Additional reports

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.

Reduction in funding after June 2001 has limited that national scope of surveillance. Priority has been given to comprehensive surveillance of strains infecting children admitted to hospital in Western Australia, the Northern Territory and Victoria. Previous experience has shown Western Australia and Norhtern Territory to show differing epidemiological patterns from those of the eastern states and to be sites where 'new' strains have appeared. Melbourne's epidemiological patterns in the past have been similar to those in Brisbane, Adelaide and Hobart, and is currently regarded as representative of those locations.

The NRRC retains an interest in providing a service available to all sites if unusual epidemic patterns are observed and can be contacted at the Murdoch Childrens Research Institute, Department of Gastroenterology and Clinical Nutrition, Royal Children's Hospital, Flemington Road, Parkville, Victoria, 3052. Contact: Ruth Clark, Telephone: +61 3 9345 5069. Facsimile: +61 3 9345 6240. E-mail: clarkr@cryptic.rch.unimelb.edu.au. For more information see Commun Dis Intell 2000;24:10.

The National Rotavirus Reference Centre (NRRC) conducted rotavirus surveillance Australia-wide in 2001. One thousand and eighteen samples were collected from children admitted to hospital with acute gastroenteritis, of which 865 were confirmed as rotavirus positive. Serotype analysis of these samples was conducted using a combination of enzyme immunoassays, PCR and Northern hybridization. This analysis revealed that serotype G1 was the major serotype, representing 42.4 per cent of all strains, followed by serotype G9 (36.5% of all strains). All other serotypes represented less than 2.5 per cent of strains (Table 7). However, there was variation in the prevalence rates in several of the participating centres, with serotype G1 being the dominant strain in Melbourne and Perth, whereas serotype G9 was the dominant strain in Alice Springs, Darwin and Mt Isa.

There was an increase in the prevalence of serotype G4 in Melbourne during 2001. Whether the Melbourne serotype G4 strains identified in 2001 are related to the earlier serotype G4 strains prevalent in Darwin and Sydney during 2000, requires further analysis.

A major outbreak in the Northern Territory started in May 2001, and persisted through the year.[1] Serotype G9 was the dominant strain. This 'new' serotype has been reported world-wide since 1998 and its incorporation in candidate rotavirus vaccines is under discussion. It is important to keep track of changing strains, so that Australia is well placed to implement an appropriate vaccine when one reaches licensure.

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

Reference

1. Armstrong P. NT Disease Control Bulletin 2001;8:1-5.

Table 7. Rotavirus G types, January to December, 2001

Centre	G serotype (% of rotavirus positive)													Number of rotavirus positive samples
	G1		G2		G3		G4		G9		NR*		Mix	
Melbourne	85	(48.3)	8	(4.6)	0		12	(6.8)	18	(10.2)	50	(28.4)	3 (1.7)	176
Perth	201	(65.7)	1	(0.33)	1	(0.33)	0		57	(18.6)	42	(13.7)	4 (1.3)	306
WA Pathcentre	35	(34.3)	1	(1)	0		1	(1)	46	(45.1)	14	(13.7)	5 (4.9)	102
Darwin	1	(3.3)	0		0		0		28	(93.3)	1	(3.3)	0	30
Darwin W. Path	3	(6.8)	0		0		1	(2.3)	32	(72.7)	8	(18.2)	0	44
Alice Springs	40	(24.9)	0		0		0		111	(68.9)	10	(6.2)	0	161
Mt Isa	0		0		0		0		23	(92)	2	(8)	0	25
Adelaide	1	(50)	0		0		0		0		1	(50)	0	2
Brisbane	1	(25)	2	(50)	0		0		0		1	(25)	0	4
Hobart	0		6	(46.2)	0		0		0		7	(53.8)	0	13
West Sydney	0		1	(50)	0		0		1	(50)	0		0	2
Total	**367**	**(42.4)**	**19**	**(2.2)**	**1**	**(0.1)**	**14**	**(1.6)**	**316**	**(36.5)**	**136**	**(15.7)**	**12 (1.4)**	**865**

* NR – unable to be serotyped with monoclonal antibodies.

1018 specimens were forwarded to the NRRC, 865 were confirmed as positive

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. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. Internet: http://www.med.unsw.edu.au/nchecr. For more information see Commun Dis Intell 2002;26:59.

HIV and AIDS diagnosis and deaths following AIDS reported for 1 October to 31 December 2001, as reported to 31 March 2002, 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 2001, by sex and State or Territory of diagnosis

	Sex	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Totals for Australia			
										This period 2001	This period 2000	Year to date 2001	Year to date 2000
HIV diagnoses	Female	1	7	0	5	3	0	7	2	25	14	94	78
	Male	1	76	1	25	12	0	54	5	174	140	680	664
	Not reported	0	0	0	0	0	0	0	0	0	1	2	1
	Total[1]	2	83	1	30	15	0	61	7	199	156	777	746
AIDS diagnoses	Female	0	0	0	0	2	0	2	0	4	2	16	22
	Male	0	14	0	5	2	0	6	1	28	56	127	214
	Total[1]	0	14	0	5	4	0	8	1	32	58	144	236
AIDS deaths	Female	0	0	0	0	0	0	3	0	3	1	11	8
	Male	0	11	0	1	1	0	3	0	16	29	70	123
	Total[1]	0	11	0	1	1	0	6	0	19	30	81	131

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 2002, by sex and State or Territory

	Sex	State or Territory								
		ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Australia
HIV diagnoses	Female	28	672	10	180	72	5	250	132	**1,349**
	Male	231	11,562	112	2,153	727	80	4,203	981	**20,049**
	Not reported	0	244	0	0	0	0	24	0	**268**
	Total[1]	259	12,500	122	2,340	799	85	4,493	1,119	**21,717**
AIDS diagnoses	Female	9	208	0	51	28	3	79	27	**405**
	Male	88	4,823	37	883	363	45	1,725	364	**8,328**
	Total[1]	97	5,043	37	936	391	48	1,813	393	**8,758**
AIDS deaths	Female	4	118	0	35	16	2	57	18	**250**
	Male	70	3,281	25	588	242	29	1,313	260	**5,808**
	Total[1]	74	3,407	25	625	258	31	1,377	279	**6,076**

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 October to 31 December 2000 and at 24 months of age for the cohort born between 1 October to 31 December 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.

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 NCIRS at: telephone +61 2 9845 1256, E-mail: brynleyh@chw.edu.au.

The percentage of Australian children 'fully immunised' by 12 months increased marginally from the last quarter by 0.1 percentage points to 90.5 per cent (Table 10). The change in the percentage 'fully immunised' varied by State and Territory. New South Wales (+0.7%), the Australian Capital Territory (+0.5%), the Northern Territory (+2.4%), and South Australia (+0.1%) showed an increase in coverage. Queensland, Western Australia, Tasmania and Victoria experienced no change or a marginal decrease in coverage in the quarter. Coverage is now below 90 per cent in only two jurisdictions, the Northern Territory (89.7%) and Western Australia (88%). Immunisation coverage for DTP and OPV by 12 months in Australia decreased marginally from the previous quarter whilst coverage for Hib and hepatitis B increased marginally. The biggest improvement in coverage by 12 months was seen in the Northern Territory, where coverage for DTP increased by 1.9 per cent, OPV by 1.4 per cent, Hib by 3 per cent and hepatitis B by 3.2 per cent.

Coverage measured by the percentage of Australian children 'fully immunised' at 24 months decreased marginally from the last quarter by 0.2 percentage points to 87.8 per cent (Table 11). Coverage increased compared with the previous quarter in three states and territories, the Northern Territory (2.4%), New South Wales (0.5%) and Western Australia (0.8%). Queensland, South Australia, Tasmania and Victoria experienced no change or a small decrease in coverage with South Australia experiencing the largest decrease (2.4%).

Coverage for individual vaccines by 24 months for Australia however, is much greater than for 'fully immunised', with coverage for Hib greater than 95 per cent and coverage for OPV and MMR approaching 95 per cent.

Figure 6 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 and 24 months. However, the rate of increase in coverage is slowing with the curve beginning to flatten out for estimates at 12 months of age.

Figure 6. Trends in vaccination coverage, Australia, 1997 to 2001, by age cohorts

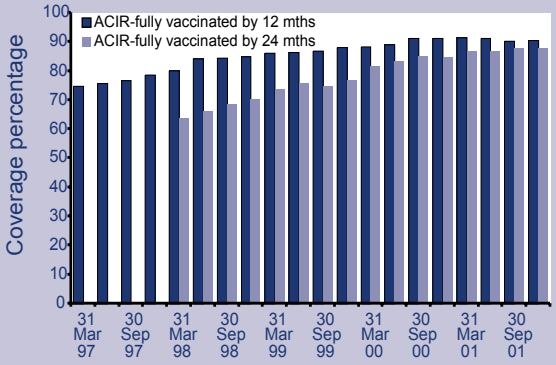

Table 10. Percentage of children immunised at 1 year of age, preliminary results by disease and State for the birth cohort 1 October to 31 December 2000; assessment date 31 March 2002

Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	1,084	21,340	845	12,019	4,231	1,535	15,258	5,848	**62,160**
Diphtheria, Tetanus and Pertussis (%)	92.9	91.9	90.7	92.0	92.2	92.1	92.8	90.1	**92.0**
Poliomyelitis (%)	92.8	91.8	90.5	91.9	92.0	92.1	92.8	90.0	**91.9**
Haemophilus influenzae type b (%)	94.7	94.5	96.1	94.3	94.5	95.7	95.0	93.1	**94.5**
Hepatitis B (%)	95.0	94.7	96.3	94.8	94.9	94.9	94.1	92.2	**94.4**
Fully immunised (%)	91.4	90.6	89.7	90.8	90.6	91.0	91.0	88.0	**90.5**
Change in fully immunised since last quarter (%)	-0.5	+0.7	+2.5	-0.7	+0.1	-0.3	+0.0	-1.1	**+0.1**

Table 11. Proportion of children immunised at 2 years of age, preliminary results by disease and State for the birth cohort 1 October to 31 December 1999; assessment date 31 March 2002[1]

Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Number of children	999	20,711	759	11,714	4,417	1,483	15,149	6,132	**61,364**
Diphtheria, Tetanus, Pertussis (%)	89.9	89.7	86.8	91.1	90.0	90.4	90.9	89.1	**90.2**
Poliomyelitis (%)	95.0	94.1	94.6	94.0	94.6	96.1	95.2	93.8	**94.4**
Haemophilus influenzae type b (%)	95.8	95.4	94.1	95.0	95.4	96.6	96.1	94.7	**95.4**
Measles, Mumps, Rubella (%)	94.4	92.8	94.2	93.2	93.2	95.1	94.1	92.9	**93.4**
Fully immunised (%)[2]	88.5	86.9	85.9	88.8	87.5	89.6	88.8	86.3	**87.8**
Change in fully immunised since last quarter (%)	-1.6	+0.5	+2.4	-1.4	-2.4	-0.5	-0.0	+0.8	**-0.2**

1. The 12 months age data for this cohort were published in *Commun Dis Intell* 2001;25:94.
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 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.

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 *reports only on* 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 count should be interpreted cautiously, and is affected by surveillance artefacts such as newly designated and incompletely typed Salmonella.

We thank contributing laboratories and scientists. 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. For further information please contact NEPSS at the above address or on Telephone: +61 3 8344 5701, Facsimile: +61 3 8344 7833.

Reports to the National Enteric Pathogens Surveillance System of Salmonella *infection for 1 January to 31 March 2002 are shown in Tables 12 and 13. Data includes cases reported and entered by 15 April 2002. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS.*

Table 12. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 January to 31 March 2002, as reported to 15 April 2002

	Australia	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
Total all *Salmonella* for quarter	2,585	39	708	101	965	117	55	423	177
Total contributing *Salmonella* types	225	20	106	43	119	43	15	100	62

Table 13. Top 25 *Salmonella* types identified in Australian States and Territories, 1 January to 31 March 2002

National rank	*Salmonella* type	Total 1st quarter 2002	Last 10 years mean 1st quarter	Year to date 2002	Year to date 2001	Total 2001	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
1	S. Typhimurium 9	279	148	279	160	398	14	165	0	31	8	3	42	16
2	S. Typhimurium 135	262	176	262	276	638	1	83	2	49	6	8	71	42
3	S. Saintpaul	145	117	145	98	288	0	10	1	108	2	1	14	9
4	S. Virchow 8	137	48	137	82	245	0	10	0	119	0	0	8	0
5	S. Typhimurium 170	132	31	132	19	148	0	59	0	24	0	0	48	1
6	S. Birkenhead	109	84	109	99	248	0	45	2	58	0	0	4	0
7	S. Aberdeen	67	32	67	33	87	0	4	0	54	0	0	9	0
8	S. Hvittingfoss	59	17	59	25	89	1	5	3	46	2	0	1	1
9	S. Typhimurium 126	58	26	58	58	314	0	13	1	11	11	1	21	0
10	S. Chester	48	58	48	67	166	1	9	6	25	2	0	2	3
11	S. Waycross	48	37	48	19	53	0	16	1	31	0	0	0	0
12	S. Muenchen	43	57	43	52	125	0	2	5	28	2	0	1	5
13	S. Virchow 34	41	28	41	32	87	1	17	0	16	0	1	6	0
14	S. Infantis	37	47	37	44	123	3	12	0	9	3	0	6	4
15	S. Mississippi	35	31	35	67	124	0	1	0	0	0	32	2	0
16	S. Anatum	32	32	32	20	58	0	3	5	19	0	0	1	4
17	S. Typhimurium 4	31	16	31	62	141	2	6	0	6	5	0	12	0
18	S. Montevideo	30	5	30	6	27	1	22	2	4	0	0	1	0
19	S. Mgulani	29	12	29	12	66	0	1	0	27	0	0	1	0
20	S. Potsdam	28	20	28	22	60	0	14	0	13	0	0	0	1
21	S. Typhimurium RDNC	22	43	22	30	102	0	11	0	2	1	0	8	0
22	S. Typhimurium U290	22	1	22	4	27	1	14	0	0	0	1	4	2
23	S. Agona	21	17	21	13	56	1	7	1	1	7	0	2	2
24	S. Typhimurium 12	21	6	21	18	62	0	6	1	6	7	0	1	0
25	S. Singapore	19	19	19	14	64	0	10	0	4	3	0	1	1
	Total of 25 most common types	1,755					26	545	30	691	59	47	266	91