# Additional reports

# Australian Sentinel Practice Research Network

The Research and Health Promotion Unit of the Royal Australian College of General Practitioners operates the Australian Sentinel Practice Research Network (ASPREN). ASPREN is a network of general practitioners who report presentations of defined medical conditions each week. The aim of ASPREN is to provide an indicator of the burden of disease in the primary health setting and to detect trends in consultation rates.

There are currently about 50 general practitioners participating in the network from all states and territories. Seventy-five per cent of these are in metropolitan areas and the remainder are rural based. Between 4,000 and 6,000 consultations are recorded each week.

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

In 2003, 13 conditions are being monitored, five of which are related to communicable diseases. These include influenza, gastroenteritis, antibiotic prescription for acute cough, varicella and shingles. Definitions of these conditions were published in Commun Dis Intell 2003;27:125–126.

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

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

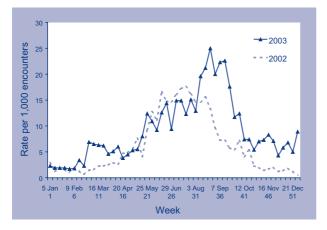
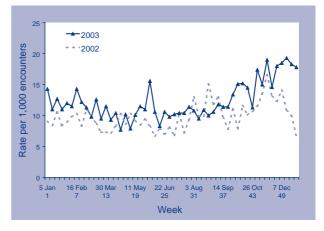
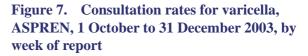
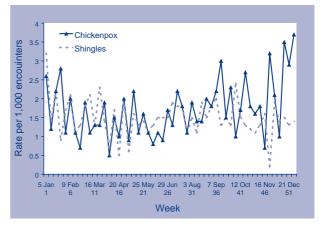


Figure 6. Consultation rates for gastroenteritis, ASPREN, 1 October to 31 December 2003, by week of report







# 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 guarterly. 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 2003:27:128.

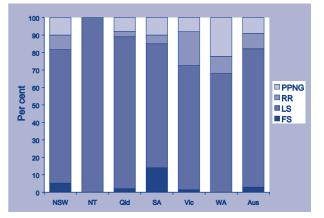
#### Reporting period 1 July to 30 September 2003

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

## Penicillins

Figure 8 shows the proportions of gonococci fully sensitive (MIC  $\leq$  0.03 mg/L), less sensitive (MIC 0.06 – 1 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 of those strains classified as PPNG or else resistant by chromosomal mechanisms, fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

## Figure 8. Categorisation of gonococci isolated in Australia, 1 July to 31 September 2003, by penicillin susceptibility and region



- FS Fully sensitive to penicillin, MIC ≤0.03 mg/L.
- LS Less sensitive to penicillin, MIC 0.06–0.5 mg/L.
- RR Relatively resistant to penicillin, MIC  $\geq$ 1 mg/L.
- PPNG Penicillinase producing Neisseria gonorrhoeae.

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

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

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

#### Ceftriaxone

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

#### Spectinomycin

All isolates were susceptible to this injectable agent.

#### **Quinolone antibiotics**

Quinolone resistant *Neisseria gonorrhoeae* (QRNG) are defined as those isolates with an MIC to ciprofloxacin equal to, or greater than, 0.06 mg/L. QRNG are further subdivided into less sensitive (ciprofloxacin MICs 0.06 - 0.5 mg/L) or resistant (MIC  $\geq 1$  mg/L) groups.

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

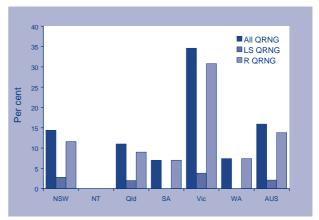
QRNG were again widely distributed, although none were detected in the Northern Territory. High rates were maintained in Victoria (35%) and increased in New South Wales (14%) and Queensland (11%).

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

## High level tetracycline resistance

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

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



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L. R QRNG Ciprofloxacin MICs ≥1 mg/L.

#### References

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

# HIV and AIDS surveillance

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

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is published in the quarterly Australian HIV Surveillance Report, and annually in 'HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia, annual surveillance report'. The reports are available from the National Centre in HIV Epidemiology and Clinical Research. 376 Victoria Street, Darlinghurst NSW 2010. Internet: http://www.med.unsw.edu.au/nchecr. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. For more information see Commun Dis Intell 2003;27:57.

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

	Sex			Sta	ate or to	erritor	у			То	tals for A	ustralia	a
		АСТ	NSW	NT	QId	SA	Tas	Vic	WA	This period 2003	This period 2002	Year to date 2003	Year to date 2002
HIV	Female	1	10	1	2	0	0	3	4	21	15	64	64
diagnoses	Male	1	75	0	24	16	0	46	7	169	180	572	529
	Sex not reported	0	4	0	0	0	0	0	0	4	0	7	1
	Total <sup>1</sup>	2	89	1	26	16	0	49	12	195	197	644	598
AIDS	Female	1	0	1	0	0	0	0	0	2	3	8	10
diagnoses	Male	1	17	0	2	1	0	10	3	34	49	100	148
	Total <sup>1</sup>	2	17	1	2	1	0	10	3	36	52	109	159
AIDS deaths	Female	1	1	0	0	0	0	0	0	2	2	7	4
	Male	0	9	0	1	3	0	5	1	19	21	49	52
	Total	1	10	0	1	3	0	5	1	21	23	56	56

# Table 6.New diagnoses of HIV infection, new diagnoses of AIDS, and deaths following AIDSoccurring in the period 1 July to 30 September 2003, by sex and state or territory of diagnoses

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

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

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

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

# Childhood immunisation coverage

Tables 8, 9, and 10 provide the latest quarterly report on childhood immunisation coverage from the Australian Childhood Immunisation Register (ACIR).

The data show the percentage of children fully immunised at 12 months of age for the cohort born between 1 July and 30 September 2002, at 24 months of age for the cohort born between 1 July and 30 September 2001, and at 6 years of age for the cohort born between 1 July and 30 September 1997 according to the Australian Standard Vaccination Schedule.

A full description of the methodology used can be found in Commun Dis Intell 1998;22:36-37.

Commentary on the trends in ACIR data is provided by the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS). For further information please contact the NCIRS at telephone: +61 2 9845 1256, Email: brynleyh@chw.edu.au.

Immunisation coverage for children 'fully immunised' at 12 months for Australia has decreased from the last guarter by 0.7 percentage points to 91.0 per cent (Table 8). There were substantial decreases in 'fully immunised' coverage by state and territory in two jurisdictions, the Northern Territory (-4.3%) and the Australian Capital Territory (-3.3%). All other jurisdictions experienced either a small decrease or no change in coverage. The Northern Territory also experienced decreases in coverage for diphtheria, tetanus, pertussis (DTP) (-3.5%), poliomyelitis (OPV) (-4.1%), Haemophilus influenzae type b (Hib) (-1.5%) and hepatitis B (Hep B) (-0.9%). Significant decreases in coverage in jurisdictions like the Northern Territory and the Australian Capital Territory, which have relatively small populations, are likely to be the result of small numbers of unimmunised children having a large impact on the coverage percentages.

Coverage measured by 'fully immunised' at 24 months of age for Australia increased significantly from the last quarter by 2.4 percentage points to 91.6 per cent (Table 9). Coverage for individual vaccines for Australia basically remained largely unchanged except for DTP, which increased substantially by 4.5 percentage points. In fact, DTP coverage increased significantly in all jurisdictions due to the removal of the 4th dose of DTP (due at 18 months), from the immunisation schedule from the December 2003 guarter onwards. The coverage assessment for the 24-month cohort now excludes the requirement for the 18-month dose of DTP. Coverage for this cohort now looks for a third or a fourth dose of diphtheria, tetanus and pertussis vaccine. Prior to the change, the 24-month cohort assessment looked for the 4th dose only.

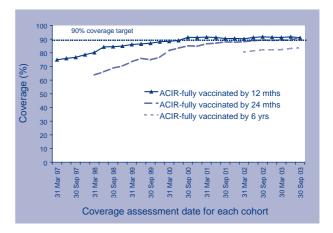
Table 10 shows immunisation coverage estimates for 'fully immunised' and for individual vaccines at six years of age for Australia and by state or territory. 'Fully immunised' coverage at six years of age for Australia increased again, this time by 0.6 percentage points from the previous quarter to 83.7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

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

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

Figure 10 shows the trends in vaccination coverage from the first ACIR-derived published coverage estimates in 1997 to the current estimates. There is a clear trend of increasing vaccination coverage over time for children aged 12 months, 24 months and six years, although the rate of increase has slowed over the past two years, especially for children in the 12 and 24 month age groups.

**Acknowledgment**: These figures were provided by the Health Insurance Commission (HIC), to specifications provided by the Commonwealth Department of Health and Ageing. For further information on these figures or data on the Australian Childhood Immunisation Register please contact the Immunisation Section of the HIC: Telephone: +61 2 6124 6607. Figure 10. Trends in vaccination coverage, Australia, 1997 to 2003, by age cohorts



# Table 9.Proportion of children immunised at 2 years of age, preliminary results by diseaseand state or territory for the birth cohort 1 July to 30 September 2001; assessment date 31December 20031

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

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2003;27:88.

2. These data relating to 2-year-old children should be considered as preliminary. The proportions shown as 'fully immunised' appear low when compared with the proportions for individual vaccines. This is at least partly due to poor identification of children on immunisation encounter forms.

# Table 10.Proportion of children immunised at 6 years of age, preliminary results by disease andstate or territory for the birth cohort 1 July to 30 September 1997; assessment date 31 December 2003

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

1. These data relating to 6-year-old children should be considered as preliminary. The proportions shown as 'fully immunised' appear low when compared with the proportions for individual vaccines. This is at least partly due to poor identification of children on immunisation encounter forms.

# National Enteric Pathogens Surveillance System

The National Enteric Pathogens Surveillance System (NEPSS) collects, analyses and disseminates data on human enteric bacterial infections diagnosed in Australia. These pathogens include Salmonella, E. coli, Vibrio, Yersinia, Plesiomonas, Aeromonas and Campylobacter.

Communicable Diseases Intelligence NEPSS quarterly reports include only Salmonella. Data are based on reports to NEPSS from Australian of laboratory-confirmed laboratories human infection with Salmonella. Salmonella are identified to the level of serovar and, if applicable, phagetype. Infections apparently acquired overseas are included. Multiple isolations of a single Salmonella serovar/phage-type from one or more body sites during the same episode of illness are counted once only. The date of the case is the date the primary diagnostic laboratory isolated a Salmonella from the clinical sample.

Interpret historical quarterly mean counts cautiously – these may be affected by outbreaks and surveillance artefacts such as newly recognised and incompletely typed Salmonella.

Reported by Joan Powling (NEPSS Co-ordinator) and Mark Veitch (Public Health Physician), Microbiological Diagnostic Unit — Public Health Laboratory, Department of Microbiology and Immunology, University of Melbourne. NEPSS can be contacted at the above address or by telephone: +61 3 8344 5701, facsimile: +61 3 9625 2689.

Reports to the National Enteric Pathogens Surveillance System of Salmonella infection for the period 1 October to 31 December 2003 are included in Tables 11 and 12. Data include cases reported and entered by 16 January 2004. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS. For more information see Commun Dis Intell 2003;27:129.

## Fourth quarter 2003

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

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

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

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

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

#### Acknowledgement

We thank scientists, diagnostic and reference laboratories, State and Territory health departments, and the Australian Government Department of Health and Ageing for their contributions to NEPSS.

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

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

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

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

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