	–	–	–	–	–	5	–	5		6	
Adenovirus not typed/pending	–	74	–	26	100	–	11	1	212	344	497	793
Herpesviruses												
Cytomegalovirus	1	85	4	13	192	2	20	–	317	215	728	614
Varicella-zoster virus	3	43	1	211	110	3	9	–	380	664	1,110	1,517
Epstein-Barr virus	–	27	27	209	187	–	8	101	559	687	1,540	1,855
Other DNA viruses												
Poxvirus group not typed	–	–	–	–	–	–	1	–	1		2	2
Parvovirus	–	3	–	20	14	–	7	–	44	166	123	284
Picornavirus family												
Coxsackievirus A16	–	2	–	–	–	–	–	–	2		5	5
Echovirus type 7	–	1	–	–	–	–	–	–	1		7	1
Echovirus type 11	–	1	–	–	–	–	–	–	1	8	4	14
Echovirus type 18	–	3	–	–	–	–	–	–	3	2	13	5
Echovirus type 30	1	11	–	–	–	–	–	–	12	2	31	6
Poliovirus type 1 (uncharacterised)	–	15	–	–	–	–	–	–	15	9	19	15
Poliovirus type 2 (uncharacterised)	–	12	–	–	–	–	–	–	12	5	18	13
Poliovirus type 3 (uncharacterised)	–	4	–	–	–	–	–	–	4	5	6	6
Rhinovirus (all types)	–	63	–	–	11	–	1	–	75	242	246	429
Enterovirus type 71 (BCR)	–	1	–	–	–	–	–	–	1	1	3	3
Enterovirus not typed/pending	1	57	–	8	7	1	2	–	76	46	141	133

Table 4. Virology and serology laboratory reports by state or territory* for the reporting period 1 July to 30 September 2005, and total reports for the year,† *continued*

	State or territory								This period 2005	This period 2004	Year to date 2005	Year to date 2004
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Ortho/paramyxoviruses												
Influenza A virus	–	136	2	75	244	–	57	–	514	284	634	355
Influenza A virus H3N2	–	1	–	–	–	–	1	–	2		2	
Influenza B virus	–	30	–	18	80	–	16	–	144	93	226	130
Parainfluenza virus type 1	–	8	–	1	5	–	3	–	17	34	45	131
Parainfluenza virus type 2	–	6	–	–	6	–	1	–	13	5	46	11
Parainfluenza virus type 3	–	58	–	5	100	1	10	–	174	230	272	427
Respiratory syncytial virus	1	279	–	87	230	34	82	1	714	1,092	1,545	2,485
Other RNA viruses												
HTLV-1	–	–	–	–	3	–	–	–	3	7	6	13
Rotavirus	–	327	1	–	352	5	69	–	754	451	992	621
Norwalk agent	–	–	–	–	–	–	68	–	68	294	163	491
Other												
<i>Chlamydia trachomatis</i> not typed	–	170	4	611	433	12	6	–	1,236	1,583	3,775	4,015
<i>Chlamydia pneumoniae</i>	–	2	–	–	–	–	–	–	2	3	6	7
<i>Chlamydia psittaci</i>	–	1	–	–	1	–	6	–	8	29	38	138
<i>Mycoplasma pneumoniae</i>	–	40	7	170	100	22	54	30	423	382	925	1,043
<i>Mycoplasma hominis</i>	–	2	–	–	–	–	–	–	2	3	4	4
<i>Coxiella burnetii</i> (Q fever)	1	2	–	7	11	–	13	–	34	42	120	122
<i>Rickettsia prowazeki</i>	–	–	–	–	62	–	–	–	62	33	116	33
<i>Orientia tsutsugamushi</i>	–	–	–	–	27	–	–	–	27	21	46	22
<i>Rickettsia</i> - spotted fever group	–	–	–	–	80	1	–	–	81	50	178	50
<i>Streptococcus</i> group A	–	3	–	144	–	–	33	–	180	137	422	360
<i>Brucella abortus</i>	–	1	–	–	1	–	–	–	2	1	3	5
<i>Brucella</i> species	–	4	–	2	–	–	–	–	6	2	9	5
<i>Bordetella pertussis</i>	1	30	1	48	257	–	65	–	402	491	1,153	759
<i>Bordetella parapertussis</i>	–	–	–	–	–	–	2	–	2		2	1
<i>Legionella pneumophila</i>	–	1	–	–	1	–	1	–	3	12	17	65
<i>Legionella longbeachae</i>	–	–	–	–	16	–	2	–	18	21	37	59
<i>Cryptococcus</i> species	–	–	–	2	2	–	–	–	4	9	29	32
<i>Leptospira</i> species	–	1	–	5	1	–	–	–	7	3	23	19

Table 4. Virology and serology laboratory reports by state or territory* for the reporting period 1 July to 30 September 2005, and total reports for the year,† *continued*

	State or territory								This period 2005	This period 2004	Year to date 2005	Year to date 2004
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
<i>Treponema pallidum</i>	–	59	2	110	83	–	–	–	254	295	835	910
<i>Entamoeba histolytica</i>	–	–	–	2	–	–	2	–	4	4	12	9
<i>Toxoplasma gondii</i>	–	7	–	2	2	–	–	–	11	10	31	27
<i>Echinococcus granulosus</i>	–	–	–	–	3	–	–	–	3	5	8	12
Total	9	1,574	58	1,838	2,758	81	564	140	7,022	8,142	16,839	19,118

* State or territory of postcode, if reported, otherwise state or territory of reporting laboratory.

† Data presented are for reports with reports dates in the current period.

– No data received this period.

Table 5. Virology and serology reports by laboratories for the reporting period 1 July to 30 September 2005*

State or territory	Laboratory	July 2005	August 2005	September 2005	Total this period
Australian Capital Territory	The Canberra Hospital	–	–	–	–
New South Wales	Institute of Clinical Pathology and Medical Research, Westmead	153	148	133	434
	New Children's Hospital, Westmead	167	162	131	460
	Repatriation General Hospital, Concord	–	–	–	–
	Royal Prince Alfred Hospital, Camperdown	–	–	–	–
	South West Area Pathology Service, Liverpool	190	207	229	626
Queensland	Queensland Medical Laboratory, West End	566	738	630	1,934
	Townsville General Hospital	–	–	–	–
South Australia	Institute of Medical and Veterinary Science, Adelaide	786	1,066	904	2,756
Tasmania	Northern Tasmanian Pathology Service, Launceston	37	22	20	79
	Royal Hobart Hospital, Hobart	–	–	–	–
Victoria	Monash Medical Centre, Melbourne	89	32	36	157
	Royal Children's Hospital, Melbourne	52	82	81	215
	Victorian Infectious Diseases Reference Laboratory, Fairfield	68	38	78	184
Western Australia	PathCentre Virology, Perth	–	–	–	–
	Princess Margaret Hospital, Perth	–	–	–	–
	Western Diagnostic Pathology	26	103	48	177
Total		2,134	2,598	2,290	7,022

* The complete list of laboratories reporting for the 12 months, January to December 2005, will appear in every report regardless of whether reports were received in this reporting period. Reports are not always received from all laboratories.

– No data received this period.

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 2005, eight 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 2005. 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* 2005;29:91.

Data from 1 January to 30 September 2005 compared with 2004 are shown as the rate per 1,000 consultations in Figures 5 and 6.

Figure 5. Consultation rates for influenza-like illness, ASPREN, 1 January to 30 September 2005, by week of report

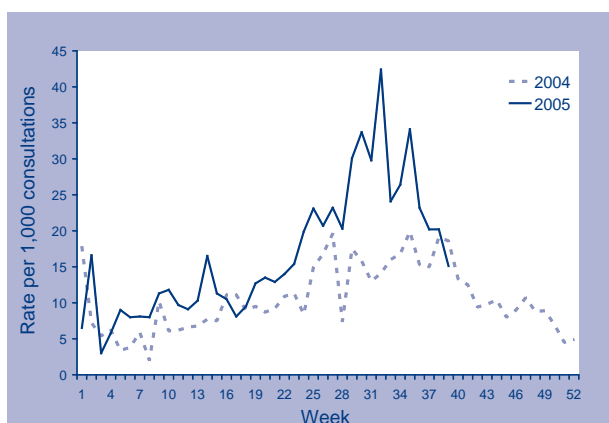
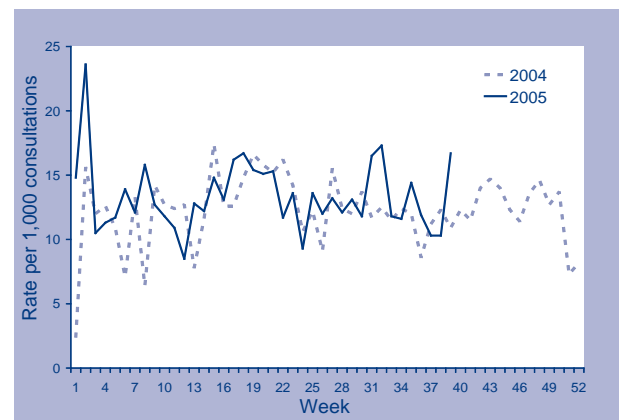


Figure 6. Consultation rates for gastroenteritis, ASPREN, 1 January to 30 September 2005, by week of report



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*. For more information see *Commun Dis Intell* 2005;29:93.

Laboratory confirmed cases of invasive meningococcal disease for the period 1 July to 30 September 2005, are included in this issue of *Communicable Diseases Intelligence* (Table 6).

Table 6. Number of laboratory confirmed cases of invasive meningococcal disease, Australia, 1 July to 30 September 2005, by jurisdiction and serogroup*

Jurisdiction	Year	Serogroup													
		A		B		C		Y		W135		ND		All	
		Q3	ytd	Q3	ytd	Q3	ytd	Q3	ytd	Q3	ytd	Q3	ytd	Q3	ytd
Australian Capital Territory	05			2	3	1	3			0	1			3	7
	04			0	3	3	7							3	10
	03			2	3	2	2							4	5
New South Wales	05			27	60	4	13	0	3	4	7	2	3	37	86
	04			22	60	6	15	1	3	2	4	3	14	34	96
	03			38	75	19	32	1	4	0	1	3	15	61	127
Northern Territory	05			2	5	0	2			0				2	7
	04			0	5	0	0			0	1			0	6
	03			3	9	0	0			1	1			4	10
Queensland	05	0	0	13	34	5	7	0	0	0	0	0	0	18	45
	04	0	1	13	36	8	20	0	1	1	2	0	2	22	62
	03	1	1	17	34	16	31	1	1	0	0	0	8	35	75
South Australia	05			9	13	1	3							10	16
	04			2	11	1	1							3	12
	03			7	15	1	2	1	1	1	1			10	19
Tasmania	05			4	6	0	0							4	6
	04			3	6	5	5			0	1	1	3	9	15
	03			3	3	4	5							7	8
Victoria	05			26	41	3	6	1	1	1	3	2	3	33	55
	04			17	45	3	12	0	3	2	2	1	3	23	65
	03			22	35	17	39	2	2	0	1	1	6	42	83
Western Australia	05			20	29	0	0	0	2		0			20	31
	04			11	23	2	4			1	1			14	28
	03			11	22	2	5	0	1					13	28
Total	05	0	1	103	191	14	38	1	6	5	11	4	6	127	253
	04	0	1	68	189	28	64	1	7	6	11	5	22	108	294
	03	1	1	103	196	61	116	5	9	2	4	4	29	176	355

* Numbers of laboratory-confirmed diagnoses of invasive meningococcal disease made in the same period in 2004 and 2003 are also shown.

Q3 3rd quarter.

ytd Year to 30 September 2005.

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* 2005;29:92-93.

Reporting period 1 April to 30 June 2005

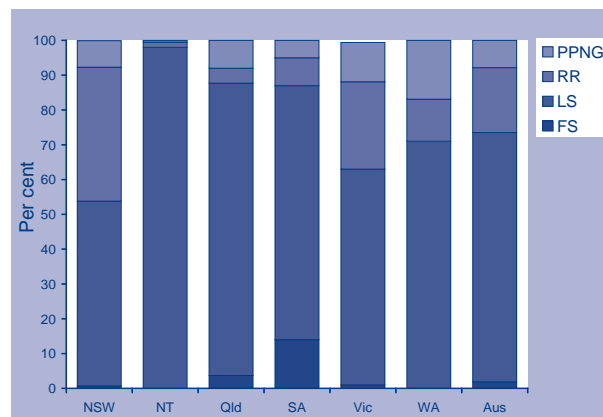
The AGSP laboratories received a total of 1,028 isolates in this quarter of which 1,008 underwent susceptibility testing. This was about 15 per cent more than the 873 gonococci reported for the same period in 2004 and approximates the 980 seen in 2003. Approximately 28 per cent of this total was from New South Wales, 19 per cent each from Victoria and the Northern Territory, 16 per cent from Queensland, 11 per cent from Western Australia and six per cent from South Australia. Small numbers of isolates were also received from Tasmania and the Australian Capital Territory.

Penicillins

In this quarter 267 (26.5%) of all isolates examined were penicillin resistant by one or more mechanisms. Seventy-nine (7.8%) were penicillinase producing *Neisseria gonorrhoea* (PPNG) and 188 (18.7%) resistant by chromosomal mechanisms, (CMRNG). The proportion of all strains resistant to the penicillins by any mechanism ranged from two per cent in the Northern Territory to 46 per cent in New South Wales. High rates of penicillin resistance were also found in Victoria (36%) and Western Australia (29%).

Figure 7 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 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 7. Categorisation of gonococci isolated in Australia, 1 April to 30 June 2005, 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 New South Wales most of the penicillin resistance was due to CMRNG (111, 38.5%) with 22 PPNG (7.6%). The proportion of CMRNG in Victoria (25%) was less than in New South Wales and that of PPNG higher (11.3%) and in Western Australia PPNG were more prominent (17% of all isolates) with 12 per cent CMRNG. The proportion of PPNG in Queensland was eight per cent and in South Australia five per cent. CMRNG were present in Queensland (4.3% of isolates there), South Australia (5%) and in three (1.5%) gonococci from Darwin. No PPNG or CMRNG were reported from Tasmania or the Australian Capital Territory.

Ceftriaxone

Fifteen isolates with decreased susceptibility to ceftriaxone (MIC range 0.06–0.12 mg/L) were detected. Fourteen were found in New South Wales and one in Queensland. All 15 isolates were penicillin resistant, 14 by chromosomal mechanisms (CMRNG) and one was a PPNG. All 15 were also quinolone resistant (ciprofloxacin MICs 16 mg/L or more). It is emphasised that no treatment failures have been documented locally when a 250 mg IM dose of ceftriaxone has been used.

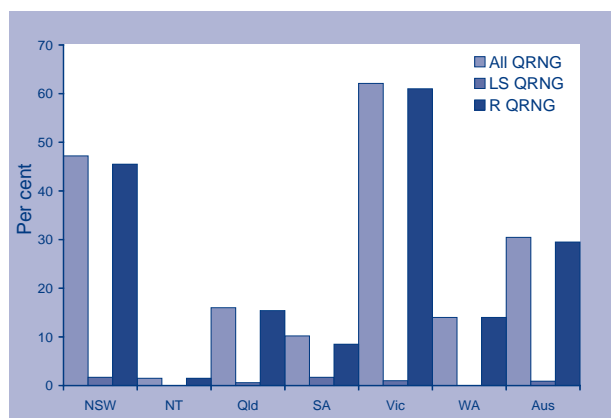
Spectinomycin

All isolates were susceptible to this injectable agent.

Quinolone antibiotics

The total number (307) and proportion (30%) of quinolone resistant *N. gonorrhoeae* (QRNG) were both substantially higher than the corresponding figures in the second quarter of 2004 (172 QRNG, 20%) and 2003 (135 isolates, 14%) (Figure 8). The majority of QRNG (298 of 307, 97%) exhibited higher-level resistance. QRNG are defined as those isolates with an MIC to ciprofloxacin equal to or greater than 0.06 mg/L. QRNG are further subdivided into less sensitive (ciprofloxacin MICs 0.06–0.5 mg/L) or resistant (MIC \geq 1 mg/L) groups.

Figure 8. The distribution of quinolone resistant isolates of *Neisseria gonorrhoeae* in Australia, 1 April to 30 June 2005, by jurisdiction



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L.

R QRNG Ciprofloxacin MICs \geq 1 mg/L.

QRNG were again widely distributed and were detected in all states and territories with the exception of Tasmania and the Australian Capital Territory. The highest proportion of QRNG was found in Victoria where 121 QRNG represented 62 per cent of isolates. In New South Wales there were 136 QRNG (47%), in Queensland 26 (16%), in Western Australia 15 (14%) and in South Australia 6 (10%). Three QRNG were detected in the Northern Territory.

High level tetracycline resistance

The number (131) and proportion (13%) of gonococci showing high level plasmid mediated tetracycline resistance (TRNG) detected were similar to the 2004 (121, 14%) figures. TRNG were found in most states and territories and represented between 0.5 per cent (Northern Territory) and 38 per cent of isolates (Victoria).

Reference

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

Childhood immunisation coverage

Tables 7, 8 and 9 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 April and 30 June 2004, at 24 months of age for the cohort born between 1 April and 30 June 2003, and at 6 years of age for the cohort born between 1 April and 30 June 1999 according to the Australian Standard Vaccination Schedule.

For information about the Australian Childhood Immunisation Register see Surveillance systems reported in CDI, published in Commun Dis Intell 2005;29:94 and for a full description of the methodology used by the Register see 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 1435, Email: brynleyh@chw.edu.au.

Immunisation coverage for children 'fully immunised' at 12 months of age for Australia did not change from the last quarter, remaining at 91.0 per cent (Table 7). There was a substantial decrease in 'fully immunised' coverage by state and territory in only one jurisdiction, the Australian Capital Territory, but despite this decrease of 2.1 per cent, the Australian Capital Territory had coverage of 93.6 per cent.

There was a small increase of 0.4 per cent in coverage for children 'fully immunised' at 24 months of age for Australia, bringing the coverage to 93.7 per cent (Table 8). Coverage for individual vaccines remained largely unchanged in most jurisdictions and was greater than 95 per cent in almost all jurisdictions for all vaccines, except Hib and MMR.

Table 9 shows immunisation coverage estimates for children 'fully immunised' and for individual vaccines at six years of age for Australia and by state or territory. This was unchanged in most jurisdictions, apart from increases in Tasmania and the Australian Capital Territory. Coverage for vaccines assessed at six years is at or near 85 per cent in most jurisdictions, but Western Australia and Queensland still remain below this.

Table 7. Percentage of children immunised at 1 year of age, preliminary results by vaccine and state or territory for the birth cohort 1 April to 30 June 2004; assessment date 30 September 2005

Vaccine	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	952	20,807	900	12,736	4,229	1,305	14,930	6,321	62,180
Diphtheria, tetanus, pertussis (%)	94.0	92.2	92.3	92.0	92.2	93.1	93.6	90.9	92.4
Poliomyelitis (%)	94.0	92.2	91.9	91.9	92.1	93.0	93.5	90.6	92.3
<i>Haemophilus influenzae</i> type b (%)	96.1	93.9	95.2	93.9	94.7	94.9	95.1	93.5	94.3
Hepatitis B (%)	95.8	95.0	95.6	94.6	94.7	94.8	94.9	93.2	94.7
Fully immunised (%)	93.6	90.6	91.7	90.8	91.2	92.0	92.1	89.2	91.0
Change in fully immunised since last quarter (%)	-2.1	+0.0	-0.3	-0.0	+0.1	+0.8	+0.3	-0.8	-0.0

Table 8. Percentage of children immunised at 2 years of age, preliminary results by vaccine and state or territory for the birth cohort 1 April to 30 June 2003, assessment date 30 September 2005

Vaccine	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	983	21,749	926	13,035	4,442	1,372	15,394	6,261	64,162
Diphtheria, tetanus, pertussis (%)	97.5	95.1	97.0	94.9	95.8	96.9	95.7	94.6	95.3
Poliomyelitis (%)	97.6	95.1	96.8	94.8	95.7	96.8	95.7	94.5	95.2
<i>Haemophilus influenzae</i> type b (%)	95.5	93.0	95.9	93.7	94.4	94.2	94.1	92.2	93.5
Measles, mumps, rubella (%)	95.7	93.1	96.8	93.6	94.5	94.2	94.3	92.8	93.7
Hepatitis B(%)	96.6	95.9	98.4	95.4	96.4	97.0	96.2	95.4	95.9
Fully immunised (%)	94.2	91.6	95.0	92.0	93.0	93.2	92.9	90.7	92.1
Change in fully immunised since last quarter (%)	+2.6	+0.4	+1.4	+0.3	+2.4	-1.4	+0.1	+0.7	+0.4

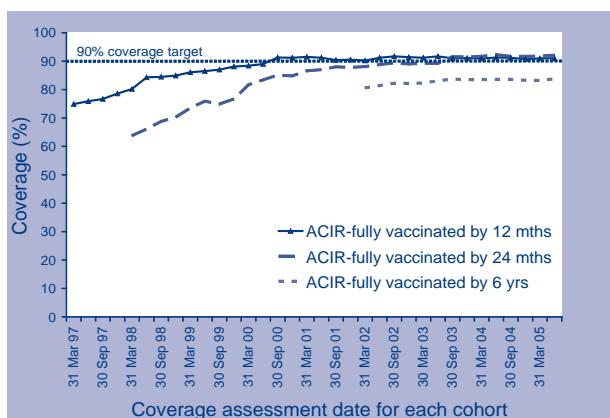
* The 12 months age data for this cohort was published in *Commun Dis Intell* 2004;28:546.

Table 9. Percentage of children immunised at 6 years of age, preliminary results by vaccine and state or territory for the birth cohort 1 April to 30 June 1999; assessment date 30 September 2005

Vaccine	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,091	22,073	846	13,502	4,777	1,598	15,596	6,884	66,367
Diphtheria, tetanus, pertussis (%)	90.7	85.4	83.6	81.7	84.2	86.1	87.7	82.1	84.8
Poliomyelitis (%)	90.8	85.5	84.9	82.0	84.6	86.5	87.9	82.4	85.1
Measles, mumps, rubella (%)	90.9	85.3	84.5	81.9	84.5	86.1	87.9	82.3	84.9
Fully immunised (%) ¹	90.5	84.3	82.7	80.5	83.3	85.2	86.9	80.5	83.8
Change in fully immunised since last quarter (%)	+2.6	+0.5	-1.5	+0.6	+0.5	+3.3	+0.7	-0.3	+0.5

Figure 9 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 for all age groups. The Figure shows that there have now been eight consecutive quarters where 'fully immunised' coverage at 24 months of age has been greater than 'fully immunised' coverage at 12 months of age, following the removal of the requirement for the 18 month DTPa vaccine. However, both measures have been above 90 per cent for this 24-month period and show levels of high coverage for the vaccines included maintained over a significant period of time. Currently, coverage for the more recent vaccines, meningococcal C conjugate at 12 months and pneumococcal conjugate at two, four, and six months, are not included in the 12 or 24 months coverage data.

Figure 9. Trends in vaccination coverage, Australia, 1997 to 2005, by age cohorts



Acknowledgement: These figures were provided by Medicare Australia, to specifications provided by the Australian Government 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 Medicare Australia: Telephone: +61 2 6124 6607.

HIV and AIDS surveillance

National surveillance for HIV disease is coordinated by the National Centre in HIV Epidemiology and Clinical Research (NCHECR), in collaboration with State and Territory health authorities and the Commonwealth of Australia. Cases of HIV infection are notified to the National HIV Database on the first occasion of diagnosis in Australia, by either the diagnosing laboratory (Australian Capital Territory, New South Wales, Tasmania, Victoria) or by a combination of laboratory and doctor sources (Northern Territory, Queensland, South Australia, Western Australia). Cases of AIDS are notified through the State and Territory health authorities to the National AIDS Registry. Diagnoses of both HIV infection and AIDS are notified with the person's date of birth and name code, to minimise duplicate notifications while maintaining confidentiality.

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is published in the quarterly Australian HIV Surveillance Report, and annually in 'HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia, annual surveillance report'. The reports are available from the National Centre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst NSW 2010. Internet: <http://www.med.unsw.edu.au/nchechr>. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. For more information see Commun Dis Intell 2005;29:91-92.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 April to 30 June 2005, as reported to 30 September 2005, are included in this issue of Communicable Diseases Intelligence (Tables 10 and 11).

Table 10. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 April to 30 June 2005, by sex and state or territory of diagnosis

	Sex	State or territory								Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2005	This period 2004	YTD 2005	YTD 2004
HIV diagnoses	Female	0	6	0	0	2	0	8	3	19	33	45	71
	Male	0	106	0	41	16	0	56	12	231	175	430	390
	Not reported	0	0	0	1	0	0	0	0	1	1	1	1
	Total*	0	112	0	42	18	0	64	15	251	209	476	463
AIDS diagnoses	Female	0	1	0	0	0	0	3	0	4	7	12	11
	Male	0	11	0	7	3	0	10	1	32	37	62	82
	Total*	0	12	0	7	3	0	13	1	36	44	74	94
AIDS deaths	Female	0	0	0	0	0	0	0	0	0	2	2	4
	Male	0	4	0	3	1	0	3	1	12	23	24	38
	Total*	0	4	0	3	1	0	3	1	12	25	26	42

* Totals include people whose sex was reported as transgender.

Table 11. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 30 June 2005, by sex and state or territory

	Sex	State or territory								Australia
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
HIV diagnoses	Female	30	800	18	238	87	8	326	174	1,681
	Male	248	12,911	123	2,513	863	89	4,859	1,124	22,730
	Not reported	0	234	0	1	0	0	22	0	257
	Total*	278	13,972	141	2,761	951	97	5,226	1,305	24,731
AIDS diagnoses	Female	9	234	2	66	31	4	102	35	483
	Male	92	5,205	42	991	392	48	1,895	415	9,080
	Total*	101	5,455	44	1,059	424	52	2,007	452	9,594
AIDS deaths	Female	6	131	1	41	20	2	59	24	284
	Male	71	3,529	26	645	270	32	1,376	290	6,239
	Total*	77	3,670	27	688	290	34	1,443	315	6,544

* 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.

Note that the historical quarterly mean counts should be interpreted with caution, and are affected by surveillance artefacts such as newly recognised and incompletely typed *Salmonella*.

NEPSS is operated by the Microbiological Diagnostic Unit, Public Health Laboratory, Department of Microbiology and Immunology, University of Melbourne; and is overseen by a Steering Committee of state, territory and commonwealth stakeholders. NEPSS can be contacted at the above address or by telephone: +61 3 8344 5701, facsimile: +613 8344 7833 or email joanp@unimelb.edu.au

Reports to the National Enteric Pathogens Surveillance System of *Salmonella* infection for the period 1 July to 30 September 2005 are included in Tables 12 and 13. Data include cases reported and entered by 25 October 2005. 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* 2005;29:93–94.

Third quarter 2005

The total number of reports to NEPSS of human *Salmonella* infection fell to 1,206 in the third quarter of 2005, 33 per cent less than in second quarter of 2005, consistent with the usual seasonal nadir of salmonellosis in Australia. However, the third quarter count was four per cent more than the comparable third quarter of 2004 and 17 per cent greater than the ten-year historical mean for this period. Much of this increase is accounted for by reports of common salmonellae, in particular *Salmonella* Typhimurium phage types 135, 170 and 197, and the typically overseas-acquired *S. Enteritidis* phage types 1b and 6a.

During the third quarter of 2005, the 25 most common *Salmonella* types in Australia accounted for 724 cases, 60 per cent of all reported human *Salmonella* infections. Twenty of the 25 most common *Salmonella* infections in the third quarter of 2005 were among the 25 most commonly reported in the second quarter of 2005.

S. Typhimurium PT 135 was the most common serovar/phage type. Reports of *S. Typhimurium* PT 170 declined, manifesting a pattern seen over several years of more marked seasonal variation than most of the other common salmonellae.

Reports of other salmonellae with counts well above historical averages include *S. Infantis*, *S. Hvitittingfoss*, and *S. Typhimurium* phage types 12 and U307, and (usually overseas-acquired) *S. Corvallis*.

Acknowledgement: We thank scientists, contributing laboratories, state and territory health departments, and the Australian Government Department of Health and Ageing for their contributions to NEPSS.

Table 12. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 July to 30 September 2005, as reported to 25 October 2005

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total all <i>Salmonella</i> for quarter	24	290	61	312	133	20	214	152	1,206
Total contributing <i>Salmonella</i> types	16	99	32	87	48	10	78	69	212

Table 13. Top 25 *Salmonella* types identified in Australia, 1 July to 30 September 2005, by state or territory

National rank	Salmonella type	State or territory								Total 3rd quarter 2005	Last 10 years mean 3rd quarter	Year to date 2005	Year to date 2004
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	S. Typhimurium PT 135	6	33	0	39	5	7	35	9	134	81	374	449
2	S. Saintpaul	0	7	7	29	2	0	3	5	53	44	317	288
3	S. Typhimurium PT 170	0	28	0	9	0	2	12	1	52	21	403	414
4	S. Typhimurium PT 64	1	0	0	0	44	0	0	0	45	48	52	8
5	S. Typhimurium PT 9	2	19	0	3	5	0	13	1	43	75	341	286
6	S. Infantis	0	7	4	4	12	2	5	2	36	21	132	111
7	S. Typhimurium PT 197	0	12	0	15	1	0	6	2	36	12	489	205
8	S. Enteritidis PT 1b	0	10	0	0	0	0	8	8	26	2	35	26
9	S. Chester	0	3	4	7	5	0	1	5	25	22	145	155
10	S. Typhimurium RDNC	0	9	1	3	3	0	9	0	25	15	84	81
11	S. Enteritidis PT 6a	0	5	0	2	2	0	4	12	25	6	72	50
12	S. Virchow PT 8	1	1	1	17	1	1	1	0	23	22	187	270
13	S. Birkenhead	0	5	0	18	0	0	0	0	23	22	154	200
14	S. Agona	1	6	0	3	2	1	4	4	21	12	52	63
15	S. Hvitvingfoss	0	6	2	12	0	0	1	0	21	10	156	116
16	S. Typhimurium PT 12	0	6	0	1	0	0	9	3	19	6	97	203
17	S. Stanley	3	7	0	0	2	0	1	2	15	15	51	60
18	S. Anatum	0	0	1	4	2	0	2	5	14	11	52	70
19	S. Weltevreden	0	4	4	1	0	0	3	2	14	8	43	58
20	S. Corvallis	0	3	0	2	2	0	0	7	14	1	63	28
21	S. Newport	0	2	0	0	1	0	7	3	13	8	26	24
22	S. Typhimurium PT U307	0	2	0	5	0	0	6	0	13	2	18	11
23	S. Aberdeen	0	2	0	10	0	0	0	0	12	12	124	91
24	S. Waycross	0	2	0	9	0	0	1	0	12	9	90	99
25	S. Ball	0	0	10	0	0	0	0	0	10	7	41	49