

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 40 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 3,000 and 4,000 consultations are recorded each week.

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

In 2006, six conditions are being monitored, four of which are related to communicable diseases. These include influenza, gastroenteritis, varicella and shingles. Definitions of these conditions were published in *Commun Dis Intell* 2007;31:162.

Data on influenza-like illness and gastroenteritis from 1 October to 31 December 2006 compared with 2005 are shown as the rate per 1,000 consultations in Figures 1 and 2, respectively.

Childhood immunisation coverage

Tables 1, 2 and 3 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 to 30 September 2005, at 24 months of age for the cohort born between 1 July to 30 September 2004, and at 6 years of age for the cohort born between 1 July to 30 September 2000 according to the National Immunisation Program Schedule.

For information about the Australian Childhood Immunisation Register see *Surveillance systems reported in CDI*, published in *Commun Dis Intell* 2007;31:165 and for a full description of the methodology used by the Register see *Commun Dis Intell* 1998;22:36-37.

Figure 1. Consultation rates for influenza-like illness, ASPREN, 1 January to 31 December 2006, by week of report

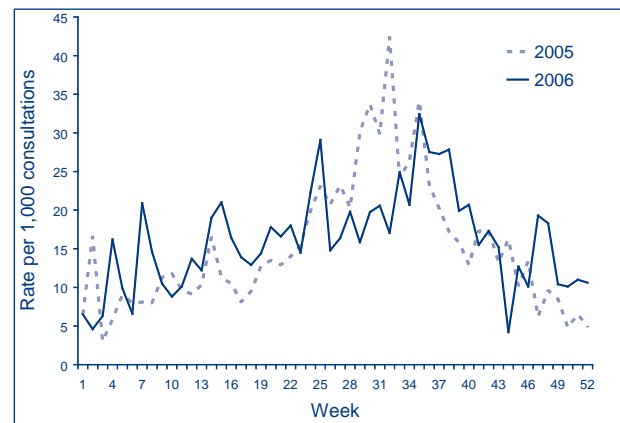
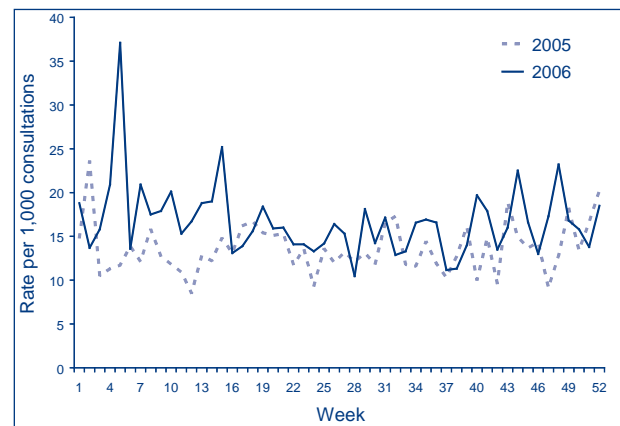


Figure 2. Consultation rates for gastroenteritis, ASPREN, 1 January to 31 December 2006, by week of report



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.

Reporting period 1 July to 30 September 2006

Immunisation coverage for children 'fully immunised' at 12 months of age for Australia increased marginally by 0.4 percentage points to 91.2% (Table 1), whilst there were no important changes in coverage for all individual vaccines due at 12 months of age. There were no significant movements in coverage for individual vaccines by state or territory.

Immunisation coverage for children 'fully immunised' at 24 months of age for Australia increased marginally from the last quarter by 0.2 percentage points to 92.4% (Table 2). There were no significant changes in coverage in any jurisdiction for 'fully

immunised' coverage or for coverage for individual vaccines. It is notable that the estimate for 'fully immunised' at 24 months of age has been higher than the 12 months coverage estimate since the 18 month DTPa booster was removed from the immunisation schedule in September 2003.

It is also notable that, for the 2 vaccines where no further doses are due between 6 months and 24 months of age (DTP and polio), coverage at the national level was 95.2% and 95.1% respectively at 24 months versus 92.2% and 92.0% at 12 months. This suggests that delayed notification or delayed vaccination is making an important contribution to the coverage estimates at 12 months of age and that the 'fully immunised' estimate is likely to be a minimum estimate.

Table 3 shows immunisation coverage estimates for children at 6 years of age for Australia and by state or territory. For the second consecutive quarter, 'fully immunised' coverage for Australia increased significantly by 1.8 percentage points (a total increase of 5.3 percentage points in 2 quarters) and is now at the highest level ever recorded since coverage at 6 years of age was first reported in early 2003. Coverage increased in all jurisdictions and for all individual vaccines with the greatest increase in the Northern Territory and Western Australia, by 5.9 and 4 percentage points, respectively. A possible factor in this increase in coverage at 6 years of age is the introduction of the multi-valent combination vaccine DTP-IPV onto the schedule in November 2005, reducing the number of vaccines to be recorded from three to two. Other factors which may have had an impact at the local level include promotional campaigns centred around child care or school entry, or data cleaning activities.

Table 1. Percentage 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 2005; assessment date 31 December 2006

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,071	23,311	909	14,333	4,550	1,564	16,508	6,745	68,991
Diphtheria, tetanus, pertussis (%)	92.2	92.0	92.8	91.4	92.1	94.3	92.9	90.8	92.0
Poliomyelitis (%)	92.2	91.8	92.8	91.4	92.0	94.0	92.8	90.8	92.0
<i>Haemophilus influenzae</i> type b (%)	96.1	95.3	96.4	93.7	94.8	96.4	95.1	94.5	94.8
Hepatitis B (%)	96.1	95.3	96.6	93.5	94.5	96.4	95.0	94.3	94.7
Fully immunised (%)	91.9	91.5	92.3	90.1	91.1	94.0	91.7	90.2	91.2
Change in fully immunised since last quarter (%)	+1.2	+0.6	+1.7	-0.3	+0.6	+0.2	+0.3	+0.9	+0.4

Table 2. Percentage 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 2004; assessment date 31 December 2006*

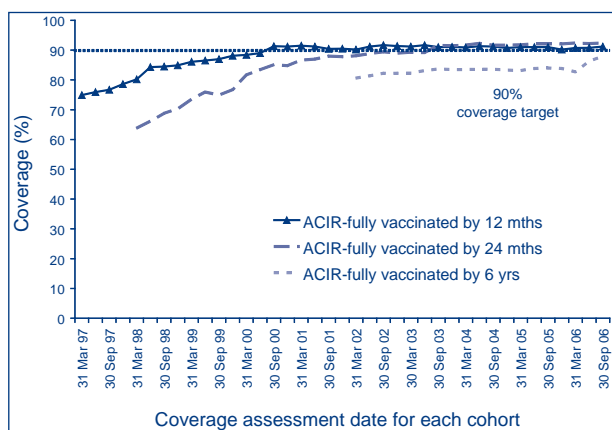
Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,077	22,296	844	13,513	4,330	1,509	16,194	6,505	66,268
Diphtheria, tetanus, pertussis (%)	95.5	95.0	96.7	94.7	94.9	97.0	96.1	94.0	95.2
Poliomyelitis (%)	95.5	94.9	96.5	94.6	94.9	97.0	96.0	94.0	95.1
<i>Haemophilus influenzae</i> type b (%)	94.9	93.7	95.1	93.5	93.7	96.0	94.8	92.7	93.9
Measles, mumps, rubella (%)	94.5	93.7	96.2	93.5	93.9	95.0	95.0	92.7	94.0
Hepatitis B (%)	95.9	95.8	97.5	95.5	95.9	97.2	96.4	94.7	95.8
Fully immunised (%)	93.5	92.1	94.4	91.8	92.4	94.5	93.6	90.8	92.4
Change in fully immunised since last quarter (%)	-0.3	+0.7	-0.1	+0.2	+1.2	+0.7	-0.0	-0.5	+0.2

* The 12 months age data for this cohort was published in *Commun Dis Intell* 2006;30:157.

Table 3. Percentage 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 2000; assessment date 31 December 2006

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Aust
Total number of children	1,064	22,649	815	13,963	4,599	1,569	16,277	6,861	67,797
Diphtheria, tetanus, pertussis (%)	89.7	88.8	88.8	88.4	87.6	89.9	90.8	85.6	88.8
Poliomyelitis (%)	90.1	88.7	88.8	88.6	87.5	89.9	90.8	85.6	88.8
Measles, mumps, rubella (%)	90.2	88.8	88.8	88.6	87.2	89.7	90.8	85.6	88.8
Fully immunised (%) ¹	89.4	87.9	88.1	87.6	86.6	89.3	90.1	84.7	88.0
Change in fully immunised since last quarter (%)	+1.8	+1.7	+5.9	+1.4	+2.0	+0.7	+1.1	+4.0	+1.8

Figure 3 shows the trends in vaccination coverage from the first ACIR-derived published coverage estimates in 1997 to the current estimates. There is a clear trend of increasing vaccination coverage over time for children aged 12 months, 24 months and 6 years, although the rate of increase has slowed over the past 2 years for all age groups. The recent increase in coverage at 6 years of age, described in the previous paragraph, is apparent in the Figure. It should be noted that, currently, coverage for the vaccines added to the National Immunisation Program since 2003 (pneumococcal conjugate at 2, 4 and 6 months; meningococcal C conjugate at 12 months; and varicella at 18 months) are not included in the coverage estimates at 12 or 24 months of age.

Figure 3. Trends in vaccination coverage, Australia, 1997 to 2006, by age cohorts

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% 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 2007;31:163.

Reporting period 1 July to 30 September 2006

The AGSP laboratories received a total of 869 gonococcal isolates of which 854 remained viable for susceptibility testing. This was about 10% less than the 968 gonococci reported for the same period in 2005. About one third of this total was from New South Wales, 21% from Victoria, 16% each from the Northern Territory and Queensland, 11% from Western Australia and 5% from South Australia. There were 2 isolates each from Tasmania and the Australian Capital Territory.

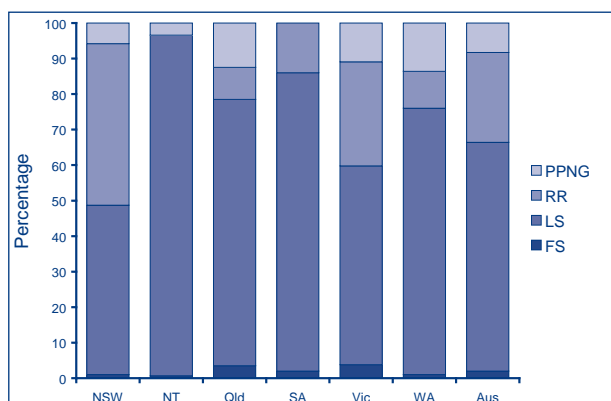
Penicillins

In this quarter, 303 (35.5%) of the 854 isolates examined were penicillin resistant by one or more mechanisms. Seventy-six (8.9%) were penicillinase producing *N. gonorrhoeae* (PPNG) and 227 (26.6%) resistant by chromosomal mechanisms, (CMRNG). The proportion of all strains resistant to the penicillins by any mechanism ranged from 4.3% in the Northern Territory to 50% in New South Wales and Victoria. High rates of penicillin resistance were also found in South Australia (37.8%) and Queensland (31%), with a lower rate (13.4%) in Western Australia.

Figure 4 shows the proportions of gonococci fully sensitive (MIC \leq 0.03 mg/L), less sensitive (MIC 0.06–0.5 mg/L), relatively resistant (MIC \geq 1 mg/L) or else penicillinase producing (PPNG) aggregated for Australia and by state or territory. A high proportion those strains classified as PPNG or else resistant by chromosomal mechanisms fail to respond to treatment with penicillins (penicillin, amoxicillin, ampicillin) and early generation cephalosporins.

In New South Wales, most of the penicillin resistance was due to CMRNG (117, 42.4%) with 21 PPNG (7.6%). A similar distribution was present in Victoria with 20 PPNG (11%) and 70 CMRNG (38.7%). This disparity was not quite as pronounced in other centres. The proportion of CMRNG in Queensland increased to 17% while 14% were PPNG. In South Australia, 16% were PPNG and 21% were CMRNG. In Western Australia, PPNG and CMRNG each accounted for 6.7% of all 89 isolates. PPNG were also present in Tasmania and the Northern

Figure 4. Categorisation of gonococci isolated in Australia, 1 July to 30 September 2006, by penicillin susceptibility and region



FS Fully sensitive to penicillin, MIC \leq 0.03 mg/L.

LS Less sensitive to penicillin, MIC 0.06–0.5 mg/L.

RR Relatively resistant to penicillin, MIC \geq 1 mg/L.

PPNG Penicillinase producing *Neisseria gonorrhoeae*.

Territory (1 and 4 isolates respectively). No PPNG were detected in the Australian Capital Territory. CMRNG were present in Tasmania (1 isolate), the Northern Territory (2) and there was a single CMRNG from the Australian Capital Territory.

Ceftriaxone

Four isolates with decreased susceptibility to ceftriaxone (MIC range 0.06–0.12 mg/L) were detected. Three were found in Queensland and 1 in New South Wales. All 4 isolates were penicillin resistant by chromosomal mechanisms and were also quinolone resistant (ciprofloxacin MICs 4–16 mg/L). 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 susceptible to this injectable agent.

Quinolone antibiotics

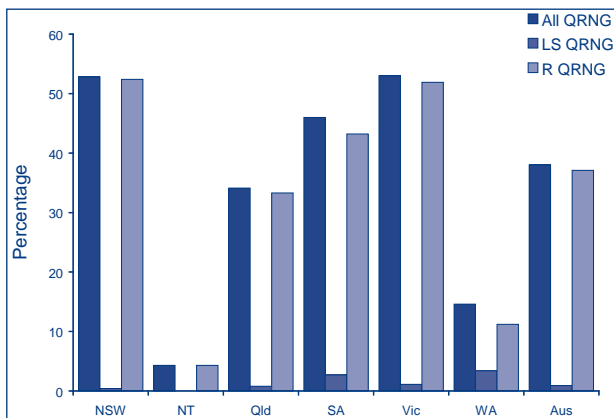
The number (325) and percentage (38%) of quinolone resistant *N. gonorrhoeae* (QRNG) detected in this quarter was the highest proportion of QRNG found in this program to date. In the third quarter of 2004 there were 200 QRNG; 24% of all gonococci tested, and in this quarter in 2005, the number (335) was higher but the proportion (35.5%) slightly lower. The majority of QRNG (317 of 325, 97.5%) exhibited higher-level resistance to ciprofloxacin of 1 mg/L or more. QRNG are defined as those isolates with an MIC to ciprofloxacin equal to or greater than 0.06 mg/L. QRNG are further subdivided into less sensitive (ciprofloxacin MICs 0.06–0.5 mg/L) or resistant (MIC \geq 1 mg/L) groups.

QRNG were detected in all states and territories (Figure 5). The highest proportion of QRNG was found in Victoria where 96 QRNG accounted for 53% of all gonococci tested. In South Australia, there were 17 QRNG (46% of isolates), in New South Wales 146 QRNG (52.8%), Queensland 44 (34%), Western Australia 13 (14.6%), with 6 QRNG detected in the Northern Territory, 2 in Tasmania and 1 in the Australian Capital Territory.

High level tetracycline resistance

The number (102) and proportion (11.9%) of high level tetracycline resistant *N. gonorrhoeae* (TRNG) detected was lower than that recorded in this quarter in 2005 (156, 16.6%). TRNG were found in all states and territories except for Tasmania and the Australian Capital Territory and represented between 5% (Northern Territory) and 26% of isolates (Western Australia).

Figure 5. The distribution of quinolone resistant isolates of *Neisseria gonorrhoeae* in Australia by jurisdiction, 1 July to 30 September 2006



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L.

R QRNG Ciprofloxacin MICs \geq 1 mg/L

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. Communicable Diseases Intelligence NEPSS quarterly reports include only *Salmonella*. NEPSS receives reports of *Salmonella* isolates that have been serotyped and phage typed by the six *Salmonella* laboratories in Australia. *Salmonella* isolates are submitted to these laboratories for typing by primary diagnostic laboratories throughout Australia.

A case is defined as the isolation of a *Salmonella* from an Australian resident, either acquired locally or as a result of overseas travel, including isolates detected during immigrant and refugee screening. Second and subsequent identical isolates from an individual within six months are excluded, as are isolates from overseas visitors to Australia. The date of the case is the date the primary diagnostic laboratory isolated *Salmonella* from the clinical sample.

Quarterly reports include historical quarterly mean counts. These should be interpreted cautiously as they may be affected by outbreaks and by surveillance artefacts such as newly recognised and incompletely typed *Salmonella*.

NEPSS may be contacted at the Microbiological Diagnostic Unit, Public Health Laboratory, Department of Microbiology and Immunology, The University of Melbourne; by telephone: +61 3 8344 5701, facsimile: +61 3 8344 7833 or email joanp@unimelb.edu.au

Scientists, diagnostic and reference laboratories contribute data to NEPSS, which is supported by state and territory health departments and the Australian Government Department of Health and Ageing.

Reports to the National Enteric Pathogens Surveillance System of *Salmonella* infection for the period 1 October to 31 December 2006 are included in Tables 6 and 7. Data include cases reported and entered by 19 January 2006. 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* 2007;31:164–165.

Reporting period 1 October to 30 September 2006

There were 1,873 reports to NEPSS of human *Salmonella* infection in the fourth quarter of 2006; 64% more than in third quarter of 2006, and around 10% more than the 10-year historical mean for this period. An increase in reports of both sporadic and outbreak-associated human salmonellosis from late spring through summer is typical of seasonal trends in the incidence of salmonellosis in Australia.

During the fourth quarter of 2006, the 25 most common *Salmonella* types in Australia accounted for 1,243 cases; 66% of all reported human *Salmonella* infections. Nineteen of the 25 most common *Salmonella* infections in the fourth quarter of 2006 were also among those most commonly reported in preceding quarter.

S. Saintpaul was by far the most common *Salmonella* in Australia, with the recent excess of cases largely due to widespread outbreaks associated with fresh produce. *S. Typhimurium* phage types 170, 135 and 44 were next most common, particularly in New South Wales and Victoria. *S. Typhimurium* phage type 170 emerged in late 2001, and despite declining markedly each winter, reappears regularly as a prominent cause of human disease during the warmer months. The increase in *S. Typhimurium* phage type 44 cases is more recent.

Other salmonellae manifesting increases over the recent historical average include *S. Typhimurium* phage type 197 (in Queensland), *S. Montevideo* and *S. Wangata* (New South Wales), *S. Litchfield* (Western Australia) and *S. Havana* (New South Wales).

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 6. Top 25 Salmonella types identified in Australia, 1 October to 31 December 2006, by state or territory

National rank	Salmonella type	State or territory								Total 4th quarter 2006	Last 10 years mean 4th quarter	Year to date 2006	Year to date 2005
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	S. Saintpaul	10	81	9	79	1	7	44	7	238	78	561	437
2	S. Typhimurium PT 170	13	57	0	15	0	0	47	2	134	61	409	472
3	S. Typhimurium PT 135	5	43	5	21	2	4	30	9	119	168	667	805
4	S. Typhimurium PT 44	5	23	0	14	3	0	67	0	112	37	237	230
5	S. Typhimurium PT 9	1	25	0	17	21	0	12	5	81	121	353	434
6	S. Typhimurium PT 197	0	10	0	46	0	2	2	1	61	24	146	546
7	S. Virchow PT 8	1	8	5	29	0	0	4	1	48	49	266	249
8	S. Birkenhead	0	23	0	20	0	0	1	0	44	63	263	219
9	S. Chester	0	10	2	12	1	0	6	6	37	37	158	185
10	S. Montevideo	0	22	0	1	0	0	9	2	34	10	64	21
11	S. Muenchen	0	4	1	15	0	0	0	11	31	27	153	147
12	S. Oranienburg	1	5	3	8	6	1	2	3	29	16	161	101
13	S. Stanley	0	9	0	7	0	0	9	4	29	15	102	69
14	S. Infantis	0	10	0	1	6	0	6	5	28	29	173	170
15	S. Litchfield	0	1	5	6	0	0	0	16	28	9	51	35
16	S. Typhimurium PT 12	1	8	0	0	0	0	9	7	25	16	118	117
17	S. Aberdeen	0	1	0	20	0	0	2	0	23	22	146	151
18	S. Typhimurium PT 135a	0	0	4	0	18	1	0	0	23	6	66	27
19	S. Hvitvingfoss	0	3	0	12	0	0	3	1	19	20	133	185
20	S. Anatum	0	0	5	7	1	0	0	5	18	20	107	79
21	S. Potsdam	0	1	3	8	1	0	1	3	17	19	83	49
22	S. Waycross	0	7	0	9	0	0	1	0	17	18	140	115
23	S. Havana	0	8	2	2	0	0	3	2	17	11	42	39
24	S. Singapore	0	11	1	1	1	0	0	2	16	13	54	37
25	S. Enteritidis PT 6a	0	3	0	0	0	2	5	5	15	8	52	90

Table 6. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 October to 31 December 2006, as reported to 19 January 2007

	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total all <i>Salmonella</i> for quarter	49	523	93	495	116	38	386	173	1,873
Total contributing <i>Salmonella</i> types	20	110	46	96	41	15	101	70	235

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/ncheccr>. Telephone: + 61 2 9332 4648. Facsimile: + 61 2 9332 1837. For more information see Commun Dis Intell 2007;31:162-163.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 July to 30 September 2006, as reported to 30 December 2006, are included in this issue of Communicable Diseases Intelligence (Tables 4 and 5).

Table 4. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 July to 30 September 2006, 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 2006	This period 2005	YTD 2006	YTD 2005
HIV diagnoses	Female	0	1	0	7	0	0	5	11	24	26	85	73
	Male	0	41	0	31	1	0	59	13	145	199	548	649
	Not reported	0	0	0	0	0	0	0	0	0	0	0	0
	Total*	0	42	0	38	1	0	66	24	171	226	636	723
AIDS diagnoses	Female	0	0	0	1	0	0	3	1	5	11	15	26
	Male	0	17	0	3	2	0	19	2	43	43	119	137
	Total*	0	17	0	4	2	0	23	3	49	54	136	163
AIDS deaths	Female	0	0	0	0	0	0	0	0	0	1	3	3
	Male	0	6	0	2	2	0	10	0	20	17	49	45
	Total*	0	6	0	2	2	0	10	0	20	18	54	48

* Totals include people whose sex was reported as transgender.

Table 5. Cumulative diagnoses of HIV infection, AIDS, and deaths following AIDS since the introduction of HIV antibody testing to 30 September 2006, and reported by 31 December 2006, by sex and state or territory

	Sex	State or territory								Australia
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
HIV diagnoses	Female	32	844	18	261	94	8	356	203	1,816
	Male	259	13,301	128	2,685	899	95	5,187	1,202	23,756
	Not reported	0	231	0	0	0	0	22	0	253
	Total*	291	14,405	146	2,955	994	103	5,587	1,412	25,893
AIDS diagnoses	Female	10	250	3	70	32	4	110	38	517
	Male	93	5,375	43	1,022	399	50	1,984	423	9,389
	Total*	103	5,642	46	1,094	432	54	2,106	463	9,940
AIDS deaths	Female	7	136	1	42	20	2	60	24	292
	Male	74	3,572	26	661	276	32	1,410	292	6,343
	Total*	81	3,719	27	705	296	34	1,479	317	6,658

* Totals include people whose sex was reported as transgender.