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 April to 30 June 2003 are shown as the rate per 1,000 consultations in Figures 8, 9 and 10.

Figure 8. Consultation rates for influenza-like illness, ASPREN, 1 January to 30 June 2003, by week of report

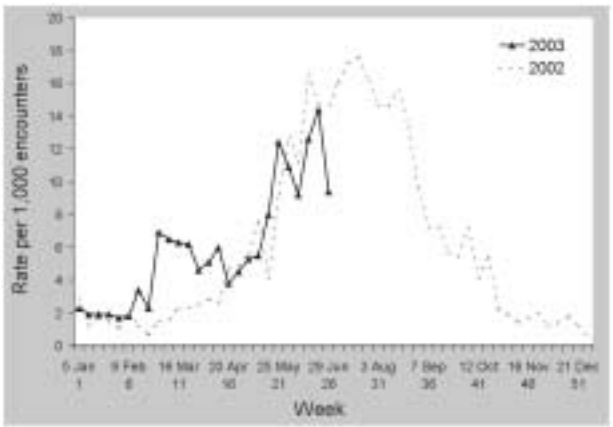


Figure 9. Consultation rates for gastroenteritis, ASPREN, 1 January to 30 June 2003, by week of report

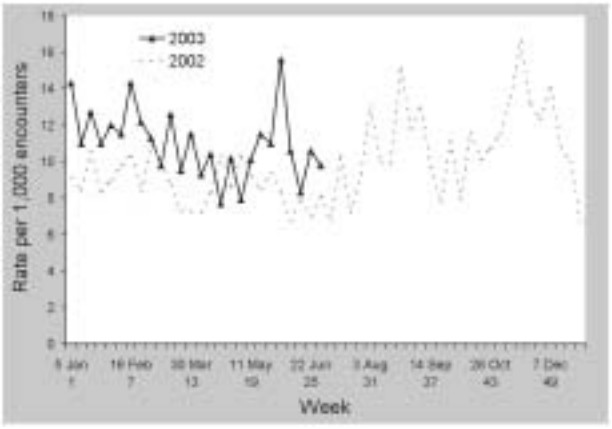
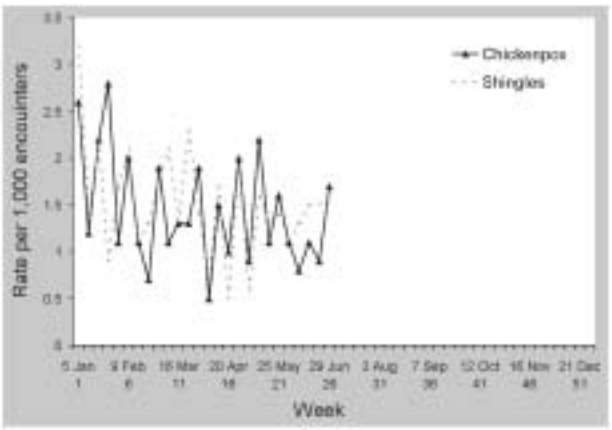


Figure 10. Consultation rates for varicella, ASPREN, 1 January to 30 June 2003, by week of report



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 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 2003;27:128.

Reporting period 1 January to 31 March 2003

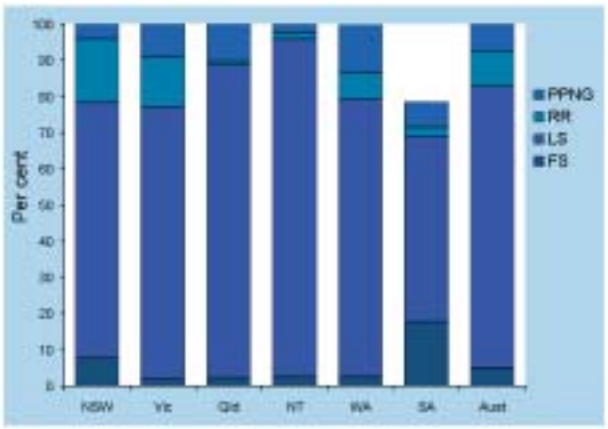
The AGSP laboratories received a total of 1,051 isolates in the first quarter of 2003 of which 1,010 remained viable for susceptibility testing. This number is almost identical to that examined in 2002. About 32 per cent of this total was from New South Wales, 22.5 per cent from Victoria, 17.6 per cent from Queensland, 12 per cent from the Northern Territory, 8 per cent from Western Australia and 7 per cent from South Australia. Isolates from other centres were few. Numbers decreased in New South Wales, but increased in Victoria, Queensland and South Australia when compared with the same period in 2002.

Penicillins

In this quarter about 17.3 per cent of all isolates were penicillin resistant by one or more mechanisms—7.3 per cent penicillinase producing *Neisseria gonorrhoeae* (PPNG) and 10 per cent by chromosomal mechanisms (CMRNG). The number and proportion of PPNG was unchanged from the same period in 2002, but the number of CMRNG decreased. The proportion of all strains resistant to the penicillins by any mechanism ranged from 4.3 per cent in the Northern Territory to 22.8 per cent in Victoria.

Figure 11 shows the proportions of gonococci fully sensitive (MIC 0.03 mg/L), less sensitive (MIC 0.06 – 1 mg/L), relatively resistant (MIC 1 mg/L) or else penicillinase producing aggregated for Australia and by state or territory. A high proportion those strains classified as PPNG or else resistant by chromosomal mechanisms fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

Figure 11. Categorisation of gonococci isolated in Australia, 1 January to 31 March 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 1 mg/L
PPNG	Penicillinase producing *Neisseria gonorrhoeae*

The number of PPNG isolated across Australia (n=74) was little different from the corresponding period in 2002 (n=75). The highest proportion of PPNG was found in isolates from Western Australia (13.4%). PPNG were present in all jurisdictions including three (2.5%) in the Northern Territory. More isolates were resistant to the penicillins by separate chromosomal mechanisms (n=101) but this number was less than the 142 identified in the first quarter of 2002. CMRNG were especially prominent in New South Wales (17.6% of isolates there) and Victoria (13.6%). Only two CMRNG were detected in the Northern Territory.

Ceftriaxone

Three isolates with decreased susceptibility to ceftriaxone were present in New South Wales and one in South Australia.

Spectinomycin

All isolates were susceptible to this injectable agent.

Quinolone antibiotics

The total number (114) and proportion (11.3%) of all quinolone resistant *N. gonorrhoeae* (QRNG) was higher than seen in the first quarter of 2002 (95 isolates, 9%). The majority of QRNG (92 of 114, 80%) continue to exhibit higher level resistance. 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. The highest number (39) was found in both Victoria and New South Wales with the highest rate (17%) in Victoria (Figure 12). High rates were maintained in all other centres except for the Northern Territory (2.5%). Local and overseas acquisitions, where known, were in equal proportions and MICs ranged up to 16mg/L.

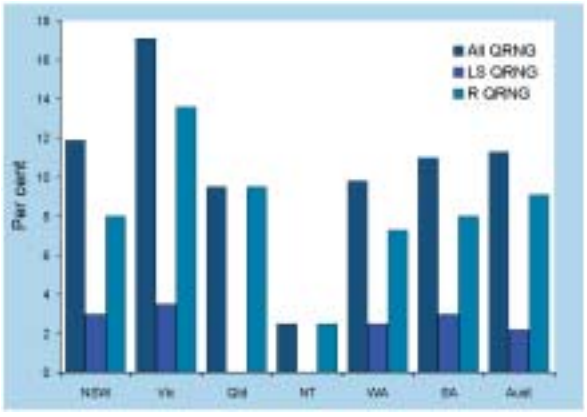
High level tetracycline resistance

The number (127) and proportion (12.5%) of tetracycline resistance *N. gonorrhoeae* (TRNG) was little changed from the 2002 figures. TRNG represented between 5 and 19.5 per cent of isolates from Queensland, Victoria, South Australia, Western Australia and New South Wales with three TRNG present in the Northern Territory.

Reference

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

Figure 12. Distribution in Australia of *N. gonorrhoeae* showing quinolone resistance, 1 January to 31 March 2003



LS QRNG = Ciprofloxacin MICs 0.06 – 0.5 mg/L

R QRNG = Ciprofloxacin MICs 1 mg/L

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 January to 31 March 2003, as reported to 30 June 2003, are included in this issue of Communicable Diseases Intelligence (Tables 7 and 8).

Table 7. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 January to 31 March 2003, by sex and State or Territory of diagnosis

		State or territory								Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2003	This period 2002	Year to date 2003	Year to date 2002
HIV diagnoses	Female	0	9	0	5	0	0	4	3	21	32	21	32
	Male	0	108	1	35	2	0	44	5	195	188	195	188
	Sex not reported	0	1	0	0	0	0	0	0	1	1	1	1
	Total[1]	0	118	1	40	2	0	48	8	217	223	217	223
AIDS diagnoses	Female	0	0	0	0	0	0	0	1	1	7	1	7
	Male	0	5	0	3	0	0	8	2	18	56	18	56
	Total[1]	0	5	0	3	0	0	8	3	19	64	19	64
AIDS deaths	Female	0	1	0	1	1	0	0	1	4	2	4	2
	Male	0	5	0	2	1	0	4	1	13	14	13	14
	Total[1]	0	6	0	3	2	0	4	2	17	16	17	16

1. Persons whose sex was reported as transgender are included in the totals.

Table 8. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 31 March 2003, by sex and State or Territory

		State or Territory								
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
HIV diagnoses	Female	28	699	14	198	78	7	275	150	1,449
	Male	238	12,053	117	2,296	755	85	4,443	1,025	21,012
	Sex not reported	0	235	0	0	0	0	24	0	259
	Total[1]	266	13,013	131	2,501	833	92	4,760	1,181	22,777
AIDS diagnoses	Female	9	212	0	54	30	4	85	33	427
	Male	90	4,920	38	931	376	47	1,788	396	8,586
	Total[1]	99	5,145	38	987	406	51	1,882	431	9,039
AIDS deaths	Female	4	125	0	38	19	2	57	22	267
	Male	71	3,396	26	610	252	31	1,332	273	5,991
	Total[1]	75	3,530	26	650	271	33	1,396	296	6,277

1. Persons whose sex was reported as transgender are included in the totals.

Childhood immunisation coverage

Tables 9, 10 and 11 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 2002, at 24 months of age for the cohort born between 1 January and 31 March 2001, and at 6 years of age for the cohort born between 1 January and 31 March 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 'fully immunised' children at 12 months for Australia has decreased marginally from the last quarter by 0.3 percentage points to 91.2 per cent (Table 9). There was very little change in 'fully immunised' coverage by state and territory. The Northern Territory showed the biggest change (+0.8%). Only three jurisdictions had changes in coverage of greater than 0.5 per cent for individual vaccines: Tasmania, with decreases in coverage for diphtheria, tetanus, pertussis (DTP) (-0.9%), and poliomyelitis (OPV) (-1.1%); Queensland, with decreases in coverage for DTP (-0.9%) and OPV (-0.9%); and the Northern Territory, with increases in coverage for *Haemophilus influenzae* type b (Hib) (1.4%) and hepatitis B (Hep B) (1.2%).

Of note is the difference in coverage between Hep B and DTP antigens at 12 months of age for the jurisdictions that use the combined DTP/HepB vaccine (New South Wales, Queensland, South Australia, the Australian Capital Territory and the Northern Territory). These range from 1.7 to 5 per cent. This is accounted for by the way coverage is calculated at the 12 month milestone. To be consistent with those jurisdictions that use the combined Hib/Hep B vaccine (Comvax), the coverage algorithm allows receipt of either two or three doses for a child to be considered up-to-date for Hep B. In contrast, receipt of three doses is required for a child to be considered up-to-date for DTP at 12 months. This means that hepatitis B and Hib coverage (where only 2 doses are required) is uniformly higher than DTP and OPV coverage.

Coverage measured by 'fully immunised' at 24 months of age for Australia increased marginally from the last quarter by 0.3 percentage points to 89.3 per cent (Table 10). Coverage for individual vaccines for Australia remained unchanged with DTP still almost 3 percentage points lower than other vaccines for this age group. This difference is again due to the greater number of DTP doses required to be considered up-to-date at 24 months of age.

The only important jurisdictional changes in coverage at 24 months of age occurred in the Northern Territory, with a 2.3 per cent increase in DTP and a 2 per cent increase in 'fully immunised' coverage. This is the second consecutive quarter where 'fully immunised' coverage in the Northern Territory has increased by 2 percentage points at 24 months.

Table 9. 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 2002; assessment date 30 June 2003

	State or Territory								
Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	904	19,432	845	11,209	4,132	1,326	13,812	5,632	57,292
Diphtheria, tetanus, pertussis (%)	92.6	92.2	92.3	92.0	92.4	92.9	92.7	90.9	92.2
Poliomyelitis (%)	92.6	92.1	91.9	91.9	92.2	92.7	92.6	90.8	92.1
Hepatitis B (%)	93.8	94.3	96.8	94.3	94.9	95.5	95.1	94.0	94.6
Haemophilus influenzae type b (%)	94.3	95.1	97.3	94.7	95.2	95.4	95.0	93.8	94.9
Fully immunised (%)	91.5	91.0	91.7	91.1	91.5	91.9	91.8	89.9	91.2
Change in fully immunised since last quarter (%)	-1.4	-0.3	+0.8	-0.6	+0.0	-0.9	-0.1	-0.2	-0.3

Table 10. Proportion 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 2001; assessment date 30 June 2003[1]

Vaccine	State or Territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	885	18,785	767	11,164	4,004	1,415	13,631	5,394	56,045
Diphtheria, tetanus, pertussis (%)	90.4	90.8	90.5	91.8	91.8	94.3	92.1	89.2	91.3
Poliomyelitis (%)	93.4	94.7	97.6	94.8	95.3	96.7	95.6	94.2	95.0
Haemophilus influenzae type b (%)	92.9	93.5	95.2	93.8	94.4	96.2	94.4	92.5	93.8
Measles, mumps, rubella (%)	93.4	93.8	96.3	93.9	94.5	96.0	94.7	93.3	94.1
Hepatitis B (%)	94.6	95.4	98.5	95.2	95.7	97.5	96.4	95.1	95.7
Fully immunised (%)[2]	86.9	88.4	89.0	89.8	90.4	93.6	90.5	87.0	89.3
Change in fully immunised since last quarter (%)	+0.2	+0.4	+1.9	+0.1	+0.4	+0.7	+0.5	-0.3	+0.3

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2002;26:490.
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 11. Proportion of children immunised at 6 years of age, preliminary results by disease and State for the birth cohort 1 January to 31 March 1997; assessment date 30 June 2003[1]

Vaccine	State or Territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	861	17,900	13,389	10,367	3,806	5,307	1,234	662	53,526
Diphtheria, tetanus, pertussis (%)	82.3	84.3	86.5	83.6	83.2	82.5	83.7	82.0	84.4
Poliomyelitis (%)	82.5	84.1	87.0	83.9	83.7	82.9	84.1	84.9	84.6
Haemophilus influenzae type b (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Measles, mumps, rubella (%)	81.8	82.7	86.5	83.5	82.7	82.2	82.6	83.0	83.7
Hepatitis B (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fully immunised (%)[1]	80.4	81.2	85.3	82.0	81.3	80.6	82.2	81.1	82.3
Change in fully immunised since last quarter (%)	-1.4	+0.7	-1.1	-0.3	+0.5	-1.6	-0.1	+0.6	+0.1

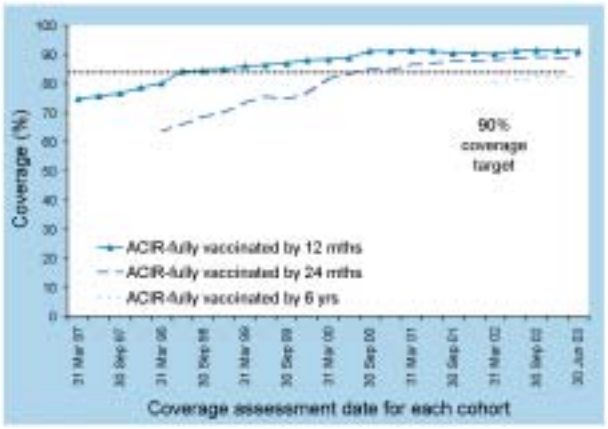
1. These data relating to 6 year-old children should be considered as preliminary. The proportions shown as 'fully immunised' appear low when compared with the proportions for individual vaccines. This is at least partly due to poor identification of children on immunisation encounter forms.

Table 11 shows immunisation coverage estimates for 'fully immunised' and for individual vaccines at 6 years of age for Australia and by state or territory. 'Fully immunised' coverage at 6 years of age for Australia remained virtually unchanged from the previous quarter at 82.3 per cent but decreased in Tasmania (-1.6%) and the Northern Territory (-1.1%).

Figure 13 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 two years.

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 13. Trends in vaccination coverage, Australia, 1997 to 2003, by age cohorts



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 *quarterly reports include only* Salmonella.

Data are based on reports to NEPSS from Australian laboratories of laboratory-confirmed human infection with Salmonella. Salmonella *are identified to the level of serovar and, if applicable, phage-type. 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.*

Note that the historical quarterly mean counts should be interpreted with caution, and are affected by surveillance artefacts such as newly recognised (such as S. *Typhimurium 197 and* S. *Typhimurium U290) 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. For more information see Commun Dis Intell 2003;27:129.

Reports to the National Enteric Pathogens Surveillance System of Salmonella infection for the period 1 April to 30 June 2003 are included in Tables 12 and 13. Data include cases reported and entered by 11 July 2003. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS.

1 April to 30 June 2003

The total number of reports to NEPSS of human *Salmonella* infection declined to 1,505 in the second quarter of 2003, 39 per cent less than the first quarter of 2003. This represents typical seasonal decline in the overall incidence of human salmonellosis. Case counts to 11 July 2003 are approximately 90 per cent of the expected final counts for the quarter.

During the second quarter of 2003, the 25 most common *Salmonella* types in Australia accounted for 985 (65%) of all reported human *Salmonella* infections.

Twenty-one of the 25 most common *Salmonella* infections in the second quarter of 2003 were amongst the 25 most commonly reported in the previous quarter.

Notable increases in particular salmonellae include *S*. Typhimurium phage type 9 (in New South Wales and Victoria), *S*. Typhimurium phage type 99 (in New South Wales), and *S*. Typhimurium phage type U307 (in Queensland).

S. Typhimurium phage type 170 was the third most commonly reported *Salmonella* in Australia in the second quarter of 2003. There were a further 8 reports of the similar phage type, *S*. Typhimurium phage type 108.

The incidence of S. Typhimurium phage type 135 decreased, particularly in the eastern mainland States.

Acknowledgement: Thanks to contributing laboratories and scientists.

Table 12. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 April to 30 June 2003, as reported to 11 July 2003

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Aust
Total all *Salmonella* for quarter	19	410	73	453	82	34	291	143	1,505
Total contributing *Salmonella* types	7	90	38	100	42	10	82	56	200

Table 13. Top 25 *Salmonella* types identified in Australian States and Territories, 1 April to 30 June 2003

National rank	*Salmonella* type	State or territory								Total 2nd quarter 2003	Last 10 years mean 2nd quarter	Year to date 2003	Year to date 2002
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	*S.* Typhimurium 9	2	61	2	10	6	2	76	5	164	105	295	439
2	*S.* Typhimurium 135	10	32	1	13	3	2	18	20	99	121	509	441
3	*S.* Typhimurium 170	2	54	0	13	0	0	27	1	97	24	302	260
4	*S.* Infantis	1	35	3	7	3	0	8	5	62	25	133	62
5	*S.* Saintpaul	0	5	7	38	1	1	2	6	60	83	185	255
6	*S.* Virchow 8	0	2	1	41	0	0	1	0	45	37	114	223
7	*S.* Birkenhead	0	15	0	26	0	0	1	0	42	53	123	167
8	*S.* Anatum	0	5	7	19	1	0	3	7	42	25	77	51
9	*S.* Chester	0	6	2	15	3	0	0	11	37	38	150	108
10	*S.* Typhimurium U290	2	5	0	3	0	2	24	1	37	3	73	56
11	*S.* Typhimurium 197	0	10	0	12	0	0	6	0	28	2	107	24
12	*S.* Muenchen	0	2	3	12	1	0	1	8	27	35	89	88
13	*S.* Mississippi	0	0	0	0	0	22	2	0	24	16	66	69
14	*S.* Typhimurium 99	0	22	0	0	1	1	0	0	24	2	25	9
15	*S.* Aberdeen	0	0	0	21	0	0	0	0	21	27	56	98
16	*S.* Hvittingfoss	0	0	1	19	0	0	0	1	21	19	56	111
17	*S.* Agona	0	7	2	3	2	1	6	0	21	15	41	53
18	*S.* Typhimurium 12	0	4	0	11	1	0	4	0	20	11	62	43
19	*S.* Waycross	0	4	0	14	0	0	1	0	19	26	49	73
20	*S.* Havana	0	3	1	7	0	0	3	4	18	11	39	17
21	*S.* Typhimurium 126	0	10	0	1	1	0	4	0	16	26	42	141
22	*S.* Typhimurium 4	1	5	0	2	4	0	4	0	16	9	41	46
23	*S.* Mbandaka	0	3	1	2	1	0	0	8	15	18	32	17
24	*S.* Singapore	0	7	0	4	2	0	0	2	15	16	45	35
25	*S.* Typhimurium U307	0	2	1	11	0	0	1	0	15	2	17	18