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% or more of isolates from a general population, it is usual to remove that agent from the list of recommended treatment (Anonymous. Management of sexually transmitted diseases. World Health Organization 1997; Document WHO/GPA/TEM94.1 Rev.1 p 37). 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 January to 31 March 2000

The AGSP laboratories examined a total of 938 isolates in this quarter, virtually the same number as in this period in 1999. About 38% of this total was from New South Wales, 22% from Victoria, 16% from Queensland, 11% from the Northern Territory, 8% from Western Australia and 4% 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 to 0.5 mg/L) and relatively resistant to penicillins (MIC 1 mg/L) or else penicillinase-producing *Neisseria gonorrhoeae* (PPNG) aggregated for Australia and by State or Territory. A high proportion of PPNG and relatively resistant strains will fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

About 22% of all isolates were penicillin-resistant by one or more mechanisms – 10% by penicillinase production and 12% by chromosomal mechanisms (CMRNG). The penicillin-resistant isolates comprised about half the isolates in South Australia and about a quarter of all isolates in New South Wales and Queensland, while about 15% of gonococci in Victoria and Western Australia were penicillin-resistant. In the Northern Territory, 2% of isolates were penicillin-resistant.

The number of PPNG isolated across Australia (91) increased slightly in this quarter compared with the corresponding period in 1999 (88). However the distribution of PPNG has altered. The highest proportion of PPNG was found in isolates from South Australia (24%), Queensland (15%) and Western Australia (14%) whereas the number (34, 14) and proportion (9.4%, 6.8%) of PPNG in New South Wales and Victoria respectively decreased. A single PPNG was isolated in the Northern Territory. Acquisition data on PPNG indicated a high rate of local acquisition throughout Australia. South-East Asian countries were the main source of external acquisition.

More isolates were resistant to the penicillins by separate chromosomal mechanisms (119). These CMRNG were especially prominent in New South Wales (21%) and South Australia (24%) with substantial proportions also in Queensland (8%) and Victoria (10%). Only one strain of this type was isolated in the Northern Territory.

Ceftriaxone and spectinomycin

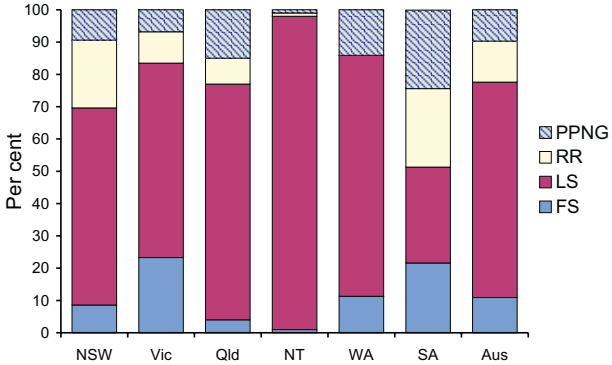
All isolates in Australia were again susceptible to these injectable agents, with the exception of one strain with decreased ceftriaxone susceptibility.

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 subdivided into less sensitive (ciprofloxacin MICs 0.06 to 0.5 mg/L) or resistant (MIC 1 mg/L) groups.

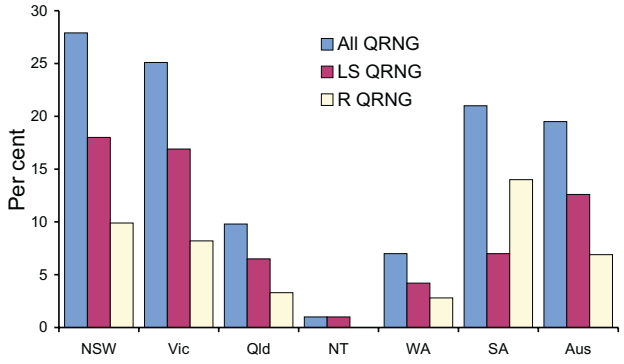
The total number (183) and proportion (20%) of all QRNG was again high and much increased over the first quarter of 1999 (106 isolates, 11%) (Figure 11). QRNG were present in all centres except Tasmania and the Australian Capital Territory. High rates were maintained in New South Wales (28%) and Victoria (25%) and together these regions accounted for 85% of QRNG isolated. QRNG were prominent also in South Australia (21% of isolates) and Queensland (10%). Of Western Australian isolates,

Figure 10. Gonococci isolated in Australia, 1 January to 31 March 2000, by penicillin-susceptibility and by region



FS fully sensitive to penicillin, MIC 0.03 mg/L
LS less sensitive to penicillin, MIC 0.06 to 0.5 mg/L
RR relatively resistant to penicillin, MIC 1 mg/L
PPNG penicillinase-producing *Neisseria gonorrhoeae*

Figure 11. Quinolone-resistance of *N. gonorrhoeae*, 1 January to 31 March 2000, Australia, by region



LS QRNG less sensitive quinolone-resistant *N. gonorrhoeae* (Ciprofloxacin MICs 0.06 to 0.5 mg/L)

R QRNG fully resistant quinolone-resistant *N. gonorrhoeae* (Ciprofloxacin MICs 1 mg/L)

7% were QRNG and a single QRNG was isolated in the Northern Territory. Thirty-six of the New South Wales and 17 of the Victorian QRNG exhibited high level resistance (MIC ciprofloxacin 1 mg/L) and higher level QRNG were also seen in Queensland, South Australia and Western Australia. Local acquisition became increasingly prominent and MICs ranged up to 16mg/L. However about two thirds of the QRNG were in the 'less sensitive' MIC range 0.06 to 0.5 mg/L and were found exclusively in males. Again the bulk of this group of isolates (101 of 118) was found in New South Wales and Victoria and infections with them were locally acquired.

High level tetracycline resistance (TRNG)

The number (89) and proportion (9.4%) of TRNG detected were similar to those noted for the first quarter of 1999. TRNG represented 19% of gonococci from South Australia, 14% of isolates from Queensland and Western Australia, 9% from New South Wales and 8% from Victoria. A single TRNG was isolated in the Northern Territory.

Adverse Events Following Immunisation Surveillance Scheme

Adverse Events data collected by both the Serious Adverse Events Following Vaccination Surveillance Scheme (SAEFVSS) for children and the Adverse Drug Reaction Scheme for children and adults are included in this report. This is a change from previous reports that have only included adverse events data collected by the SAEFVSS. Adverse events are classified as described in the Australian Immunisation Handbook 7th edition in which more details of the reporting of adverse events following immunisation can be found. (National Health and Medical Research Council. The Australian Immunisation Handbook. 7th ed. Canberra: Australian Government Publishing Services, 2000).

Acceptance of a report does not imply a causal relationship between the administration of the vaccine and the reported outcome, or that the report has been verified as to the accuracy of its contents.

It is estimated that 250,000 doses of vaccines are administered every month to Australian children under the age of 6 years.

Result for the reporting period 1 January to 30 June 2000

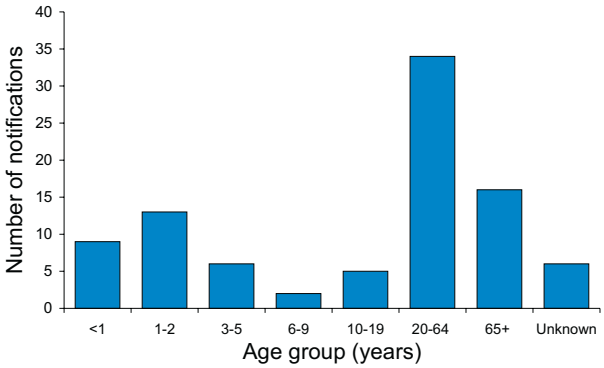
For this 6 months reporting period 164 notifications of adverse events following immunisation were received. These did not include notifications from the SAEFVSS in New South Wales. The most frequent sources were medical practitioners (38%), pharmaceutical companies (22%), and State/Territory Health Departments (20%), with the remainder from pharmacists (4%) and others (3%). Excluding nine notifications for which the reporting State/Territory was unknown, notifications for this period were received from the Australian Capital Territory (1%), New South Wales (22.5%), Northern Territory (8%), Queensland (14%), South Australia (13%), Tasmania (3%), Victoria (32%), and Western Australia (6%).

Of the 164 notifications, the assessed association with immunisation was certain (30%), probable (7%), possible (49%) and unknown (13%). Most certain associations were local reactions.

Most of the 164 notifications occurred in the 20 to 64 year age group (41%) followed by those under 10 years (32%) and those over 64 years (15%). Of the 53 notifications for those under 10 years, most were under 6 years, with 28% in those less than 1 year and 60% in those aged between 1 and 5 years (Figure 12). Most notifications were related to the administration of one vaccine only (78%).

For each of the 164 notifications, the severity was reported for 32% and the outcome for 72%. Of the 52 reports of severity, 65% required a doctor's visit, 29% needed hospitalisation and two were reported as 'life-threatening'. These two reports included a report from Queensland of thrombocytopenia within 1 week of MMR immunisation in a 15-month-old, and a report from Victoria of meningitis within 1 day of hepatitis B immunisation in a 13-year-old.

Figure 12. Notifications of adverse events following immunisation, 1 January to 30 June 2000, by age group



Of the 118 reports with a reported outcome, 65% had recovered, 33% had not recovered completely by the time of notification, and there were three deaths. The deaths, reported from Tasmania and Victoria, occurred within 1 day of the birth-dose of hepatitis B immunisation in a child of 2 days, within 1 week of immunisation with OPV plus DTP and Hib in a 15-month-old, and within 1 week of cholera immunisation in a 28-year-old. There were no notifications associated with OPV alone. The cholera vaccine was not the oral vaccine.

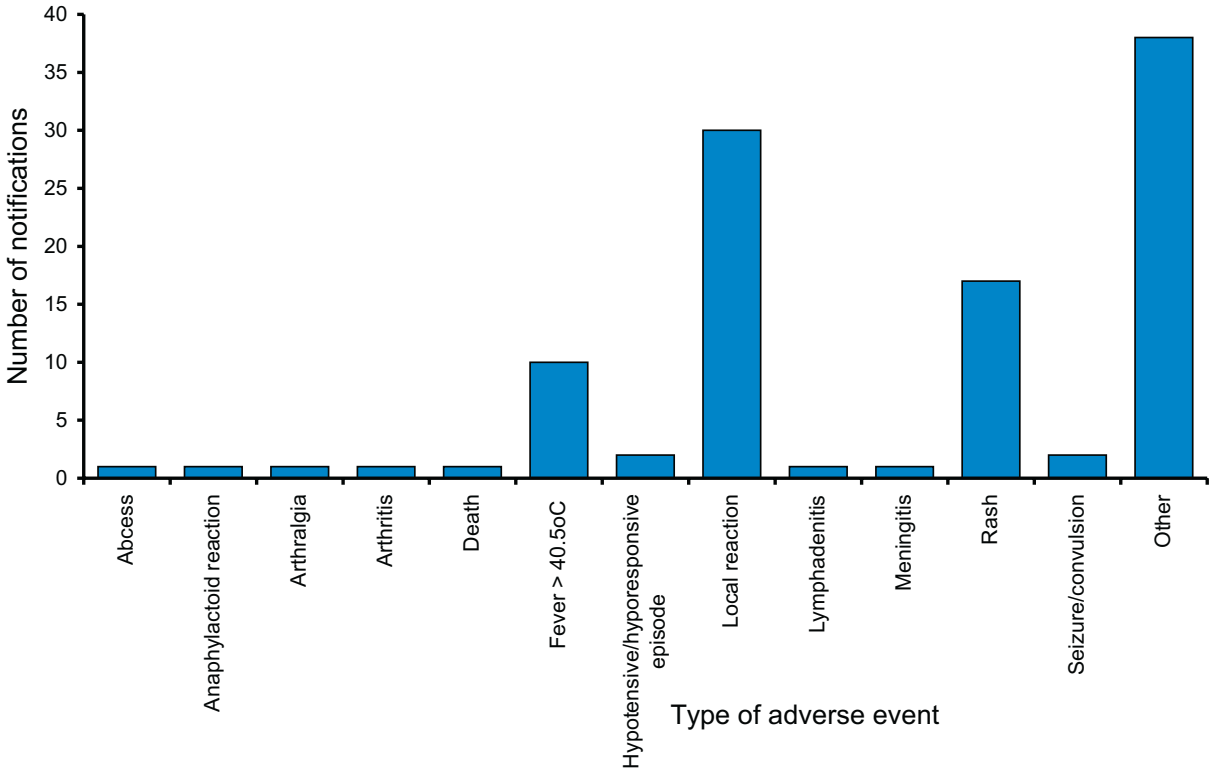
Each notification was associated with one or more adverse events. In total there were 184 adverse events reported for this period. The most frequently reported were other reactions (31%), local reaction (28%), rash (15%) and fever of over 40.5°C (9%) (Figure 13). Other reactions included headache, myalgia, gastrointestinal symptoms (such as nausea, vomiting and diarrhoea) and vasovagal type symptoms (such as hyperventilation, parasthesia and palpitations). The most serious adverse events notified included anaphylactoid reaction (1%), meningitis (0.5%), seizure or convulsion (2%) and thrombocytopenia (0.5%) and the three reported deaths (2%).

For 22% of encounters, more than one vaccine was administered. It was not possible to know which vaccine was associated with any adverse event other than local reactions; hence any adverse event was counted for each vaccine. In total there were 215 adverse events associated with the different vaccines administered. Most adverse events were reported following the administration of Influenza vaccines (22%), Diphtheria Tetanus Pertussis (DTP) vaccines (15%), and Measles Mumps Rubella (MMR) vaccine (8%). Adverse events associated with the DTP vaccines were mostly associated with the acellular DTP vaccines as whole cell DTP vaccines are no longer widely used. Most adverse events associated with Influenza, DTP, and MMR vaccines occurred when they were used alone.

Dose information was recorded for 60 administered vaccines. Most adverse events with DTP vaccines were associated with dose 4 (11/17, 65%); the dose was unspecified for an additional 15 reports. The dose was not recorded for any influenza vaccines but is likely to have been dose 1 as the recommendation for influenza immunisation mostly applies to adults over 65 years who require one dose each year. Adverse events with MMR vaccines were evenly divided between the first (4/9, 44%) and second (5/9, 56%) doses; the dose was unspecified for an additional nine reports.

Editorial statement. The Australian Immunisation Handbook (7th edition, Appendix 6) defines vaccination as '*the administration of a vaccine: if vaccination is successful it results in immunity*' and immunisation as '*the process of inducing immunity to an infectious agent by administering a vaccine*'. An Adverse Event Following Immunisation (AEFI) is defined by the Australian Immunisation Handbook (7th edition, page 22) as '*a serious uncommon or unexpected event following immunisation. Such an event may or may not be caused by the vaccine or may occur by chance after immunisation*'. The use of the term AEFI is a change (from Adverse Event Following Vaccination) and is consistent with World Health Organization terminology.

Figure 13. Notifications by reported adverse event following immunisation, 1 January to 30 June 2000, by type of adverse event



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 medical practitioner 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/nchecr. Telephone: (02) 9332 4648. Facsimile: (02) 9332 1837.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 to 31 March 2000, as reported to 30 June 2000, are included in this issue of Commun Dis Intell *(Tables 7 and 8).*

Table 7. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 to 31 March 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	0	0	2	0	0	2	2	6	9	20	18
	Male	0	8	1	12	5	0	15	2	43	68	157	161
	Sex not reported	0	1	0	0	0	0	0	0	1	0	3	0
	Total[1]	0	9	1	14	5	0	17	4	50	77	180	179
AIDS diagnoses	Female	0	0	0	0	0	0	0	0	0	4	7	5
	Male	0	3	0	1	1	0	5	1	11	12	43	34
	Total[1]	0	3	0	1	1	0	5	1	11	16	50	39
AIDS deaths	Female	0	0	0	0	0	0	0	0	0	0	3	0
	Male	0	2	0	0	0	0	3	0	5	9	18	36
	Total[1]	0	2	0	0	0	0	3	0	5	9	21	37

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 2000, by sex and State or Territory

		State or Territory								
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
HIV diagnoses	Female	26	607	11	155	61	5	214	118	1,197
	Male	223	10,987	110	2,002	679	79	3,907	920	18,907
	Sex not reported	0	249	0	0	0	0	24	0	273
	Total[1]	249	11,863	121	2,164	740	84	4,159	1,042	20,422
AIDS diagnoses	Female	9	188	1	48	25	3	69	26	369
	Male	86	4,648	35	824	347	44	1,624	351	7,959
	Total[1]	95	4,848	36	874	372	47	1,701	379	8,352
AIDS deaths	Female	4	113	0	32	15	2	49	16	231
	Male	66	3,172	24	567	231	29	1,273	248	5,610
	Total[1]	70	3,293	24	601	246	31	1,328	265	5,858

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