

## Additional reports

### Australian Sentinel Practice Research Network

The Australian Sentinel Practices Research Network (ASPREN) is a national surveillance system that is owned and operated by the Royal Australian College of General Practitioners and directed through the Discipline of General Practice at the University of Adelaide.

The network consists of general practitioners who report presentations on a number of defined medical conditions each week. ASPREN was established in 1991 to provide a rapid monitoring scheme for infectious diseases that can alert public health officials of epidemics in their early stages as well as play a role in the evaluation of public health campaigns and research of conditions commonly seen in general practice. Electronic data collection was established in 2006 and currently, further development of ASPREN is in progress to create an automatic reporting system.

The list of conditions is reviewed annually by the ASPREN management committee and an annual report is published. In 2009, four conditions are being monitored. They include influenza-like illness (ILI), gastroenteritis and varicella infections (chickenpox and shingles). Definitions of these conditions are described in Surveillance systems reported in CDI, published in Commun Dis Intell 2008;32:135.

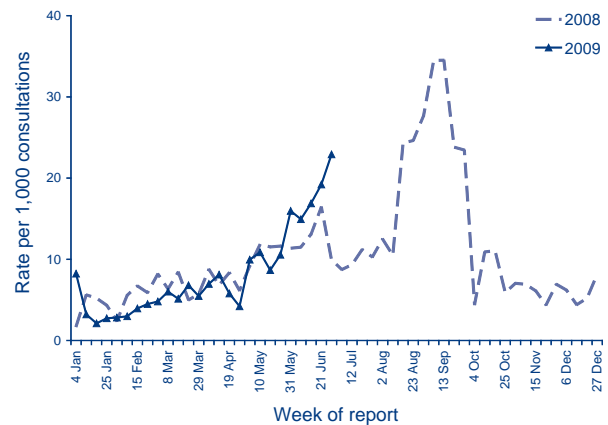
Data on influenza-like illness, gastroenteritis, chickenpox and shingles from 1 April to 30 June 2009 compared with 2008, are shown as the rate per 1,000 consultations in Figures 1, 2, 3 AND 4, respectively.

#### Reporting period 1 April to 30 June 2009

Sentinel practices contributing to ASPREN were located in all jurisdictions other than the Northern Territory. A total of 102 general practitioners contributed data to ASPREN in the 2nd quarter of 2009. Each week an average of 81 general practitioners provided information to ASPREN at an average of 8,089 (range 6,740–8,902) consultations per week.

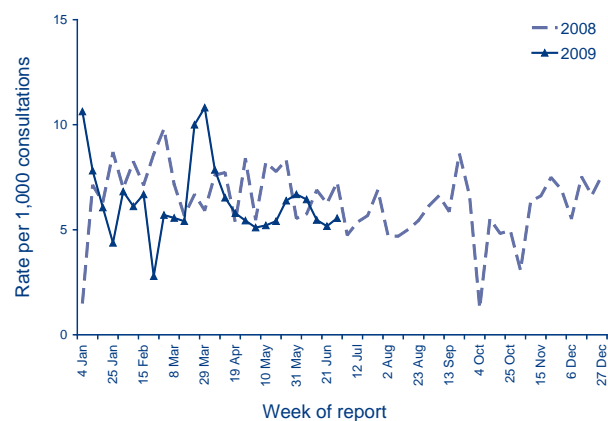
ILI rates reported from 1 April to 30 June 2009 were 4–23 cases per 1,000 consultations. The reported rates in April and May 2009 were similar compared with the same reporting period in 2008 (Figure 1). ILI rates reported in June 2009 (15–23 cases per 1,000 consultations) were higher than rates recorded in June 2008 (10–16 cases per 1,000 consultations).

**Figure 1: Consultation rates for influenza-like illness, ASPREN, 1 January 2008 to 30 June 2009, by week of report**



During this reporting period, consultation rates for gastroenteritis ranged from 5 to 8 cases per 1,000 consultations (Figure 2).

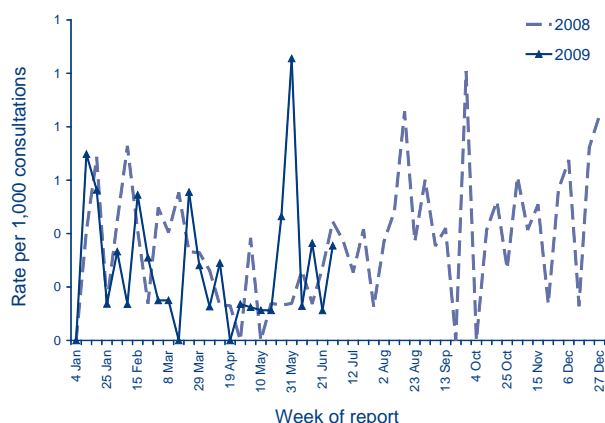
**Figure 2: Consultation rates for gastroenteritis, ASPREN, 1 January 2008 to 30 June 2009, by week of report**



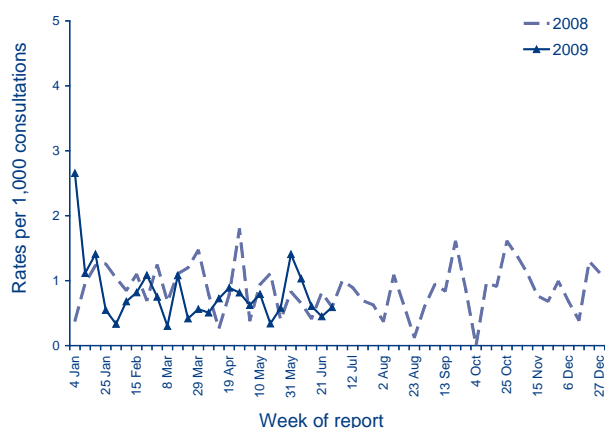
Varicella infections were reported at a similar rate for the 2nd quarter of 2009 compared with the same period in 2008. From 1 April to 30 June 2009, recorded rates for chickenpox were between 0 and 1 case per 1,000 consultations (Figure 3).

In the second quarter of 2009, reported rates for shingles were between less than 1 to 1.4 cases per 1,000 consultations (Figure 4).

**Figure 3: Consultation rates for chickenpox, ASPREN, 1 January 2008 to 30 June 2009, by week of report**



**Figure 4: Consultation rates for shingles, ASPREN, 1 January 2008 to 30 June 2009, by week of report**



## Australian 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 January and 31 March 2008, at 24 months of age for the cohort born between 1 January and 31 March 2007, and at 5 years of age for the cohort born between 1 January and 31 March 2003 according to the National Immunisation Program Schedule. However from March 2002 to December 2007, coverage for vaccines due at 4 years of age was assessed at the 6-year milestone age.

For information about the Australian Childhood Immunisation Register see *Surveillance systems reported in CDI*, published in *Commun Dis Intell*

2008;32:134–135 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](mailto:brynleyh@chw.edu.au)

‘Fully immunised’ at 12 months of age is defined as a child having a record on the ACIR of 3 doses of a diphtheria (D), tetanus (T) and pertussis-containing (P) vaccine, 3 doses of polio vaccine, 2 or 3 doses of *Haemophilus influenzae* type b (Hib) vaccine, and 2 or 3 doses of hepatitis B vaccine. ‘Fully immunised’ at 24 months of age is defined as a child having a record on the ACIR of 3 or 4 doses of a DTP-containing vaccine, 3 doses of polio vaccine, 3 or 4 doses of Hib vaccine, 2 or 3 doses of hepatitis B vaccine and one dose of a measles, mumps and rubella-containing (MMR) vaccine. ‘Fully immunised’ at 5 years of age is defined as a child having a record on the ACIR of 4 or 5 doses of a DTP-containing vaccine, 4 doses of polio vaccine, and 2 doses of an MMR-containing vaccine.

Immunisation coverage for children ‘fully immunised’ at 12 months of age for Australia decreased slightly by 0.3 of a percentage point to 91.3% (Table 1). There were no important changes in coverage for any individual vaccines due at 12 months of age or by jurisdiction.

Immunisation coverage for children ‘fully immunised’ at 24 months of age for Australia increased slightly by 0.3 of a percentage point to 92.9% (Table 2). There were no important changes in coverage for any individual vaccines due at 24 months of age or by jurisdiction.

Immunisation coverage for children ‘fully immunised’ at 5 years of age for Australia is currently at 82.4% (Table 3). In South Australia and Tasmania it is below 80%, at 75.6% and 78.6% respectively. Due to a calculation error by ACIR, the coverage estimates for the past 5 quarters for the 5-year age group have been incorrect. Assessment was made at 66 months rather than 60 months, which inflated the estimates. The age of assessment for vaccines due at 4 years of age makes a critical difference to coverage estimates for these vaccines. Comparing the current correct figures (assessment at 60 months) with the figures assessed in December 2007, the last time assessment was made at 72 months, a decrease of 6.4 percentage points in coverage for Australia was observed with an even greater decrease of 12 percentage points observed for South Australia.

**Table 1: Percentage of children immunised at 1 year of age, preliminary results by disease and state or territory for the birth cohort 1 January to 31 March 2008; assessment date 30 June 2009**

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,164	24,006	966	15,531	4,864	1,610	17,597	7,873	73,611
Diphtheria, tetanus, pertussis (%)	94.0	92.2	90.6	91.3	91.8	90.6	92.3	89.5	91.7
Poliomyelitis (%)	94.0	92.1	90.5	91.3	91.7	90.6	92.3	89.4	91.7
<i>Haemophilus influenzae</i> type b (%)	95.5	94.7	94.8	94.2	94.8	93.0	94.9	93.3	94.5
Hepatitis B (%)	95.6	94.7	94.7	94.0	94.7	93.0	94.7	93.3	94.4
Fully immunised (%)	93.6	91.9	90.3	91.0	91.5	90.3	91.9	88.9	91.3
Change in fully immunised since last quarter (%)	-1.2	-0.3	+0.3	-0.2	0.0	-1.9	-0.5	-0.1	-0.3

**Table 2: Percentage of children immunised at 2 years of age, preliminary results by disease and state or territory for the birth cohort 1 January to 31 March 2007; assessment date 30 June 2009\***

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,145	24,259	967	15,517	4,942	1,601	17,709	7,652	73,792
Diphtheria, tetanus, pertussis (%)	95.6	95.0	96.5	94.6	95.1	94.8	95.7	94.3	95.0
Poliomyelitis (%)	95.6	95.0	96.5	94.5	95.1	94.9	95.7	94.3	95.0
<i>Haemophilus influenzae</i> type b (%)	95.6	95.3	95.1	93.7	94.3	94.9	94.8	94.0	94.6
Measles, mumps, rubella (%)	94.5	93.8	96.2	93.4	94.5	93.8	94.9	93.3	94.0
Hepatitis B (%)	96.2	95.9	97.3	95.5	95.7	95.3	96.3	95.1	95.8
Fully immunised (%)	93.6	92.7	94.6	92.2	93.2	93.0	93.8	91.8	92.9
Change in fully immunised since last quarter (%)	-0.3	+0.4	+0.9	0.0	+1.3	-0.4	+0.2	+0.9	+0.3

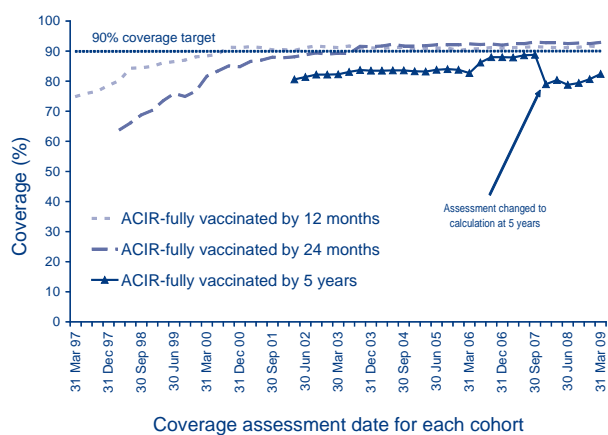
\* The 12 months age data for this cohort were published in *Commun Dis Intell* 2008;32(3):358.

**Table 3: Percentage of children immunised at 5 years of age, preliminary results by disease and state or territory for the birth cohort 1 January to 31 March 2004; assessment date 30 June 2009**

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,099	22,095	893	14,307	4,626	1,396	16,307	7,099	67,822
Diphtheria, tetanus, pertussis (%)	85.2	82.8	85.3	83.3	76.4	79.7	86.4	81.4	83.2
Poliomyelitis (%)	84.9	82.7	85.4	83.1	76.4	79.6	86.3	81.2	83.1
Measles, mumps, rubella (%)	85.1	82.5	85.1	83.2	76.2	79.2	86.1	81.1	82.9
Fully immunised (%)	84.4	82.0	84.8	82.5	75.6	78.6	85.8	80.3	82.4
Change in fully immunised since last quarter (%)	0.0	+3.6	+2.9	+1.7	+0.2	-3.6	+0.2	+1.7	+1.7

Figure 5 shows the trends in vaccination coverage from the 1st 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 (5 years from March 2008), although coverage for vaccines due at 4 years decreased significantly due to the above-mentioned change in assessment age. It should also be noted that, currently, coverage for the vaccines added to the NIP since 2003 (varicella at 18 months, meningococcal C conjugate at 12 months and pneumococcal conjugate at 2, 4, and 6 months) are not included in the 12 or 24 months coverage data respectively.

**Figure 5: Trends in vaccination coverage, Australia, 1997 to 31 March 2009, 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 per cent or more of isolates from a general population, it is usual to remove that agent from the list of recommended treatment.<sup>1</sup> 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* 2008;32:134.

### Reporting period 1 January to 31 March 2009

The AGSP laboratories received a total of 875 isolates in this quarter of which 856 underwent susceptibility testing. This number is 76 more than the 799 isolates reported in this period in 2008. About 27% of this total was from New South Wales, 25% from Victoria, 16% from Queensland, 12% each from Western Australia and the Northern Territory and 7% from South Australia. A small number of isolates were also received from Tasmania and the Australian Capital Territory.

### Penicillins

In this quarter, 336 (39%) of all isolates examined were penicillin resistant by one or more mechanisms. One hundred and eleven (13%) were penicillinase producing (PPNG) and 223 (26%) penicillin resistant by chromosomal mechanisms, (CMRP). The proportion of all strains resistant to the penicillins by any mechanism ranged from 2% in the Northern Territory to 56% in New South Wales. In this quarter in 2008, 45% of isolates were penicillin resistant by any mechanism and 39% in 2007. The decrease in penicillin resistant strains to 2007 proportions was the result of decreased numbers of gonococci with chromosomally mediated resistance.

Figure 6 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 PPNG, aggregated for Australia and by state and territory. A high proportion of 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.

The highest number of PPNG and CMRP were found in New South Wales where there were 97 CMRP (41%) and 36 PPNG (15%). Victoria had 77 (36%) CMRP and 29 (13%) PPNG. Queensland had higher numbers of PPNG: 23 (17%), but fewer CMRP: 11 (8%). Western Australia also had higher numbers of PPNG: 18 (19%) than CMRP: 13 (14%). One CMRP and 1 PPNG strain were found in the Northern Territory. Two CMRP and 1 PPNG in the Australian Capital Territory and 2 CMRP and no PPNG reported from Tasmania. Of note was the decrease in penicillin resistant strains

**Figure 6: Categorisation of gonococci isolated in Australia, 1 January to 31 March 2009, 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*.

in South Australia in this quarter to 36.5% comprising 20 CMRP (31.75%) and 3 PPNG (4.75%). Corresponding proportions in 2008 were 5% PPNG and 70.7% CMRP.

### Ceftriaxone

Ten isolates with decreased susceptibility to ceftriaxone (MIC range 0.06–0.12 mg/L) were detected nationally, five in New South Wales, three in Queensland and two in South Australia. Eight were seen nationally in the 1st quarter of 2008.

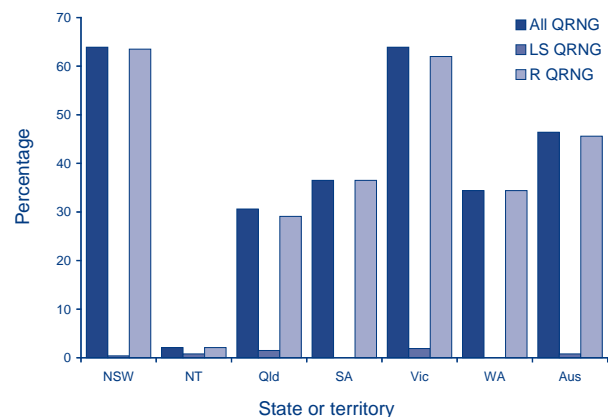
### Spectinomycin

All isolates were susceptible to this injectable agent. This antibiotic is no longer available in Australia.

### Quinolone antibiotics

The total number (397) and proportion (46%) of quinolone resistant *N. gonorrhoeae* (QRNG) was lower than data reported in recent quarters that reported high levels of resistance to this group of antibiotics. In the equivalent period in 2008, there were 415 (53%) QRNG. All but seven of the 397 QRNG detected in this quarter had ciprofloxacin MICs of 1 mg/L or more and 340 had ciprofloxacin MICs of 4 mg/L or more. QRNG are defined as those isolates with an MIC to ciprofloxacin equal to or greater than 0.06 mg/L (Figure 7). QRNG are

**Figure 7: The distribution of quinolone resistant isolates of *Neisseria gonorrhoeae* in Australia, 1 January to 31 March 2009, by jurisdiction**



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L.  
 R QRNG Ciprofloxacin MICs  $\geq$ 1 mg/L.

further subdivided into less sensitive (ciprofloxacin MICs 0.06–0.5 mg/L) or resistant (MIC  $\geq$  1 mg/L) groups.

QRNG were present in all jurisdictions. The highest number of QRNG was found in New South Wales (152) and this represented 64% of all isolates. One hundred and thirty-eight QRNG in Victoria also represented a high (64%) proportion of all isolates there. In Queensland there were 41 (31%), and in Western Australia 33 (34%) QRNG. The 23 (37%) QRNG in South Australia was a marked decrease in number compared with the 83 (84%) QRNG in the same quarter in 2008, and parallels the decrease in penicillin resistance also noted in that jurisdiction in this quarter. Six QRNG were detected in the Australian Capital Territory and two in Tasmania. A single QRNG was detected in the Northern Territory.

### High level tetracycline resistance

Nationally, the number (157) and proportion (18%) of high level tetracycline resistance (TRNG) detected increased when compared with the 2008 data (135 TRNG, 17%). TRNG were found in all states and territories except Tasmania, and elsewhere represented between 2% (South Australia) and 33% of isolates (Western Australia).

### Reference

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

## Meningococcal surveillance

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

The reference laboratories of the Australian Meningococcal Surveillance Programme report data on the number of laboratory confirmed cases confirmed either by culture or by non-culture based techniques. Culture positive cases, where a *Neisseria meningitidis* is grown from a normally sterile site or skin, and non-culture based diagnoses, derived from results of nucleic acid amplification assays and serological techniques, are defined as invasive menin-

gococcal 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* 2009;33:82.

Laboratory confirmed cases of invasive meningococcal disease for the period 1 April to 30 June 2009, are included in this issue of *Communicable Diseases Intelligence* (Table 4).

**Table 4: Number of laboratory confirmed cases of invasive meningococcal disease, Australia, 1 April to 30 June 2009, by serogroup and state or territory**

State or territory	Year	Serogroup													
		A		B		C		Y		W135		ND		All	
		Q2	YTD	Q2	YTD	Q2	YTD	Q2	YTD	Q2	YTD	Q2	YTD	Q2	YTD
Australian Capital Territory	09		3	3										3	3
	08		2	2										2	2
New South Wales	09		13	25	1	4	1	1	1	2	3	3		19	35
	08		9	13	2	3	1	2	1	1				13	19
Northern Territory	09		1	3	0	1								1	4
	08		0	0	1	2								1	2
Queensland	09		6	17	0	0								6	17
	08		25	41	0	2			1	1				26	44
South Australia	09		7	11			1	1						8	12
	08		5	7										5	7
Tasmania	09		1	1										1	1
	08		0	0										0	0
Victoria	09		5	10	0	1					0	2		5	13
	08		18	22			1	1			1	1		20	24
Western Australia	09		8	10	0	2								8	12
	08		5	8								1		5	9
Total	09		44	80	1	8	2	2	1	2	3	5		51	97
	08		64	93	3	7	2	3	2	2	1	2		72	107

## 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 3 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.](http://www.med.unsw.edu.au/ncheccr)

[med.unsw.edu.au/ncheccr](http://www.med.unsw.edu.au/ncheccr). Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. For more information see *Commun Dis Intell* 2009;33:83.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 October to 31 December 2008, as reported to 31 March 2009, are included in this issue of Communicable Diseases Intelligence (Tables 5 and 6).

**Table 5: New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 October to 31 December 2008, 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 2008	This period 2007	YTD 2008	YTD 2007
HIV diagnoses	Female	1	9	0	7	0	0	8	3	28	36	136	135
	Male	0	82	3	38	13	0	55	15	206	218	859	909
	Not reported	0	0	0	0	0	0	0	0	0	0	0	0
	Total*	1	91	3	45	13	0	63	18	234	254	995	1,045
AIDS diagnoses	Female	0	0	0	0	0	0	1	2	3	6	8	16
	Male	0	0	1	4	2	0	11	4	22	36	91	144
	Total*†	0	0	1	4	2	0	12	6	25	42	99	161
AIDS deaths	Female	0	0	0	0	0	0	0	0	0	1	0	8
	Male	0	0	1	0	0	0	7	0	8	12	24	45
	Total*†	0	0	1	0	0	0	7	0	8	13	24	53

\* Totals include people whose sex was reported as transgender.

† AIDS diagnoses and death following AIDS in New South Wales in 2008 not included.

**Table 6: Cumulative diagnoses of HIV infection, AIDS, and deaths following AIDS since the introduction of HIV antibody testing to 1 October to 31 December 2008, and reported by 31 March 2009, by sex and state or territory**

	Sex	State or territory								Australia
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
HIV diagnoses	Female	35	965	25	329	116	13	435	240	2,158
	Male	273	14,148	146	3,069	1,021	115	5,749	1,332	25,853
	Not reported	0	228	0	0	0	0	22	0	250
	Total*	308	15,371	171	3,407	1,138	128	6,228	1,579	28,330
AIDS diagnoses	Female	10	265	4	73	32	4	121	45	554
	Male	94	5,513	47	1,080	418	55	2,103	448	9,758
	Total*†	104	5,796	51	1,155	451	59	2,237	495	10,348
AIDS deaths	Female	7	138	1	43	20	2	64	29	304
	Male	73	3,598	32	679	280	34	1,443	299	6,438
	Total*†	80	3,747	33	724	300	36	1,516	329	6,765

\* Totals include people whose sex was reported as transgender.

† AIDS diagnoses and death following AIDS in New South Wales in 2008 not included.