

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 (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.

Reporting period 1 April to 30 June 2001

The AGSP laboratories examined a total of 858 isolates in this quarter, a lower number than in the same period in the past 2 years. About 45 per cent of this total was from New South Wales, 17 per cent from Victoria, 13 per cent from Queensland, 12 per cent from the Northern Territory, 9 per cent from Western Australia and 3 per cent from South Australia. Isolates from other centres were few.

Penicillins

Figure 1 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 resistant by chromosomal mechanisms fail to respond to treatment with penicillins (penicillin, amoxicillin, ampicillin) and early generation cephalosporins.

In this quarter about 22 per cent of all isolates were penicillin resistant by one or more mechanisms — 7 per cent PPNG and 15 per cent by chromosomal mechanisms (CMRNG). The proportion of penicillin resistant strains ranged from 4 per cent in the Northern Territory to 36 per cent in South Australia.

The number of PPNG isolates across Australia (58) was lower in this quarter than in the corresponding period in 2000 (74). The highest proportion of PPNG was found in isolates from Victoria (13%) and Queensland (10%). PPNG were present in all jurisdictions including 2 (1.9%) in the Northern Territory. South and South East Asian countries were the main source of external acquisition, but included an isolate

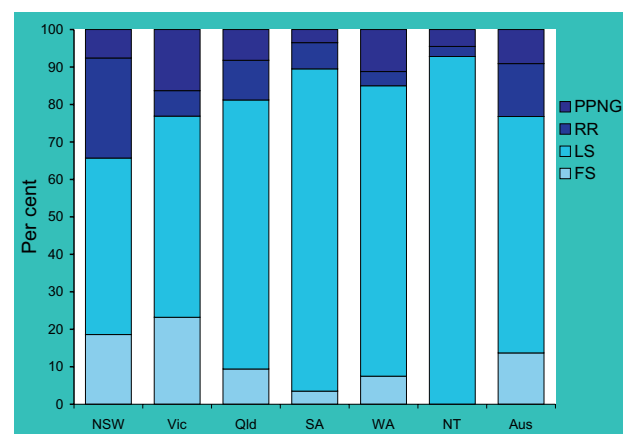
acquired in Ethiopia. Local acquisition was prominent in Victoria and New South Wales.

More isolates were resistant to the penicillins by separate chromosomal mechanisms (128). These CMRNG were especially prominent in South Australia (29% of isolates there), New South Wales (22%), Victoria (13%) and Queensland (11%). Two CMRNG isolates were detected in the Northern Territory.

Ceftriaxone

Low numbers of isolates with decreased susceptibility to ceftriaxone were present in the Northern Territory and Western Australia.

Figure 1. Categorisation of gonococci isolated, Australia, 1 April to 30 June 2001, by penicillin susceptibility and by region



FS Fully sensitive to penicillin, MIC \leq 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*

Spectinomycin

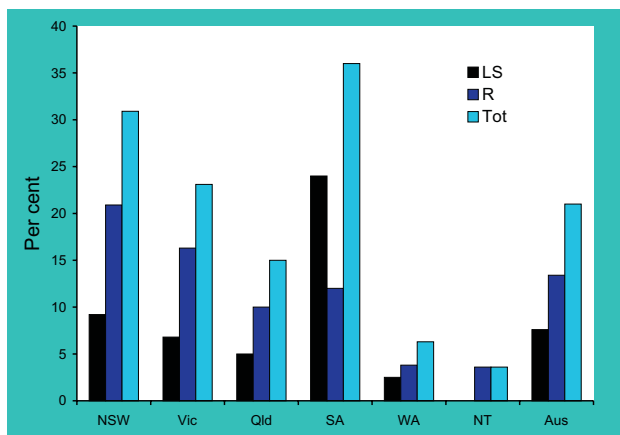
All isolates were susceptible to this injectable agent.

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 \geq 1 mg/L) groups (Figure 2).

The total number (165) of all QRNG was again high but lower in this quarter than in the previous quarter (197) and the corresponding period in 2000 (183). QRNG were 19 per cent of all strains examined and this proportion was little changed from the second quarter of 2000. QRNG were again widely distributed. High proportions were maintained in South Australia (25%), New South Wales (28%), Queensland (18%) and Western Australia (13%). A marked decrease in the number of QRNG was seen in Victoria where the 12 QRNG represented 9 per cent of isolates. In the corresponding period of 2000, 25 per cent of Victorian

Figure 2. Distribution of *N. Gonorrhoeae* showing quinolone resistance, Australia, 1 April to 30 June 2001



LS QRNG Ciprofloxacin MICs 0.06 – 0.5 mg/L

R QRNG Ciprofloxacin MICs ≥ 1 mg/L

strains were QRNG and the proportion was 22 per cent in the previous quarter. In both New South Wales and now Victoria there has been a significant decrease in the number of 'less sensitive' QRNG in recent quarters. However, in New South Wales and also in Queensland, the proportion of isolation of 'resistant' QRNG has accelerated. Ninety-three of the New South Wales (24%), 21 (16%) of the Queensland and 7 (22%) of the South Australian gonococci exhibited high level resistance (MIC ciprofloxacin ≥ 1 mg/L). In Victoria this number declined to 9 from the 23 seen in the first quarter of 2001. Higher level QRNG were also seen in the Northern Territory and Western Australia. Local acquisition was again prominent and MICs ranged up to 16mg/L. The majority of QRNG (137 of 165, 83%) are now in the high level range compared with 64 per cent in this category the previous quarter and 40 per cent in the same period last year.

High level tetracycline resistance (TRNG)

The number (56) and proportion (6.5%) of TRNG detected continued to decline. TRNG represented 14 per cent of isolates from Queensland, 10 per cent of those from Victoria, 5 per cent from New South Wales, 4 per cent from Western Australia and 2 per cent from the Northern Territory.

Reference

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

Australian encephalitis: Sentinel Chicken Surveillance Programme

Sentinel chicken flocks are used to monitor flavivirus activity in Australia. The main viruses of concern are Murray Valley encephalitis (MVE) and Kunjin which cause the potentially fatal disease encephalitis, in humans. Currently 30 flocks are maintained in the north of Western Australia, 9 in the

Northern Territory, 12 in New South Wales and 10 in Victoria. The flocks in Western Australia and the Northern Territory are tested year round but those in New South Wales and Victoria are tested only from November to March, during the main risk season.

Results are coordinated by the Arbovirus Laboratory in Perth and reported bimonthly. For more information and details of the location of sentinel chicken sites see Commun Dis Intell 2000;24:8-9.

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July/August 2001

Sentinel chicken serology was carried out for 21 of the 30 flocks in Western Australia in July and August 2001. The number of seroconversions to flaviviruses have decreased in the north of Western Australia but MVE and Kunjin virus activity was still detected in both the Kimberley and Pilbara regions. In July there were 4 seroconversions from the Kimberley: 1 MVE from Kununurra; 2 KUN from Halls Creek; 1 Flavivirus from Kalumburu and 1 MVE seroconversion from Karratha in the Pilbara. In August there were no seroconversions from the Kimberley but 5 were recorded from the Pilbara: One FLAVI positive was reported from Port Hedland, 1 MVE seroconversion from both Harding Dam and Marble Bar and 2 seroconversions (1 FLAVI and 1 KUN) from Paraburdoo. A number of these seroconversions have yet to be confirmed.

All of the Western Australian flocks will be replaced in September 2001.

Serum samples from all 8 Northern Territory sentinel chicken flocks were tested at the University of Western Australia in July 2001 and samples from 5 flocks were tested in August 2001. There was only one new seroconversion to MVE virus in the Alice Springs flock in July.

The State Health Departments provide funding for the sentinel chicken surveillance programs in Western Australia and the Northern Territory.

September/October 2001

Sentinel chicken serology was carried out for 25 of the 30 flocks in Western Australia in September and October 2001. There was only one seroconversion to MVE virus from Marble Bar in the Pilbara region. The majority of the Western Australian flocks were replaced in September 2001.

Serum samples from all 8 Northern Territory sentinel chicken flocks were tested at the University of Western Australia in September 2001 and samples from 3 flocks were tested in October 2001. There were no new seroconversions to flaviviruses during this period.

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 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 for 1 April to 30 June 2001, as reported to 30 September 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 April to 30 June 2001, by sex and State or Territory of diagnosis

									Totals for Australia				
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2001	This period 2000	Year to date 2001	Year to date 2000
HIV diagnoses	Female	0	7	0	4	2	0	3	1	17	21	42	42
	Male	0	68	1	19	5	0	43	3	139	169	303	366
	Sex not reported	0	2	0	0	0	0	0	0	2	0	2	0
	Total ¹	0	77	1	23	7	0	46	4	158	191	348	410
AIDS diagnoses	Female	0	0	0	0	0	0	0	0	0	5	2	13
	Male	0	6	0	2	0	0	9	3	20	45	44	115
	Total ¹	0	6	0	2	0	0	9	3	20	50	47	128
AIDS deaths	Female	0	0	0	1	0	0	0	0	1	2	3	5
	Male	0	3	0	3	1	0	4	1	12	35	24	64
	Total ¹	0	3	0	4	1	0	4	1	13	37	27	69

Table 9. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 30 September 2001, by sex and State or Territory

		State or Territory									Australia
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA		
HIV diagnoses	Female	27	655	10	173	66	5	237	124	1,297	
	Male	228	11,398	110	2,121	707	80	4,115	959	19,718	
	Sex not reported	0	245	0	0	0	0	24	0	269	
	Total ¹	255	12,319	120	2,301	773	85	4,391	1,089	21,333	
AIDS diagnoses	Female	9	202	0	50	25	3	73	27	389	
	Male	87	4,757	37	867	352	45	1,709	363	8,217	
	Total ¹	96	4,971	37	919	377	48	1,791	392	8,631	
AIDS deaths	Female	4	115	0	34	16	2	51	17	239	
	Male	68	3,258	24	585	235	29	1,306	256	5,761	
	Total ¹	72	3,381	24	621	251	31	1,364	274	6,018	

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

Childhood Immunisation Coverage

Tables 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 age 12 months for the cohort born between 1 April to

30 June 2000 and at 24 months of age for the cohort born between 1 April to 30 June 1999 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. Percentage of children immunised at 1 year of age, preliminary results by disease and State for the birth cohort 1 April to 30 June 2000; assessment date 30 September 2001.

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,088	21,807	931	12,274	4,414	1,460	15,071	6,090	63,135
Diphtheria, Tetanus, Pertussis (%)	93.2	91.4	90.3	92.5	92.4	91.8	92.6	90.4	91.9
Poliomyelitis (%)	93.2	91.4	90.0	92.4	92.4	91.8	92.6	90.3	91.8
<i>Haemophilus influenzae</i> type b (%)	95.3	94.1	94.2	94.6	95.0	94.8	95.1	93.8	94.5
Fully immunised (%)	92.7	90.7	89.3	91.8	91.6	91.0	92.0	89.5	91.2
Change in fully immunised since last quarter (%)	0.0	+0.2	+0.1	-0.2	-0.6	-0.6	-0.1	-0.7	-0.1

Table 11. Proportion of children immunised at 2 years of age, preliminary results by disease and State for the birth cohort 1 April to 30 June 1999; assessment date 30 September 2001¹

Vaccine	State or Territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,106	21,732	907	12,375	4,629	1,567	15,088	6,480	63,884
Diphtheria, Tetanus, Pertussis (%)	89.2	89.2	82.4	91.0	91.1	90.2	90.4	88.6	89.8
Poliomyelitis (%)	94.3	93.1	94.5	94.1	95.2	94.2	94.4	93.4	93.9
<i>Haemophilus influenzae</i> type b (%)	95.2	94.9	91.8	95.0	96.4	95.2	95.8	94.6	95.2
Measles, Mumps, Rubella (%)	93.3	92.3	93.2	93.3	95.1	93.9	93.5	92.8	93.1
Fully immunised (%)²	86.6	85.7	79.8	88.6	89.1	88.7	87.5	86.0	87.0
Change in fully immunised since last quarter (%)	-1.2	+3.8	-0.2	+0.3	+0.5	+0.1	+1.1	+2.9	+1.9

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2000;24:324.

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.