

Additional Reports

Gonococcal surveillance

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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 penicillinase producing plasmid (PPNG) and the proportion of less sensitive strains. The proportion of fully resistant isolates acquired through local contact is predominately in Victoria above 60 per cent of the QRNG were susceptible to less sensitive MIC groups. Specific multiple drug resistant QRNG were found in males. Significant geographic differences in susceptibility patterns in Australia, regional as well as aggregated data are presented.

Reporting period 1 July to 30 September 2000

The Australian Gonococcal Surveillance Programme (AGSP) laboratories examined a total of 794 isolates in this quarter, slightly less than the 859 available in this period in 1999. About 33 per cent of this total was from New South Wales, 25 per cent from Victoria, 17 per cent from Queensland, 13 per cent from the Northern Territory, 9 per cent from Western Australia and 2.5 per cent from South Australia. There were few isolates from other centres.

Penicillins

Figure 10 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 (PPNG) aggregated for Australia and by State and Territory. A high proportion of PPNG and relatively resistant strains fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

About 20 per cent of all isolates were penicillin resistant by one or more mechanisms – 8.8 per cent PPNG and 11.6 per cent by chromosomal mechanisms (CMRNG). The penicillin-resistant isolates comprised about 31 per cent of all isolates in South Australia, about 27 per cent in New South Wales, 21 per cent in Victoria, 19 per cent in Queensland and 15 per cent in Western Australia. In the Northern Territory 3 isolates out of 100 examined were penicillin resistant – 1 PPNG and 2 CMRNG.

The number of PPNG isolated in Australia (70) was higher in this quarter than in the corresponding period in 1999 (56). Numerically most PPNG were found in New South Wales (23), Victoria (18) and Queensland (16) whereas the highest proportion of PPNG was found in isolates from Western Australia (14%). In Queensland, Victoria, New South Wales and South Australia the proportion of PPNG ranged between 9 and 11 per cent of isolates examined. A single PPNG was present in the Northern Territory. Acquisition data on PPNG indicated local infection with these strains was occurring throughout Australia. South East Asian countries remained the main source of external acquisition.

Once again more isolates (92) were resistant to the penicillins by separate and distinct chromosomal mechanisms. These CMRNG were especially prominent in New South Wales where 49 such isolates were detected. Victoria (25) and Queensland (11) were also prominent sources of CMRNG. Two strains of this type were present in the Northern Territory from overseas from such diverse sources as Bahrain, Northern Territory.

Ceftriaxone and spectinomycin

Most isolates in Australia were again susceptible to these injectable agents. A small number of strains exhibited decreased ceftriaxone susceptibility.

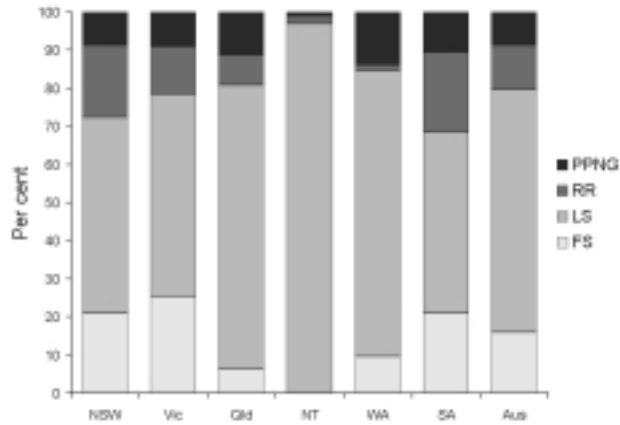
Quinolone antibiotics

Quinolone resistant *N. 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 1 mg/L) groups. The distribution of QRNG in Australia in this quarter is shown in Figure 11.

The total number (142) and proportion (19.8%) of all QRNG was again high and very similar to numbers and proportions seen in the corresponding quarter of 1999 (152 isolates, 18%). In the current quarter, the QRNG were widely dispersed and were present in all centres except the Northern Territory. High rates were maintained in New South Wales (26%), Victoria (21%) South Australia (21%) and Queensland (17%). A lower proportion of Western Australian isolates (7%) was QRNG.

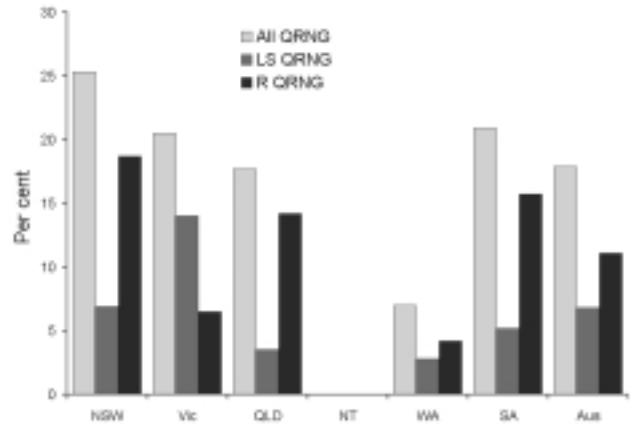
Forty-nine of the New South Wales, 13 of the Victorian and 20 Queensland QRNG exhibited high level resistance (MIC ciprofloxacin 1 mg/L) and 3 higher level QRNG were also seen in South Australia and Western Australia. MICs ranged up to 16mg/L.

Figure 10. Gonococci isolated, Australia, 1 July to 30 September 2000, 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*

Figure 11. Quinolone-resistant *N. gonorrhoeae*, Australia, 1 July to 30 September 2000, by region



LS QRNG = Ciprofloxacin MICs 0.06 – 0.5 mg/L
 R QRNG = Ciprofloxacin MICs > 1 mg/L

Cambodia, China, Madagascar, Malaysia, the Philippines, Thailand, the United Kingdom and Vietnam.

High level tetracycline resistance (TRNG)

The number (69) and proportion (8.7%) of TRNG detected was less than in the corresponding period of 1999 (85, 10%). TRNG represented 21 per cent of isolates from Queensland, 10 per cent from Western Australia, 8 per cent from Victoria

and 5 per cent from New South Wales and South Australia. A single TRNG was found in the Northern Territory. Most TRNG were imported into Australia from Cambodia, Indonesia, Thailand and Vietnam.

Reference

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

Rotavirus Surveillance

The National Rotavirus Reference Centre (NRRC) undertakes surveillance and characterisation of rotavirus strains causing annual epidemics of severe diarrhoea in young children throughout Australia.

There are currently fourteen laboratories contributing data and rotavirus specimens for the characterisation of representative rotavirus serotypes.

The NRRC is happy to give and receive notifications of rotavirus outbreaks Australia-wide. The NRRC can be contacted at the Department of Gastroenterology and Clinical Nutrition, Royal Children's Hospital, Flemington Road, Parkville, Victoria 3052. Telephone: (03) 9345 5069, Facsimile: (03) 9345 6240, Email: masendyp@cryptic.rch.unimelb.edu.au. For more information see Commun Dis Intell 2000;24:10.

June 2000 to April 2001

The 2000 rotavirus season of most Australian collaborating centres appears to have come and gone and the task of completing the rotavirus serotyping is well under way. Molecular and serological serotyping techniques have been employed to serotype rotavirus positive specimens received Australia-wide. Serotype G3 rotaviruses appeared sporadically in Australia during a 4-year Australia-wide epidemiological survey between 1993-1996,¹ however none have been identified in any of the centres for the sampling period, June 2000 to December 2000. The Serotype G1 rotaviruses have been detected in all centres studied.

Serotype G4 viruses were found in the following 9 centres: Brisbane, Melbourne, Adelaide, Perth, Gove, Narrabri, Horsham, Darwin and Sydney. The G4 viruses were the most prevalent serotype (57%) in specimens received from The Prince of Wales Hospital in south-east Sydney. G4 viruses were also identified from The Children's Hospital at Westmead in Sydney's west (21%), but serotype G2 specimens were found to be the most prevalent serotype (45.6%) in this location. Serotype G2 viruses from Sydney's south-east were low in comparison (7.7%).

This unusual serotype distribution of the G2 and G4 viruses in Sydney suggests different serotypes can exhibit different distribution within a relatively small geographical area. G2 rotaviruses have also been detected in Melbourne, Hobart, Adelaide, Perth, Gove, Narrabri, Horsham and Darwin. Serotype G9 viruses which were identified for the first time in Australia in 1997, appeared in Sydney, Perth, Melbourne and Horsham, with G9 the most prevalent serotype in Horsham (72.7%) for the sampling period June 2000 to January 2001.

Rotavirus collection continues, and the National Rotavirus Reference Centre welcomes any notifications of rotavirus outbreaks.

References

1. Bishop RF, Masendycz PJ, Bugg HC, Carlin JB, Barnes GL. Epidemiological patterns of rotaviruses causing severe gastroenteritis in young children throughout Australia from 1993 to 1996. *J Clin Microbiol* 2001;39:1085-1091.

HIV and AIDS Surveillance

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

Tabulations of diagnoses of HIV infection and AIDS are based on data available 3 months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is published in the quarterly Australian HIV Surveillance Report, and annually in HIV/AIDS and related diseases 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/nchechr>. Telephone: (02) 9332 4648. Facsimile: (02) 9332 1837.

HIV and AIDS diagnoses and deaths following AIDS reported between 1 October and 31 December 2000, as reported to 31 March 2001, are included in this issue of Communicable Diseases Intelligence (Tables 8 and 9).

Table 8. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 October to 31 December 2000, by sex and State or Territory of diagnosis

										Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2000	This period 1999	Year to date 2000	Year to date 1999
HIV diagnoses	Female	0	2	1	2	0	0	5	0	10	20	73	75
	Male	0	52	0	25	3	0	31	0	111	161	620	656
	Sex not reported	0	0	0	0	0	0	0	0	0	0	0	0
	Total ¹	0	54	1	27	3	0	36	0	121	183	695	733
AIDS diagnoses	Female	0	2	0	0	0	0	0	0	2	4	20	19
	Male	0	22	1	7	2	0	12	0	44	38	187	156
	Total ¹	0	24	1	7	2	0	12	0	46	42	207	176
AIDS deaths	Female	0	0	0	0	1	0	0	0	1	0	7	4
	Male	0	15	0	1	2	0	7	0	25	29	115	115
	Total ¹	0	15	0	1	3	0	7	0	26	29	122	120

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

Table 9. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 31 March 2001, by sex and State or Territory

		State or Territory									Australia
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA		
HIV diagnoses	Female	28	634	10	163	63	5	228	119	1,250	
	Male	228	11,236	108	2,070	694	78	4,022	925	19,361	
	Sex not reported	0	243	0	0	0	0	24	0	267	
	Total ¹	256	12,134	118	2,240	757	83	4,288	1,049	20,925	
AIDS diagnoses	Female	9	201	0	50	25	3	72	26	386	
	Male	87	4,742	36	853	350	45	1,679	356	8,148	
	Total ¹	96	4,955	36	905	375	48	1,759	384	8,558	
AIDS deaths	Female	4	114	0	33	16	2	49	17	235	
	Male	68	3,249	24	577	234	29	1,294	252	5,727	
	Total ¹	72	3,371	24	612	250	31	1,350	270	5,980	

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

Childhood Vaccination Coverage

Tables 10 and 11 provide the latest quarterly report on childhood vaccination coverage from the Australian Childhood Immunisation Register (ACIR).

The data show the percentage of children fully vaccinated at age 12 months for the cohort born between 1 October and

31 December 1999 and at 24 months of age for the cohort born between 1 October and 31 December 1998 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.

Table 10. Proportion of children immunised at 2 years of age, preliminary results by disease and State for the birth cohort 1 October to 31 December 1998; assessment date 31 March 2001¹

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,085	21,388	781	11,504	4,501	1,609	15,618	6,279	62,765
Diphtheria, Tetanus, Pertussis (%)	89.6	87.3	82.0	90.4	89.7	91.4	88.5	86.5	88.3
Poliomyelitis (%)	93.9	92.2	93.0	93.5	94.5	95.3	94.0	91.9	93.1
<i>Haemophilus influenzae</i> type b (%)	94.9	94.4	93.6	94.7	95.5	95.5	95.5	93.5	94.7
Measles, Mumps, Rubella (%)	93.0	91.4	91.1	93.3	94.1	94.3	93.0	91.2	92.4
Fully immunised (%)²	87.6	82.7	78.9	87.8	87.5	89.7	85.1	82.6	84.8
Change in fully immunised since last quarter (%)	-0.2	+0.8	-1.1	-0.5	-1.1	+1.1	-1.3	-0.5	-0.3

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2000;24:109.

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.

Acknowledgment: These figures were provided by the Health Insurance Commission (HIC), to specifications provided by the Commonwealth Department of Health and Aged Care. For further information on these figures or data on the Australian Childhood Immunisation Register please contact the Immunisation Section of the HIC: Telephone 02 6124 6607.

Table 11. Percentage of children immunised at 1 year of age, preliminary results by disease and State for the birth cohort 1 October to 31 December 1999; assessment date 31 March 2001

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	990	20,721	778	11,641	4,375	1,453	15,119	6,074	61,151
Diphtheria, Tetanus, Pertussis (%)	92.9	91.0	89.0	91.8	91.5	93.1	92.2	90.1	91.5
Poliomyelitis (%)	92.8	90.9	89.6	91.8	91.5	93.2	92.3	90.0	91.4
<i>Haemophilus influenzae</i> type b (%)	95.4	94.3	94.0	94.4	95.0	95.6	95.3	93.6	94.6
Fully immunised (%)	92.7	90.7	88.6	91.4	91.4	92.6	92.1	89.6	91.2
Change in fully immunised since last quarter (%)	+0.0	+0.2	-0.6	-0.6	-0.8	+1.0	0.0	-0.7	-0.1