

## Additional reports

### 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, 24 months and 60 months, for 3-month birth cohorts of children at the stated ages between January and March 2012. 'Fully immunised' refers to vaccines on the National Immunisation Program Schedule, but excludes rotavirus, pneumococcal conjugate, varicella, and meningococcal C conjugate vaccines, and is outlined in more detail below.

'Fully immunised' at 12 months of age is defined as a child having a record on the ACIR of three doses of a diphtheria (D), tetanus (T) and pertussis-containing (P) vaccine, 3 doses of polio vaccine, 2 or 3 doses of PRP-OMP containing *Haemophilus influenzae type b* (Hib) vaccine or 3 doses of any other *Haemophilus influenzae type b* (Hib) vaccine, and 2 or 3 doses of Comvax hepatitis B vaccine or 3 doses of all other hepatitis B vaccines. '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 PRP-OMP Hib vaccine or 4 doses of any other Hib vaccine, 3 or 4 doses of Comvax hepatitis B vaccine or 4 doses of all other hepatitis B vaccines, and 1 dose of a measles, mumps and rubella-containing (MMR) vaccine. 'Fully immunised' at 60 months 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.

A full description of the basic methodology used can be found in *CDI* 1998;22(3):36-37.

The National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS) provides commentary on the trends in ACIR data. For further information please contact NCIRS at: telephone +61 2 9845 1435, email: [brynleyh.hull@health.nsw.gov.au](mailto:brynleyh.hull@health.nsw.gov.au)

The percentage of children 'fully immunised' by 12 months of age for Australia increased marginally from the previous quarter by 0.5 of a percentage point to 91.9% (Table 1). Important changes in coverage were seen only in the Northern Territory with coverage for DTP, polio, Hib vaccine and hepatitis B vaccine (Hep B) increasing by almost 2 percentage points. Coverage for DTP-containing vaccine, polio and 'fully immunised' for the Northern Territory are at their highest recorded levels for this age group.

The percentage of children 'fully immunised' by 24 months of age for Australia decreased marginally from the previous quarter by 0.4 of a percentage point to 92.3% (Table 2). Coverage for DTP-containing vaccine, polio, Hib vaccine and 'fully immunised' for the Northern Territory are at their highest recorded levels for this age group.

The percentage of children 'fully immunised' by 60 months of age for Australia increased from the previous quarter by 0.4 of a percentage point to 90.1% (Table 3). This continues the upward trend in coverage for this age milestone. Important changes in coverage were seen only in South Australia with coverage for DTP-containing vaccine, polio, and MMR vaccine increasing by almost 2 percentage points.

The Figure 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

**Table 1. Percentage of children immunised at 12 months of age, preliminary results by disease and state or territory for the birth cohort 1 January to 31 March 2011; assessment date 30 June 2012**

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,367	24,468	954	15,791	4,845	1,597	17,870	8,263	75,155
Diphtheria, tetanus, pertussis (%)	93.6	92.1	94.3	92.0	92.9	93.4	93.3	90.7	92.4
Poliomyelitis (%)	93.6	92.1	94.3	92.0	92.9	93.3	93.2	90.7	92.3
<i>Haemophilus influenzae</i> type b (%)	93.7	92.0	94.4	91.9	92.7	93.2	93.1	90.6	92.2
Hepatitis B (%)	93.2	91.9	94.2	91.8	92.7	93.2	92.8	90.3	92.0
Fully immunised (%)	93.1	91.7	94.2	91.7	92.6	93.1	92.7	90.1	91.9
Change in fully immunised since last quarter (%)	+0.5	+0.6	+1.9	+0.3	+0.7	+0.2	+0.7	+0.1	+0.5

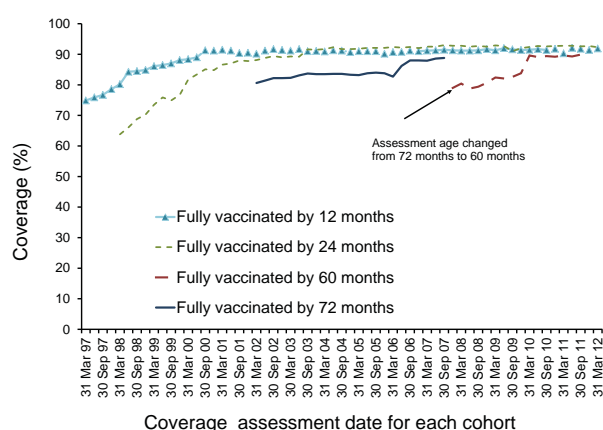
**Table 2. Percentage of children immunised at 24 months of age, preliminary results by disease and state or territory for the birth cohort 1 January to 31 March 2010; assessment date 30 June 2012\***

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,339	24,421	922	16,109	4,955	1,525	18,235	8,231	75,737
Diphtheria, tetanus, pertussis (%)	95.1	94.5	97.3	94.3	94.1	95.1	95.1	93.0	94.5
Poliomyelitis (%)	95.0	94.4	97.3	94.3	94.1	95.0	95.0	92.9	94.4
<i>Haemophilus influenzae</i> type b (%)	95.2	94.9	97.3	94.4	94.4	95.7	95.2	93.4	94.7
Measles, mumps, rubella (%)	94.3	93.7	96.2	93.9	93.7	95.0	94.4	92.4	93.9
Hepatitis B (%)	94.3	94.0	97.2	93.9	93.8	94.9	94.7	92.4	94.0
Fully immunised (%)	92.8	92.1	95.7	92.6	92.2	93.6	93.0	90.1	92.3
Change in fully immunised since last quarter (%)	-0.8	-0.3	+1.3	-0.6	-0.3	-0.1	-0.4	-0.6	-0.4

\* The 12 months age data for this cohort were published in *Commun Dis Intell* 2011;35(1):49.

**Table 3. Percentage of children immunised at 60 months of age, preliminary results by disease and state or territory for the birth cohort 1 January to 31 March 2007; assessment date 30 June 2012**

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,213	24,652	903	16,167	5,087	1,623	18,448	8,237	76,330
Diphtheria, tetanus, pertussis (%)	92.1	91.1	90.5	91.5	89.4	91.1	92.1	88.0	91.0
Poliomyelitis (%)	91.8	91.1	90.6	91.4	89.4	91.1	92.0	88.0	90.9
Measles, mumps, rubella (%)	91.2	91.0	90.4	91.4	89.0	91.3	92.0	88.1	90.9
Fully immunised (%)	90.9	90.6	90.4	91.0	88.8	90.8	91.6	87.6	90.5
Change in fully immunised since last quarter (%)	-0.3	+0.4	-0.4	+0.4	+1.9	-0.2	+0.2	+0.4	+0.4

**Figure: Trends in vaccination coverage, Australia, 1997 to 31 March 2012, by age cohorts**

over time for children aged 12 months, 24 months and 60 months (from December 2007). Coverage at 60 months of age is close to the coverage levels attained at 12 and 24 months.

## Australian Sentinel Practices Research Network

The Australian Sentinel Practices Research Network (ASPREN) is a national surveillance system that is funded by the Australian Government Department of Health and Ageing, 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, web-based data collection was established in 2006.

In June 2010, ASPREN's laboratory influenza-like illness (ILI) testing was implemented, allowing for viral

testing of 25% of ILI patients for a range of respiratory viruses including influenza A, influenza B and influenza A H1N1(2009).

The list of conditions is reviewed annually by the ASPREN management committee. In 2011, 4 conditions are being monitored. They include 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 2012;36(1):122.

**Reporting period 1 April to 30 June 2012**

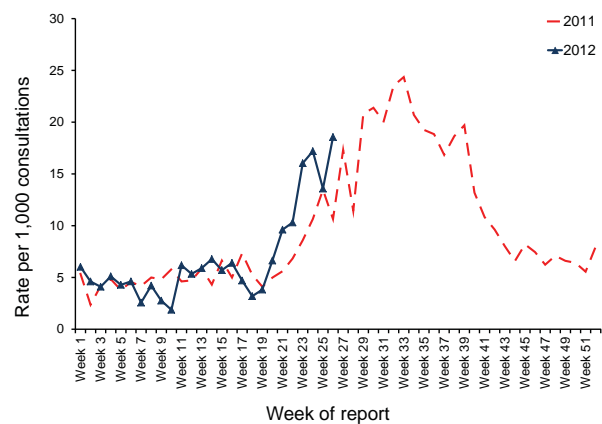
Sentinel practices contributing to ASPREN were located in all 8 jurisdictions in Australia. A total of 166 general practitioners contributed data to ASPREN in the 2nd quarter of 2012. Each week an average of 141 general practitioners provided information to ASPREN at an average of 13,081 (range 10,926–14,671) consultations per week and an average of 192 (range 92–312) notifications per week.

ILI rates reported from 1 April to 30 June 2012 averaged 9 cases per 1,000 consultations (range 3–19 cases per 1,000 consultations). This was higher compared with rates in the same reporting period in 2011, which averaged 7 cases per 1,000 consultations (range 4–13 cases per 1000 consultations) (Figure 1).

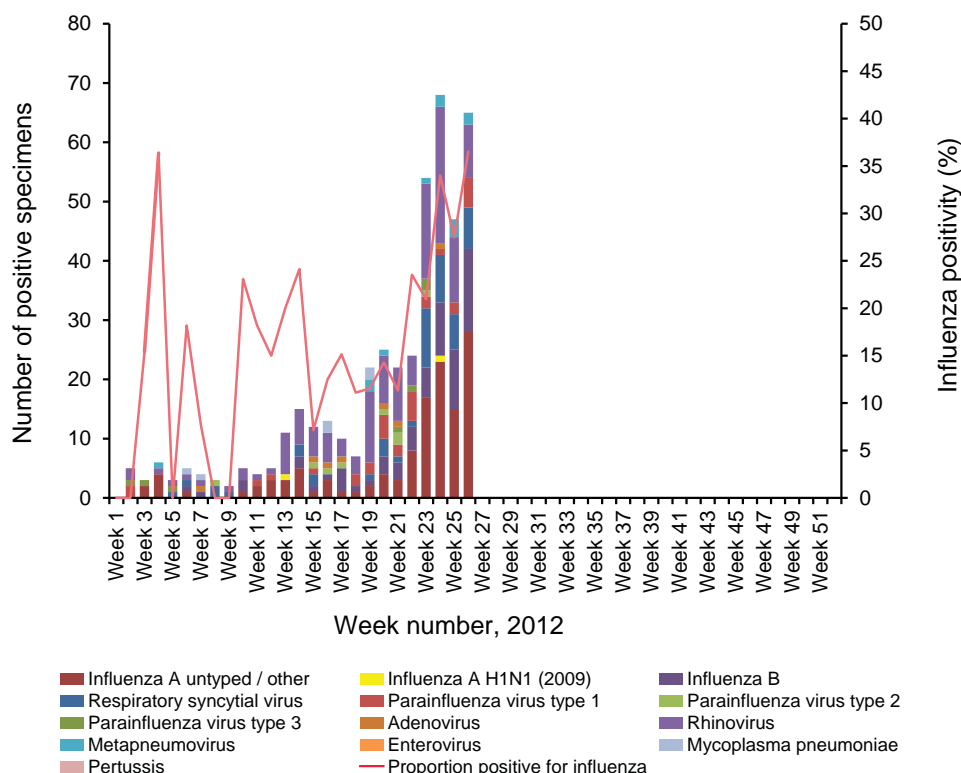
ILI swab testing continued during 2012. The most commonly reported virus during this reporting period was rhinovirus (15% of all swabs collected), with the second most common virus being influenza A (untyped) (14% of all swabs).

From the beginning of 2012 to the end of week 26, 42 cases of influenza had been detected, the majority of these being influenza A (untyped) (14% of all swabs), influenza B (7% of all swabs) and the remainder influenza A(H1N1)2009 (0.2% of all swabs) (Figure 2).

**Figure 1: Consultation rates for influenza-like illness, ASPREN, 2011 and 2012, by year and week of report**



**Figure 2: Influenza-like illness swab testing results, ASPREN, 1 January to 30 June 2012, by week of report**

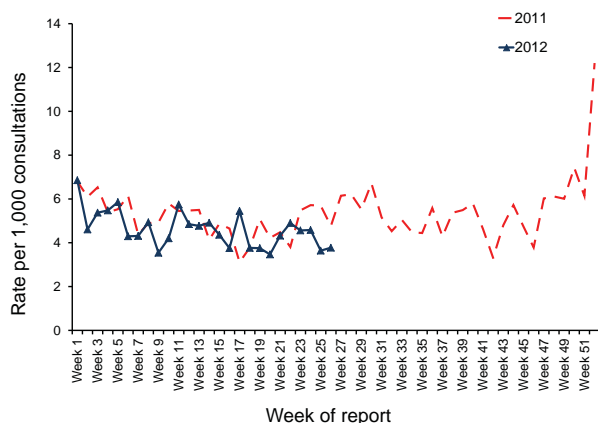


During this reporting period, consultation rates for gastroenteritis averaged 4 cases per 1,000 consultations (range 3–6 cases per 1,000, Figure 3). This was similar to rates in the same reporting period in 2011 where the average was 5 cases per 1,000 consultations (range 3–6 cases per 1,000).

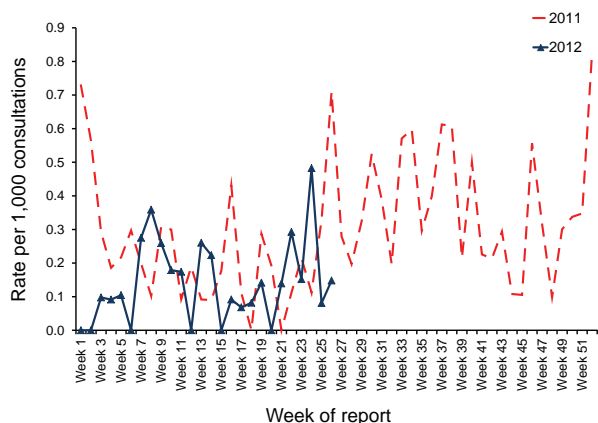
Varicella infections were reported at a slightly lower rate for the second quarter of 2012 compared with the same period in 2011. From 1 April to 30 June 2012, recorded rates for chickenpox averaged 0.15 cases per 1,000 consultations (range 0–0.48 cases per 1,000 consultations, Figure 4).

In the 2nd quarter of 2012, reported rates for shingles averaged 0.8 cases per 1,000 consultations (range 0.56–1.23 cases per 1,000 consultations, Figure 5), slightly higher compared with the same reporting period in 2011, where the average shingles rate was 0.6 cases per 1,000 consultations (range 0.19–0.96 cases per 1,000 consultations).

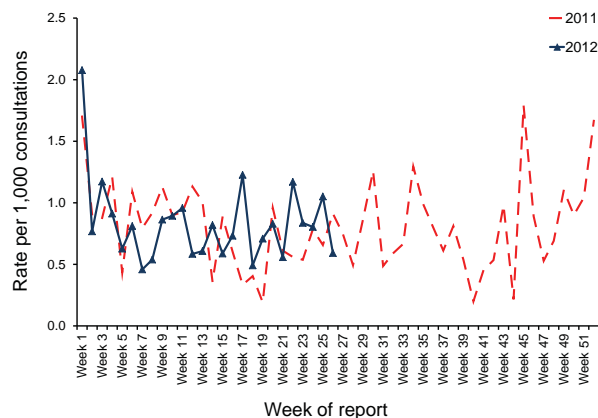
**Figure 3: Consultation rates for gastroenteritis, ASPREN, 2011 and 2012, by year and week of report**



**Figure 4: Consultation rates for chickenpox, ASPREN, 2011 and 2012, by year and week of report**



**Figure 5: Consultation rates for shingles, ASPREN, 2011 and 2012, by year and week of report**



## Gonococcal surveillance

Dr Monica M Lahra, The Prince of Wales Hospital, Randwick, NSW, 2031 for the Australian Gonococcal Surveillance Programme

The Australian Gonococcal Surveillance Programme (AGSP) reference laboratories in the states and territories report data on sensitivity to an agreed 'core' group of antimicrobial agents quarterly. The antibiotics routinely surveyed are penicillin, ceftriaxone, ciprofloxacin and spectinomycin, which are current or potential agents used for the treatment of gonorrhoea. Azithromycin testing is now performed by all states and territories as it has a role as part of a dual therapy regimen in the treatment of 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 treatments.<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. These data are reported in the AGSP Annual Report. 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. From the 2nd quarter of 2012 these data will be presented quarterly in tabulated form (Table 1), as well as in the AGSP annual report. Data for the 1st quarter of 2012 has been included in this report (Table 2) to complete presentation of the AGSP quarterly data in this format for 2012. For more information see Commun Dis Intell 2012;36(1):121.

**Reporting period 1 April to 30 June 2012**

Penicillin resistant *Neisseria gonorrhoeae* are defined as those isolates with an MIC to penicillin equal to or greater than 1.0 mg/L. Total penicillin resistance includes penicillinase producing *Neisseria gonorrhoeae* (PPNG) and chromosomally mediated resistance to penicillin (CMRP).

Quinolone resistant *N. gonorrhoeae* are defined as those isolates with an MIC to ciprofloxacin equal to or greater than 0.06 mg/L, and azithromycin resistance as those isolates with an MIC to azithromycin equal to or greater than 1.0 mg/L. In the Northern Territory there continues to be low levels of penicillin and ciprofloxacin resistance.

Isolates with ceftriaxone MIC values in the range 0.06–0.125 mg/L are reported as having decreased

susceptibility. There has not been an isolate reported in Australia with an MIC >0.125 mg/L. The Figure presents AGSP data for the 1st and 2nd quarters for 2011 and 2012, by ceftriaxone MIC value for the first time to enable monitoring of shift in MIC values *N. gonorrhoeae* MIC values over time, in addition to reporting the proportion in the category of decreased susceptibility. A decrease in the proportion of isolates with a ceftriaxone MIC value of  $\leq 0.008$  mg/L is evident in 2012 compared with 2011, with increases in the higher MIC values demonstrating a right shift over these periods, which will continue to be monitored.

**Reference**

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

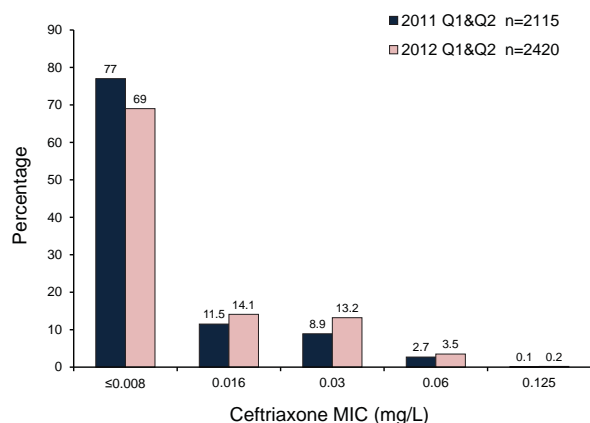
**Table 1: Gonococcal isolates showing decreased susceptibility to ceftriaxone and resistance to ciprofloxacin, azithromycin and penicillin, Australia, 1 January to 31 March 2012, by state or territory**

State or territory	Number of isolates tested	Decreased susceptibility		Resistance					
		Ceftriaxone n	%	Ciprofloxacin n	%	Azithromycin n	%	Penicillin n	%
Australian Capital Territory	13	0	0.0	8	61.5	0	0.0	3	23.1
New South Wales	447	17	3.8	121	27.1	4	0.9	119	26.6
Northern Territory	77	0	0.0	1	1.3	1	1.3	1	1.3
Queensland	205	3	1.5	35	17.1	2	1.0	44	21.5
South Australia	27	0	0.0	8	29.6	8	29.6	12	44.4
Tasmania	1	1	100.0	1	100.0	0	0.0	0	0.0
Victoria	312	21	6.7	166	53.2	14	4.5	178	57.1
Western Australia	130	2	1.5	29	22.3	1	0.8	21	16.2
Australia	1,212	44	3.6	369	30.4	30	2.5	378	31.2

**Table 2: Gonococcal isolates showing decreased susceptibility to ceftriaxone and resistance to ciprofloxacin, azithromycin and penicillin, Australia, 1 April to 30 June 2012, by state or territory**

State or territory	Number of isolates tested	Decreased susceptibility		Resistance					
		Ceftriaxone n	%	Ciprofloxacin n	%	Azithromycin n	%	Penicillin n	%
Australian Capital Territory	9	0	0.0	4	44.4	0	0.0	3	33.3
New South Wales	421	16	3.8	115	27.3	0	0.0	105	24.9
Northern Territory	82	0	0.0	0	0.0	0	0.0	1	1.2
Queensland	174	8	4.6	26	14.9	2	1.1	48	27.6
South Australia	44	0	0.0	7	15.9	0	0.0	7	15.9
Tasmania	4	0	0.0	1	25.0	0	0.0	3	75.0
Victoria	355	21	5.9	149	42.0	108	30.4	202	56.9
Western Australia	119	1	0.8	30	25.2	1	0.8	26	21.8
Australia	1,208	46	3.8	332	27.5	111	9.2	395	32.7

**Figure: Distribution of ceftriaxone MIC values in gonococcal isolates tested at the Australian Gonococcal Surveillance Programme, 1 January 2011 to 30 June 2012**



## Meningococcal surveillance

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The reference laboratories of the Australian Meningococcal Surveillance Programme report data on the number of cases confirmed by laboratory testing using culture and by non-culture based techniques. Culture positive cases, where *Neisseria meningitidis* is grown from a normally sterile site or skin lesions, and non-culture based diagnoses, derived from results of nucleic acid amplification assays (NAA) and serological techniques, are defined as invasive meningococcal disease (IMD) according to Public Health Laboratory Network definitions. Data contained in quarterly reports are restricted to a description of the numbers of cases by jurisdiction and serogroup, where known. Some minor corrections to data in the Table may be made in subsequent reports if additional data are received. A full analysis of laboratory confirmed cases of IMD in each calendar year is contained in the annual reports of the Programme is published in *Communicable Diseases Intelligence*. For more information see *Commun Dis Intell* 2012;36(1):121.

Laboratory confirmed cases of invasive meningococcal disease for the period 1 July to 30 September 2012 are included in this issue of *Communicable Diseases Intelligence* (Table).

**Table: Number of laboratory confirmed cases of invasive meningococcal disease, Australia, 1 July to 30 September 2012, by serogroup and state or territory**

State or territory	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	2012	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	2011	0	0	0	5	0	0	0	0	0	0	0	0	0	5
New South Wales	2012	0	0	16	36	1	1	3	4	2	2	3	8	25	51
	2011	0	0	12	27	0	0	1	6	2	4	3	13	18	50
Northern Territory	2012	0	0	0	2	0	1	0	0	0	0	0	1	0	4
	2011	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Queensland	2012	0	0	15	35	1	2	3	3	2	3	3	3	24	46
	2011	0	0	26	43	0	3	1	3	0	0	0	3	27	52
South Australia	2012	0	0	10	17	0	1	0	0	0	0	0	0	10	18
	2011	0	0	5	11	0	1	0	0	0	2	1	1	6	15
Tasmania	2012	0	0	2	3	0	0	1	1	0	0	0	1	3	5
	2011	0	0	4	6	0	1	0	0	1	3	0	0	5	10
Victoria	2012	0	0	8	21	0	0	2	4	0	0	0	0	10	25
	2011	0	0	11	35	0	0	1	1	1	1	0	3	13	40
Western Australia	2012	0	0	4	11	1	2	0	1	0	0	0	1	5	15
	2011	0	0	4	12	0	0	0	1	0	0	0	0	4	13
Total	2012	0	0	55	126	3	7	9	13	4	5	6	14	77	165
	2011	0	0	62	140	0	5	3	11	4	10	4	20	73	186