Additional reports

Australian Sentinel Practice Research Network

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

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

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

In 2005, eight conditions are being monitored, four of which are related to communicable diseases. These include influenza, gastroenteritis, varicella and shingles. There are two definitions for influenza for 2005. A patient may be coded once or twice depending on their symptoms. The definition for influenza 1 will include more individuals. Definitions of these conditions were published in Commun Dis Intell *2006;30:158.*

Data from 1 January to 31 December 2005 compared with 2004 are shown as the rate per 1,000 consultations in Figures 5 and 6.

Figure 5. Consultation rates for influenza-like illness, ASPREN, 1 January to 31 December 2005, by week of report

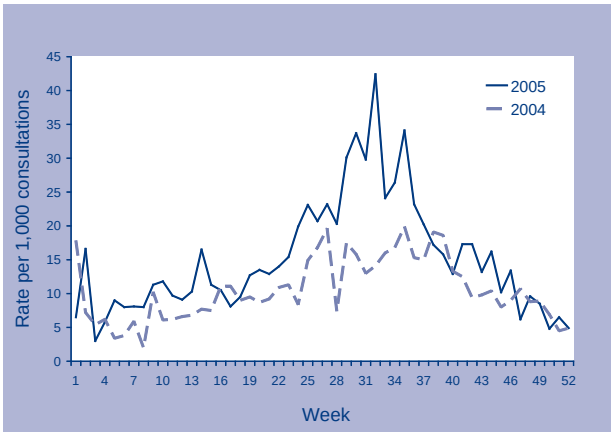
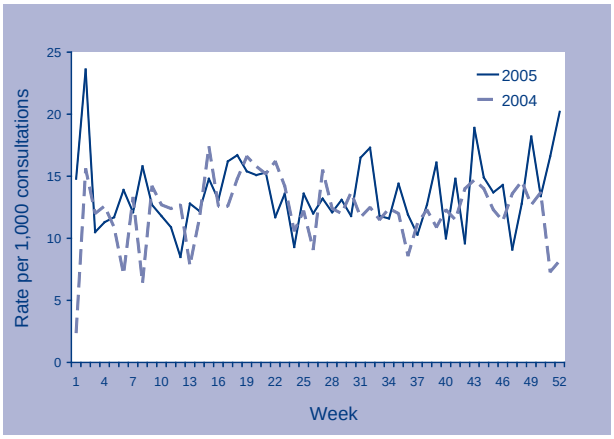


Figure 6. Consultation rates for gastroenteritis, ASPREN, 1 January to 31 December 2005, by week of report



Childhood immunisation coverage

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

For information about the Australian Childhood Immunisation Register see Surveillance systems reported in CDI, *published in* Commun Dis Intell *2006;30:157 and for a full description of the methodology used by the Register see* Commun Dis Intell *1998;22:36-37.*

Commentary on the trends in ACIR data is provided by the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS). For further information please contact the NCIRS at telephone: +61 2 9845 1435, Email: brynleyh@chw.edu.au.

Immunisation coverage for children 'fully immunised' at 12 months of age for Australia did not change from the last quarter, remaining at 91.0 per cent (Table 6). It has now remained at 91 per cent for three consecutive quarters. There were no significant changes in coverage in any jurisdiction for 'fully immunised' coverage or for coverage for individual vaccines.

Immunisation coverage for children 'fully immunised' at 24 months of age for Australia also did not change from the last quarter, remaining at 92.1 per cent. Similarly, there were no significant changes in coverage in any jurisdiction for 'fully immunised' coverage or for coverage for individual vaccines (Table 7).

Table 6. 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 2004; assessment date 31 December 2005

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	1,068	22,285	837	13,328	4,309	1,507	15,994	6,381	65,709
Diphtheria, tetanus, pertussis (%)	94.2	92.2	91.0	92.3	92.0	94.4	93.5	90.4	92.4
Poliomyelitis (%)	94.1	92.0	90.8	92.2	91.9	94.4	93.4	90.3	92.3
Haemophilus influenzae type b (%)	96.0	94.2	94.4	94.2	94.5	95.5	95.1	93.3	94.4
Hepatitis B (%)	96.3	95.2	94.9	94.8	94.8	95.6	94.9	93.0	94.8
Fully immunised (%)	93.7	90.7	90.1	91.1	91.2	93.4	92.0	88.8	91.0
Change in fully immunised since last quarter (%)	+0.1	+0.1	-1.6	+0.3	+0.1	+1.4	-0.1	-0.4	+0.0

Table 7. 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 2003; assessment date 31 December 2005*

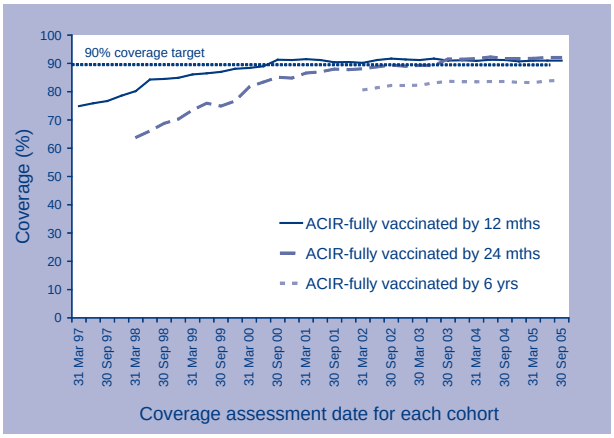
Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,060	22,667	827	13,412	4,681	1,456	16,361	6,236	66,700
Diphtheria, tetanus, pertussis (%)	97.3	95.0	96.4	94.9	95.5	96.2	95.4	95.2	95.2
Poliomyelitis (%)	97.1	94.9	96.0	94.8	95.4	96.4	95.4	95.2	95.2
Haemophilus influenzae type b (%)	95.4	93.2	94.6	93.6	94.0	95.0	93.8	93.2	93.6
Measles, mumps, rubella (%)	95.9	93.3	95.0	93.7	94.3	95.3	94.2	93.8	93.8
Hepatitis B(%)	97.2	95.8	97.5	95.4	96.1	96.9	96.1	96.2	95.9
Fully immunised (%)	94.8	91.7	93.1	91.9	92.6	94.4	92.5	91.4	92.1
Change in fully immunised since last quarter (%)	+0.6	+0.1	-1.9	-0.1	+1.3	+1.2	-0.5	+0.7	-0.0

* The 12 months age data for this cohort was published in *Commun Dis Intell* 2005;29:115.

Table 8 shows immunisation coverage estimates for children 'fully immunised' at 6 years of age and for individual vaccines for Australia by state or territory. This was largely unchanged in all jurisdictions. Coverage for vaccines assessed at 6 years is at or near 85 per cent in most jurisdictions, but Western Australia, South Australia and Queensland still remain below this. The sharp decline in coverage for this age group that occurred in Queensland in 2004–05 appears to have halted with 'fully immunised' coverage increasing for the second consecutive quarter.

Figure 7 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 Figure shows that there have now been nine consecutive quarters where 'fully immunised' coverage at 24 months has been greater than 'fully immunised' coverage at 12 months, following the removal of the requirement for 18 month DTPa vaccine. However, both measures have been above 90 per cent for this 27-month period and show levels of high coverage for the vaccines included maintained over a significant period of time. Currently, coverage for the more recent vaccines, meningococcal C conjugate at 12 months and pneumococcal conjugate at 2, 4, and 6 months, are not included in the 12 or 24 months coverage data respectively.

Figure 7. Trends in vaccination coverage, Australia, 1997 to 2005, 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.[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 *2006;30:157.*

Table 8. 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 1999; assessment date 31 December 2005

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,129	22,965	792	14,065	4,802	1,579	16,642	6,769	68,743
Diphtheria, tetanus, pertussis (%)	89.1	85.7	84.3	82.7	82.8	87.7	88.0	80.9	85.1
Poliomyelitis (%)	89.5	85.8	85.9	82.8	82.9	87.7	88.2	81.2	85.2
Measles, mumps, rubella (%)	89.1	85.7	85.3	82.9	83.0	87.7	88.3	81.1	85.2
Fully immunised (%)[1]	88.2	84.7	83.1	81.4	81.8	86.6	87.3	79.5	84.0
Change in fully immunised since last quarter (%)	-2.3	+0.3	+0.3	+0.9	-1.5	+1.4	+0.4	-1.0	+0.2

Reporting period 1 July to 30 September 2005

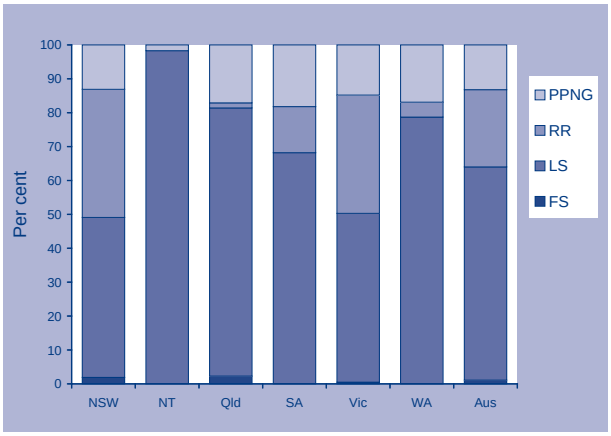
The AGSP laboratories received a total of 968 gonococcal isolates of which 939 remained viable for susceptibility testing. This was about 15 per cent more than the 829 gonococci reported for the same period in 2004. About one third of this total was from New South Wales, a quarter from Victoria, 13.5 per cent each from the Northern Territory and Queensland, 10 per cent from Western Australia, and 5 per cent from South Australia. There were five isolates each from Tasmania and the Australian Capital Territory.

Penicillins

In this quarter, 338 (36%) of the 939 isolates examined were penicillin resistant by one or more mechanisms. One hundred and twenty-four (13.2%) were penicillinase producing *Neisseria gonorrhoeae* (PPNG) and 214 (22.8%) were resistant by chromosomal mechanisms, (CMRNG). The proportion of all strains resistant to the penicillins by any mechanism ranged from 1.7 per cent in the Northern Territory to 51 per cent in New South Wales. High rates of penicillin resistance were also found in Victoria (50%), South Australia (32%) and Western Australia (21%) with a lower rate, (18.5%), in Queensland.

Figure 8 shows the proportions of gonococci fully sensitive (MIC ≤ 0.03 mg/L), less sensitive (MIC 0.06–0.5 mg/L), relatively resistant (MIC ≥ 1 mg/L) or else penicillinase producing (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, amoxycillin, ampicillin) and early generation cephalosporins.

Figure 8. Categorisation of gonococci isolated in Australia, 1 July to 30 September 2005, by penicillin susceptibility and region



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

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

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

PPNG Penicillinase producing *Neisseria gonorrhoeae.*

In New South Wales, most of the penicillin resistance was due to CMRNG (121, 37.8%) with 42 PPNG (13.1%). The proportion of CMRNG in Victoria (35%) was slightly less than in New South Wales and that of PPNG slightly higher (14.8%). In other centres, PPNG formed a higher proportion of penicillin resistant gonococci. The proportion of PPNG in Queensland and Western Australia was 17 per cent and in South Australia 18 per cent. PPNG were also present in the Australian Capital Territory and the Northern Territory (1 and 2 isolates respectively), but there were no PPNG in Tasmania. CMRNG were present in Queensland (1.5% of isolates there), South Australia (13%) and Western Australia (4.5%). There were no CMRNG reported from Tasmania or the Northern Territory and a single CMRNG from the Australian Capital Territory.

Ceftriaxone

Seven isolates with decreased susceptibility to ceftriaxone (MIC range 0.06–0.12 mg/L) were detected. Four were found in New South Wales, two in Victoria and one in Queensland. All seven isolates were penicillin resistant by chromosomal mechanisms (CMRNG) and five were also quinolone resistant (ciprofloxacin MICs 1 mg/L or more). It is emphasised that no treatment failures have been documented locally when a 250 mg IM dose of ceftriaxone has been used.

Spectinomycin

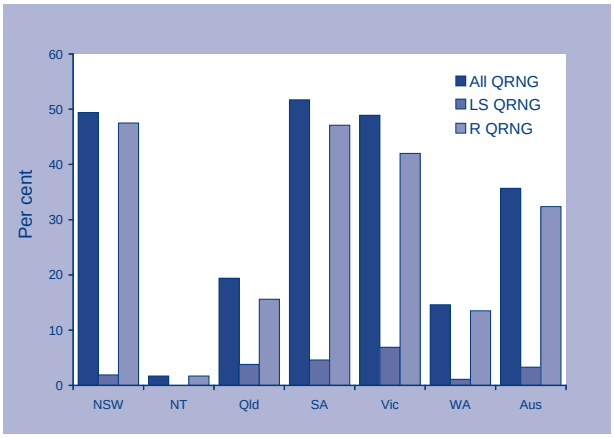
All isolates were susceptible to this injectable agent.

Quinolone antibiotics

The number (335) and proportion (35.7%) of quinolone resistant *N. gonorrhoeae* (QRNG) detected in this quarter represent the highest rates of QRNG found in this program to date. In the third quarter of 2004 there were 200 QRNG, 24 per cent of all gonococci tested. The majority of QRNG (304 of 335, 91%) exhibited higher-level resistance to ciprofloxacin of 1 mg/L or more (Figure 9). 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 ≥ 1 mg/L) groups.

QRNG were again widely distributed and were detected in all states and territories with the exception of Tasmania. The highest proportion of QRNG was found in South Australia where 23 QRNG were 52 per cent of all gonococci tested. In Victoria there were 112 QRNG (49%), in New South Wales 158 QRNG (also 49% of isolates), in Queensland 25 (19%), in Western Australia 13 (14%) with two QRNG detected in both the Northern Territory and the Australian Capital Territory.

Figure 9. The distribution of quinolone resistant isolates of *Neisseria gonorrhoeae* in Australia, 1 July to 30 September 2005, by jurisdiction



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L.

R QRNG Ciprofloxacin MICs ≥1 mg/L.

High level tetracycline resistance

The number (156) and proportion (16.6%) of high level tetracycline resistance (TRNG) detected was higher than that recorded in the 2004 (121, 14.6%) figures. TRNG were found in all states and territories except for Tasmania and the Australian Capital Territory and represented between 2.5 per cent (Northern Territory) and 26 per cent of isolates (Victoria).

Reference

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

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 *2006;30:159.*

HIV and AIDS diagnoses and deaths following AIDS reported for 1 July to 30 September 2005, as reported to 31 December 2005, are included in this issue of Communicable Diseases Intelligence *(Tables 9 and 10).*

Table 9. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 July to 30 September 2005, by sex and state or territory of diagnosis

Sex		State or territory								Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2005	This period 2004	YTD 2005	YTD 2004
HIV diagnoses	Female	0	12	0	1	0	0	7	4	24	16	71	86
	Male	3	61	1	37	6	0	67	12	187	187	629	578
	Not reported	0	0	0	0	0	0	0	0	0	0	0	1
	Total*	3	73	1	38	6	0	74	16	211	203	700	666
AIDS diagnoses	Female	0	2	0	2	0	0	3	1	8	2	20	13
	Male	0	13	0	3	1	0	17	0	34	30	102	113
	Total*	0	15	0	5	1	0	20	1	42	32	122	127
AIDS deaths	Female	0	0	0	0	0	0	0	0	0	2	2	6
	Male	0	4	0	1	0	0	4	0	9	16	34	54
	Total*	0	4	0	1	0	0	4	0	9	18	36	60

* Totals include people whose sex was reported as transgender.

Table 10. Cumulative diagnoses of HIV infection, AIDS, and deaths following AIDS since the introduction of HIV antibody testing to 30 September 2005 and reported by 31 December 2005, by sex and state or territory

	Sex	State or territory								
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
HIV diagnoses	Female	30	812	18	241	87	8	333	179	1,708
	Male	252	12,983	124	2,553	870	90	4,926	1,140	22,938
	Not reported	0	233	0	0	0	0	22	0	255
	Total*	282	14,056	142	2,803	958	98	5,300	1,326	24,965
AIDS diagnoses	Female	9	236	2	68	31	4	105	36	491
	Male	92	5,230	41	994	391	48	1,913	415	9,124
	Total*	101	5,482	43	1,064	423	52	2,028	453	9,646
AIDS deaths	Female	6	132	1	41	20	2	59	24	285
	Male	71	3,536	26	646	272	32	1,380	291	6,254
	Total*	77	3,678	27	689	292	34	1,447	316	6,560

* Totals include people whose sex was reported as transgender.

National Enteric Pathogens Surveillance System

The National Enteric Pathogens Surveillance System (NEPSS) collects, analyses and disseminates data on human enteric bacterial infections diagnosed in Australia. 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 2005 are included in Tables 11 and 12. Data include cases reported and entered by 20 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 *2006;30:159–160.*

Fourth quarter 2005

The total number of reports to NEPSS of human *Salmonella* infection rose to 2,198 in the fourth quarter of 2005, 82 per cent more than in the third quarter of 2005. This increase significantly exceeds the usual seasonal surge in reports in the latter months of each year. The fourth quarter count was 25 per cent more than the comparable fourth quarter of 2004 and approximately 30 per cent greater than the 10-year historical mean for this period. Much of this increase is accounted for by two phage types of *S*. Typhimurium, PT 135 and PT 44.

Reports of *S*. Typhimurium PT 135 increased markedly this quarter; some cases associated with defined outbreaks, others occurring as apparently sporadic infections. This increase was most apparent in the south-eastern States and Western Australia. The phage typing laboratories noted that the majority (approximately 85%) of isolates of *S*. Typhimurium PT 135 during this period manifested a consistent pattern of phage reactions. In the present summary report, these are all included within the *S*. Typhimurium PT 135 category.

Reports of *S*. Typhimurium PT 44 also increased this quarter, with most cases in the eastern mainland States.

Other common salmonellae with counts above their historical averages during the fourth quarter included *S*. Oranienburg (in Western Australia), *S*. Typhimurium PT 197 (in Queensland and New South Wales) and *S*. Saintpaul (in Queensland).

During the fourth quarter of 2005, the 25 most common *Salmonella* types in Australia accounted for 1,491 cases, 68 per cent of all reported human *Salmonella* infections. Nineteen of the 25 most common *Salmonella* infections in the fourth quarter of 2005 were also among the 25 most commonly reported in preceding quarter.

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 11. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 October to 31 December 2005, as reported to 20 January 2006

	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total all *Salmonella* for quarter	19	550	77	608	133	197	414	200	2,198
Total contributing *Salmonella* types	11	117	33	117	50	16	97	67	236

Table 12. Top 25 *Salmonella* types identified in Australia, 1 October to 31 December 2005, by state or territory

National rank	*Salmonella* type	State or territory								Total 4th quarter 2005	Last 10 years mean 4th quarter	Year to date 2005	Year to date 2004
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	*S.* Typhimurium PT 135	2	71	0	46	5	149	125	27	425	137	802	564
2	*S.* Typhimurium PT 44	6	62	0	48	28	6	50	8	208	17	220	34
3	*S.* Saintpaul	0	21	7	66	3	0	9	5	111	73	433	397
4	*S.* Typhimurium PT 9	3	20	0	16	8	7	31	2	87	122	430	364
5	*S.* Typhimurium PT 170	0	35	0	8	0	2	20	0	65	56	469	579
6	*S.* Birkenhead	0	28	0	32	0	0	3	1	64	60	218	264
7	*S.* Typhimurium PT 197	0	23	0	28	1	0	3	2	57	18	547	268
8	*S.* Virchow PT 8	0	9	2	30	0	0	2	11	54	43	243	334
9	*S.* Oranienburg	0	3	0	0	5	1	2	43	54	11	87	43
10	*S.* Chester	0	9	3	20	0	1	4	2	39	36	185	190
11	*S.* Infantis	0	15	1	1	9	0	8	2	36	30	170	158
12	*S.* Muenchen	0	7	3	15	4	0	0	2	31	26	142	116
13	*S.* Aberdeen	0	4	0	24	0	0	0	0	28	21	152	134
14	*S.* Hvittingfoss	0	5	0	20	0	0	1	1	27	18	184	149
15	*S.* Potsdam	0	3	0	17	1	0	2	0	23	18	49	62
16	*S.* Waycross	0	4	0	19	0	0	0	0	23	17	113	121
17	*S.* Typhimurium RDNC	0	9	0	5	1	0	6	1	22	18	108	104
18	*S.* Typhimurium PT 12	1	5	0	0	2	0	5	8	21	14	118	233
19	*S.* Anatum	0	1	1	11	3	0	2	2	20	19	75	89
20	*S.* Mississippi	0	0	0	0	0	20	0	0	20	14	75	75
21	*S.* Stanley	1	6	0	4	1	0	4	0	16	13	67	77
22	*S.* Enteritidis PT 6a	1	6	0	1	0	0	2	6	16	6	90	72
23	*S.* Havana	0	8	0	0	1	0	1	5	15	11	38	49
24	*S.* Weltevreden	0	3	5	4	2	0	0	1	15	9	58	69
25	*S.* Agona	0	7	0	3	2	0	1	1	14	16	66	80