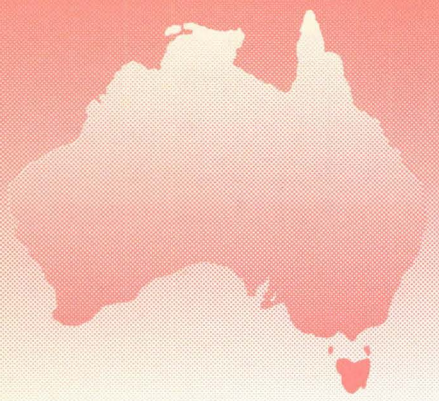

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DEPARTMENT OF HEALTH, HOUSING AND COMMUNITY SERVICES

COMMUNICABLE DISEASES NETWORK-AUSTRALIA
A National Network for Communicable Diseases Surveillance

SALMONELLA SURVEILLANCE, AUSTRALIA, FOURTH QUARTER 1992

(Reproduced with acknowledgment from the National Salmonella Surveillance Scheme's Human Fourth Quarter Report 1992, editor Joan Powling)

There were 1345 reports received by the National *Salmonella* Surveillance Scheme (NSSS) for the fourth quarter of 1992 (Table 1).

There were 890 Australian-acquired cases of *Salmonella* infection reported during this quarter, representing a 17% decrease over the total number of cases for the same period last year. There were 72 follow-ups, six cases from migrants and refugees and 77 cases acquired overseas. There were 165 Australian-acquired cases of *Shigella* infection as against 134 for the corresponding period of 1991, an increase of 23%.

By comparison to the fourth quarter of 1991, there was a decrease in the *Salmonella* case rate per 100,000 population of 30% in South Australia and 24% in both New South Wales and Queensland. There was a 19% increase in case rate in Tasmania.

The top ten *Salmonella* serovars accounted for 62% of all Australian-acquired cases reported to the NSSS (66% last year). The most common serovar was *S.* Typhimurium with 276 cases from 31 phage types (PT). The most common of these was PT 9 (59 cases). *S.* Virchow has returned to second place with 47 cases, 36 from Queensland. A newcomer to the top ten in this quarter was *S.* Welikade, in ninth position with 22 cases. Nine of these cases were reported from the Northern Territory and six each from Queensland and Western Australia. *S.* Hadar (37 cases, New South Wales 27) remained in the top ten but *S.* Enteritidis, with 17 cases, did not.

Outbreaks

Five outbreaks and two smaller incidents were recorded during the quarter.

The largest was the outbreak of *Sh. boydii* 1 from the north-west of Western Australia. This outbreak commenced in mid-September and has continued well into 1993 (see *CDI* 1993;**17**:189 and *CDI* 1993;**17**:279). Thirty-one cases were reported as acquired in Australia this quarter. The centre of the outbreak is in the far north-west of Western Australia and both adults and children have been involved. Twenty-one cases were reported from that State, six from the Northern Territory, three from remote areas of South Australia and one from Queensland.

Another *Shigella* outbreak involved *Sh. sonnei* among visitors to a caravan park in Rockhampton. It began in early December and continued in the general population into the New Year (see Update).

Twenty-seven cases of *S.* Hadar were reported from New South Wales for the quarter, mainly from around Sydney and beginning in early October. This outbreak has continued into the first and second quarters of 1993.

Table 1. Total number of reports received, by State or Territory

	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Tot
Salmonella	5	235	180	302	60	133	28	101	1044
Shigella	0	22	28	36	13	62	2	33	196
Aeromonas	0	0	7	4	0	0	2	0	13
Campylobacter	0	0	48	1	0	0	0	0	49
E. coli (EPEC)	0	1	0	0	0	0	0	0	1
Plesiomonas	0	0	2	0	0	0	0	0	2
Vibrio	0	0	0	0	1	0	0	0	1
Yersinia	0	16	10	12	1	0	0	0	39
Total	5	274	275	355	75	195	32	134	1345

Table 2. Case rates per 100,000 for *Salmonella* infections

	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Total
4th Quarter 1992	1.6	3.9	3.0	10.7	3.9	7.9	5.7	55.5	890
3rd Quarter 1992	3.6	2.9	3.1	6.5	4.5	8.5	2.3	23.2	689
4th Quarter 1991	5.6	5.1	3.5	14.1	5.6	8.5	4.8	54.9	1098
4th Quarter 1990	2.4	5.8	4.6	12.8	5.6	8.7	7.1	43.3	1131
4th Quarter 1989	10.4	5.8	5.5	14.0	10.7	13.8	8.9	83.3	1426

Smaller outbreaks were of *S.* Saintpaul (an incident involving four cases reported from the Gove Peninsula in December), *S.* Zanzibar var 15+ (five cases in adults from Cairns, reported on 1 November, followed by one child reported three days later), *S.* Mgulani (six cases, adults and children, also from Cairns, between mid-November and early December) and *S.* Typhimurium PT 9 (three cases resulting from a family gathering on a dairy farm in south-western Victoria in October).

New and unusual *Salmonella* serovars

The only unusual *Salmonella* serovars reported during the quarter were *S.* Larochelle (M/27) and *S.* Treforest (M/2), both from Western Australia.

New and unusual phage types of *S.* Typhimurium reported this quarter were PT 36 (M/2, New South Wales), PT 72 (M/65 ex New Zealand), PT 136 (F/32 Western Australia - ex Sri Lanka) and PT 182 (M/11, Victoria), a new phage type for the NSSS.

Table 3. Typhoid and paratyphoid cases

Phage type	Sex/Age	State or Territory	Notes
S. Typhi (7)			
A	M/32	Qld	no details provided
A	M/24	NSW	no details
A	M/24	NSW	twin brother of M/24 above
A	M/47	SA	*Sh. sonnei* also isolated
B1 var	F/12	NT	ex Philippines, *Haemophilus influenzae* also
D2	M/<1	NSW	no details
D var	M/39	Vic	acquired in Indonesia
S. Paratyphi A (2)			
1	M/34	WA	no details
RDNC	M/49	Vic	ex Nepal, Thailand, food handler
S. Paratyphi B (1)			
Taunton	M/53	NSW	history not provided

Table 4. Isolations from blood, urine and unusual sites

Organism	Sex/Age	State or Territory	Notes
Bacteraemias excluding enteric fever (12)			
A. hydrophila	F/80	Tas	febrile
C. jejuni	M/62	Vic	lymphoma, on cytotoxics
S. Hadar	M/13	NSW	
S. Heidelberg PT 1	F/<1	Qld	
S. Hvittingfoss	F/76	Qld	
S. Meunchen	F/69	NT	
S. Potsdam	F/95	Vic	
S. Typhimurium 108	F/24	NSW	
S. Typhimurium 8	F/75	NSW	
S. Typhimurium 9	M/21	NSW	
S. Typhimurium 9	F/52	NSW	
S. ser rough:e,h:1,6	M/65	NSW	cirrhosis

Typhoid and paratyphoid cases

There were seven reports of *S.* Typhi, two of *S.* Paratyphi A and one report of *S.* Paratyphi B (Table 3).

Isolations from blood, urine and unusual sites

During the quarter, there were 12 reports of bacteraemia, excluding enteric fever, 16 reports of isolates from urine, and five reports of isolates from unusual sites (Table 4).

Infections acquired overseas

The most common infection acquired overseas was *S.* Enteritidis PT 4 with 15 cases reported from travellers returning from Asia (Singapore, Malaysia, China and Hong Kong) and Europe (Portugal and Romania). *Sh. sonnei* biotype g was also common with 10 cases acquired from many different regions including the Middle East (Turkey), Papua New Guinea, Fiji, India, Indonesia including Bali and Africa. There were seven cases of both *S.* Hadar and *S.* Kentucky, all acquired in Bali or Indonesia generally, and 5 cases of *S.* Virchow (India, Africa, Bali and Thailand).

These cases include migrants and refugees.

ASIA

Unspecified countries: *S.* Blockley, *S.* Enteritidis PT 4, *S.* Typhimurium PT 12a and untypable.
Indonesia: *S.* Hadar (2), *Sh. sonnei* biotype g. **Bali:** *S.* Amsterdam var 15+, S. Derby (2), *S.* Enteritidis PT 4, *S.* Hadar (4), *S.* Heidelberg, *S.* Infantis, *S.* Kentucky (6), *S.* Senftenberg (2), *S.* Stanley, *S.* Typhimurium PT 12a, *S.* Virchow (2), *Sh. flexneri* 2a, *Sh. sonnei* biotype g.
Thailand: *S.* Agona, *S.* Emek, *S.* Javiana, *S.* Panama, *S.* Virchow, *Sh. flexneri* 1b.
Malaysia: *S.* Enteritidis PT 4, *S.* Kentucky, *Sh. sonnei* biotype g.
Singapore: *S.* Enteritidis PT 4 (2), *S.* Mbandaka, *S.* Oslo.
China: *S.* Enteritidis PT 4 (2).
Hong Kong: *S.* Enteritidis PT 4.
Vietnam: *S.* Cerro, *S.* Hadar, *S.* London var 15+, *S.* Senftenberg (2), *S.* Weltevreden (2).

Table 4. Isolations from blood, urine and unusual sites, continued

Organism	Sex/Age	State or Territory	Notes
Urines (16)			
S. Aberdeen	F/18	Qld	
S. Agona	F/11	SA	
S. Birkenhead	ns[1]/<1	Qld	
S. Birkenhead	M/28	Qld	
S. Birkenhead	M/3	SA	
S. Bredeney	F/28	Vic	
S. Cerro	F/20	ACT	
S. Hadar	F/67	SA	
S. Heidelberg PT 1	M/<1	Qld	faecal isolate also
S. Infantis	F/64	Vic	symptomatic urinary tract infection
S. Singapore	F/2	NSW	
S. Tennessee	ns/31	Qld	urinary tract infection
S. Typhimurium 201	F/11	Vic	
S. Virchow	F/<1	Qld	
S. Virchow	M/29	Qld	
S. Zanzibar	F/34	Qld	
Unusual sites (5)			Site
A. caviae	M/40	Vic	bile
S. Typhimurium 116	M/54	NSW	wound swab
S. Typhimurium 135	M/adult	Tas	pustules on arms, delivered stillborn calf (veterinarian)
S. Typhimurium 145	F/20	Vic	mesenteric lymph node
S. Typhimurium 9	F/83	Vic	hip sinus discharge

1. ns, not specified

Philippines: *Sh. boydii* 2.
India: *S.* Derby, *S.* Virchow, *Sh. flexneri* var Y, *Sh. sonnei* biotypes a and g.
Nepal: *S.* Typhimurium PT 9.
Sri Lanka: *S.* Typhimurium PT 136.

AFRICA

Unspecified countries: *C. jejuni*, *S.* Mbandaka, *S.* Muenchen, *S.* Virchow, *Sh. flexneri* 3b, *Sh. sonnei* biotype g.
Egypt: *Sh. flexneri* 6.
Nigeria: *S.* Brandenburg.

MIDDLE EAST

Turkey: *Sh. sonnei* biotype

EUROPE

Portugal: *S.* Enteritidis PT 4.
Romania: *S.* Enteritidis PT 4.

PACIFIC

Solomon Islands: *S.* Weltevreden.
Fiji: *S.* Montevideo, *Sh. sonnei* biotype g.
Papua New Guinea: *Sh. sonnei* biotype g.

Table 5. Cases of *Shigella* acquired in Australia, by State or Territory

Organism	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Total
Sh. boydii 1	0	0	0	1	3	21	0	6	31
Sh. boydii 9	0	0	1	0	0	0	0	0	1
Sh. boydii 13	0	0	1	0	0	0	0	0	1
Sh. flexneri 1a	0	1	0	0	0	0	0	1	2
Sh. flexneri 1b	0	4	0	0	0	2	0	0	6
Sh. flexneri 2a	0	3	0	2	2	21	0	6	34
Sh. flexneri 2b	0	1	0	0	0	0	0	0	1
Sh. flexneri 3b	0	1	1	0	0	0	0	0	2
Sh. flexneri 3c	0	1	0	0	0	0	0	0	1
Sh. flexneri 4b	0	2	0	0	0	0	0	0	2
Sh. flexneri 6	0	0	1	0	0	9	0	5	15
Sh. flexneri var Y	0	0	0	0	0	1	0	0	1
Sh. sonnei	0	0	0	27	0	5	0	0	32
Sh. sonnei biotype a	0	2	7	4	6	0	2	13	34
Sh. sonnei biotype g	0	0	2	0	0	0	0	0	2
Total	0	15	13	34	11	59	2	31	165

UNSPECIFIED COUNTRIES

S. Emek, *S.* Enteritidis PT 4, *S.* Hadar, *S.* Heidelberg, *S.* Potsdam, *S.* Richmond, *S.* Tennessee, *S.* Typhimurium 145, *Sh. flexneri* 2a and 6, *Sh. sonnei* biotypes a and d and *V. parahaemolyticus*.

Shigella infections

A total of 196 reports of *Shigella* infections was received for this quarter. Of these, six were follow-up specimens, one was from a migrant or refugee and 24 were reported from travellers returning from overseas. This left a total of 165 cases reported as acquired in Australia (Table 5).

The most common were *Sh. flexneri* 2a and *Sh. sonnei* biotype a with 34 cases each. There were 31 Australian acquired cases of *Sh. boydii* 1 (21 from Western Australia) reported from the outbreak which began in mid-September.

Shigella infections acquired overseas included *Sh. boydii* 2 (Philippines), *Sh. flexneri* 1b (Thailand), *Sh. flexneri* 2a (Bali, Solomon Islands), *Sh. flexneri* 6 (Egypt), *Sh. flexneri* var Y (India), *Sh. sonnei* biotype a (India), *Sh. sonnei* biotype d (not specified), *Sh. sonnei* biotype g (Turkey,

Table 6. Mixed infections, third and fourth quarters 1992

Organisms isolated	Sex/Age	State or Territory
S. Aberdeen, *Plesiomonas shigelloides, C. jejuni, A. hydrophila*	M/22	Qld
S. Anatum, *C. jejuni*	F/<1	Qld
S. Anatum, *Campylobacter* species	M/1	ACT
S. Ball, *S.* Tennessee	M/62	NT
S. Enteritidis PT 4, *S.* Paratyphi A RDNC	M/12	NSW
S. Give, *S.* Typhimurium 8	F/21	NT
S. Hadar, *C. jejuni* subspecies *jejuni*	M/12	Vic
S. Havana, *S.* Typhimurium 9	M/8	SA
S. Havana, *Giardia*	F/1	Vic
S. Havana, *Cryptosporidium* species	M/1	Qld
S. Heidelberg, *Campylobacter* species	M/18	NSW
S. Heidelberg PT 1, *C. jejuni*	F/29	Qld
S. Hvittingfoss, *S.* Urbana	M/36	WA
S. Kentucky, *Sh. flexneri* 2a	F/28	Vic
S. Onderstepoort, *Sh. flexneri* 2a	M/1	NT
S. Oranienburg, *C. coli*	F/<1	NT
S. Saintpaul, *E. coli* O125:K70:B15	F/<1	Qld
S. Saintpaul, *Cryptosporidium* species	F/2	Qld
S. Singapore, rotavirus	F/<1	NSW
S. Sofia subspecies II, *Campylobacter* species	F/1	NSW
S. Tennessee, *S.* Chester	M/<1	WA
S. Typhimurium 8, *Giardia* species	M/1	NSW
S. Typhimurium 9, *S.* Bovismorbificans	F/<1	WA
S. Typhimurium 9, *A. hydrophila*	F/3	Vic
S. Typhimurium RDNC, *C. jejuni*	M/1	Vic
S. Victoria, *S.* Mississippi, *Campylobacter* species	M/3	Tas
S. Wandsworth, *S.* Welikade	F/<1	NT
S. Welikade, rotavirus	M/<1	Qld
C. jejuni, Y. enterocolitica	M/29	Vic
Sh. flexneri 1b, *Sh. flexneri* 3c	M/34	NSW
Sh. flexneri 1b, *Giardia* species	M/29	NSW
Sh. flexneri 2a, *Giardia* species	ns[1]/ns	WA
Sh. flexneri 2a, *Campylobacter* species	M/6	NSW
Sh. flexneri 3b, *Blastocystis hominis, Entamoeba hartmani, E. histolytica*	M/21	Vic
Sh. sonnei, Giardia lamblia, C jejuni	M/1	Qld

1. ns, not stated

Papua New Guinea, Fiji, Indonesia including Bali, Malaysia, India and Africa).

Mixed infections

There were 35 reports of mixed infections for the third and fourth quarters of 1992 (Table 6).

Top ten *Salmonella* serovars

Of the 890 Australian-acquired cases of *Salmonella* infection, 554 (62%) were isolates from the top ten serovars (Table 7). *S.* Typhimurium, with 276 cases from 31 phage types, was the most common serovar and accounted for 31% of the total Australian-acquired cases.

Phage type 9 was again the most common *S.* Typhimurium phage type with 59 cases, 86% of which were from New South Wales and Victoria (Table 8). The top five phage types accounted for 52% of Australian acquired cases of *S.* Typhimurium.

Update

The following outbreaks or increased numbers of cases have been reported to the NSSS since the last Update (*CDI* 1993;**17**:188).

There were two separate outbreaks of *Sh. sonnei* in Queensland, showing different patterns of antibiotic resistance. The first outbreak, among visitors to a caravan park in Rockhampton, began in early December but continued into late January. Further cases were reported from North Rockhampton and Woorabinda between late February and early March. The second outbreak (17 cases) was reported from the Atherton Tablelands near Cairns between February and April.

There was an outbreak of ***Sh. flexneri* 3** on Thursday Island in mid-February.

***S.* Choleraesuis var Australia** was reported from Perth beginning in early January. There were 10 cases in adults and children.

***S.* Newport** was also reported from Perth during March. Nineteen cases occurred in adults and children.

Twelve cases of ***S.* Typhimurium 135** were reported from the Lismore area in northern New South Wales from mid-March. Adults and children were involved.

***S.* Bovismorbificans 14** was reported for nine cases from the Hunter Region of New South Wales, from early January to late February. Case were in adults and children.

***S.* Heidelberg** was reported for 21 cases to mid-April, from the Sydney area.

Table 7. Top ten *Salmonella* serovars

	Position in 3rd quarter 1992	Number of cases	% of total	Origin and number of cases
S. Typhimurium[1]	1	276	31.0	NSW 104, Vic 78, Qld 34
S. Virchow	2	47	5.3	Qld 36, NSW 4, WA 3
S. Saintpaul[1]	4	44	4.9	Qld 25, NT 7
S. Hadar[1]	6	37	4.2	NSW 27, Vic 5
S. Heidelberg	10	30	3.4	Qld 17, WA 8
S. Muenchen	-	29	3.3	Qld 9, NT 8, WA 6
S. Birkenhead	5	28	3.1	NSW 15, Qld 11
S. Welikade	-	22	2.5	NT 9, Qld 6, WA 6
S. Chester	9	22	2.5	Qld 11, NT 5, WA 3
S. Bovismorbificans	3	19	2.1	NSW 11
Total		554	62.3	

In: *S.* Muenchen, *S.* Welikade.
Out: *S.* Enteritidis (17 cases), *S.* Agona (6 cases).
1. associated with outbreaks.

Table 8. Top five phage types of *S.* Typhimurium

	Position in 3rd quarter 1992	Number of cases	% of total	Origin and number of cases
9[1]	1	59	21.4	Vic 26, NSW 25
135	2	11	13.8	NSW 14, Vic 10, WA 5
12a	-	20	7.2	NSW 6, SA 5, Qld 4
44	-	15	5.4	Vic 7, NSW 5
8	-	12	4.3	NSW 8, Qld 2
Total		144	52.1	

1. associated with outbreaks.

There was an institutional outbreak of *S.* **Eastbourne** in Sydney. Four adult cases were reported.

S. **Kottbus** was reported from Sydney - five cases, children only. The organism was also present in sewage effluent samples between January and February.

S. **Aberdeen** was reported from Rockhampton in late February. The owner and employees of a food retailer were the four adult cases.

A food poisoning incident due to *S.* **Infantis** was reported from the Hunter Region of New South Wales in early March. There were three adult cases.

S. **Hadar** remains prevalent in the Sydney region (as reported in the last Update) as does ***Sh. boydii* 1** in the north of Western Australia. Cases of the latter infection have also been reported from communities in the north of South Australia and the Northern Territory. Two of these have been mixed infections.

CDI Editorial Comment

A total of 900 notifications of salmonellosis (not otherwise classified) was received by the National Notifiable Diseases Surveillance System for the fourth quarter of 1992. This compared with 785 for the third quarter of 1992, and 1131 for the fourth quarter of 1991. The corresponding figures for typhoid were 6, 14 and 28 notifications, respectively. For shigellosis, they were 19, 8, 166 and 193 notifications. During the fourth quarter of 1992, there were 62 notifications of shigellosis from both Western Australia and the Northern Territory.

All these infections are notifiable in all States and Territories of Australia. Typhoid notifications include paratyphoid in New South Wales and Victoria.

LOCALLY ACQUIRED HIV INFECTION IN A NORTHERN TERRITORY ABORIGINE

(Francis Bowden, Head, and Anita Patel, Registrar, AIDS/STD Unit, Disease Control Centre, Royal Darwin Hospital, Northern Territory)

Although five Aboriginal patients have been treated for HIV-related disease in the Northern Territory since 1985, each had contracted the disease in other parts of Australia. We now report the first case of an Aborigine acquiring HIV infection within the Northern Territory.

The patient is a 35 year old urban-based Aboriginal male who was known to be HIV negative in 1991. He had not been out of the Darwin area since that time. He had a past history of a closed head injury following a fight in 1987. He had been a heavy drinker of alcohol and was separated from his wife. He admitted to having had multiple female sexual partners over a period of ten years. No history of an illness consistent with HIV seroconversion was obtained.

An HIV test performed in February 1993 was positive on enzyme immunoassay and Western Blot. T cell subsets showed a T4 count of 550/microlitre (normal range: 405-2205) (21% of total lymphocytes), T8 count of 1270/microlitre (normal range: 165-1330) and a T4/T8 ratio of 0.43 (normal range: 0.72-3.60). There was no clinical evidence of any HIV-related illness.

The patient denied any injecting drug use, homosexual contact or sexual contact with Aborigines from remote communities. He had never received any blood products.

Although we cannot be certain about the original means of acquisition, the patient had had multiple heterosexual partners in the Darwin region and had tested negative two years previously. This suggests that there is a pool of untested HIV-infected heterosexuals in the Top End community. The size of this pool can only be speculated upon but a public awareness campaign targetted at this group is necessary as a matter of urgency.

Due to the presence of high rates of sexually transmitted diseases in Aborigines in the Northern Territory it is clear that once HIV enters that population it will spread quickly, primarily through heterosexual contact. The potential exists for an HIV epidemic with rates of infection similar to those seen in Africa or South-East Asia.

RUBELLA IMMUNISATION STATUS OF YEAR 8 FEMALES IN THE MIDWEST AND GASCOYNE, WESTERN AUSTRALIA

(David Richardson, for the Midwest and Gascoyne Public Health Unit, Geraldton, Western Australia)

Introduction

During 1992 the occurrence of rubella infections in Western Australia highlighted the need for vigilance in maintaining rubella immunisation. From 27 August 1992 to 14 December 1992 there were 263 confirmed cases of rubella in Western Australia[1]. However, there were no reported cases from the Midwest and Gascoyne Region during this period. The lack of rubella cases reported could have been related to the level of rubella immunisation. The level of coverage for the community necessary to block transmission is 80 to 87%[2]. The rubella immunisation status of females in the Region was not known, so this survey was conducted to establish accurately the level of rubella immunisation in year 8 females in the Region.

In the Midwest and Gascoyne Region, Community Health is responsible for school rubella immunisation, although the students can choose to be immunised elsewhere. The majority of students choose to be immunised through the school rubella program. Community Health had aimed to achieve a immunisation level of 90%, consistent with global goals as recommended jointly by the World Health Organization and UNICEF[3]. This study set out to determine the rubella immunisation status of the students irrespective of where they were immunised.

Study design and methodology

The target group for the purposes of this survey were year 8 female students in the Midwest and Gascoyne Region. These students were aged 12 to 13 years and should have received rubella immunisation in the previous year[4]. The students were identified through the individual school enrolment lists. It is mandatory in WA for students to attend school in year 8. No attempt was made to contact females of a similar age who were not in the school system.

The criteria for acceptance as immunised were categorised as:

1. school card, dated and signed by community nurse, stating date of immunisation,
2. parental letter stating the date and location of immunisation,
3. student's immunisation record card,
4. parent's verbal confirmation giving the date of immunisation.

Community nurses in the region were asked to obtain information concerning the rubella immunisation status of each year 8 female student. The majority of the data was readily available to the community nurses through the school record card and the immunisation record. Where the information was not readily available, parents were contacted through the school via a letter sent home with the students. This method had previously been used in 1992 to establish the rate of primary immunisation in the Region[5]. The minimum evidence accepted was the date of immunisation as reported by the parent. Data that specified the date was preferred as it has been shown that parental reporting can be inaccurate[6]. The data were then collated and analysed.

Results

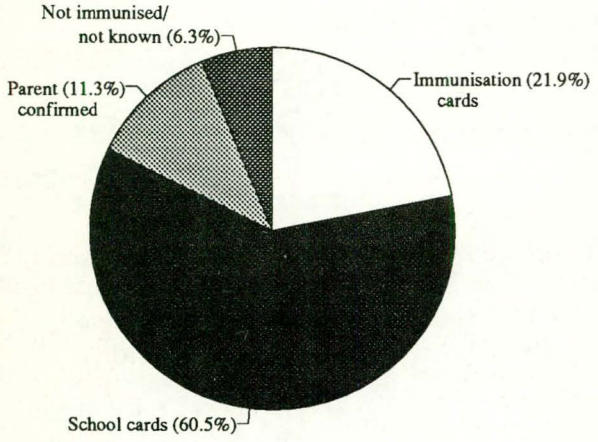
There were 397 year 8 female students throughout the Region in 1993, in 15 high schools. The schools varied from rural district schools to urban city schools (Table). The rubella immunisation status for year 8 female students in this Region overall was 93.7%. When the results from the Geraldton schools (93.5% immunised) were compared to the rural schools (94.2%) there was no significant difference (p=0.817).

Table. Rubella immunisation status, by location and confirmation category

Location	Total year 8 females	Confirmed immunisations					Not confirmed	
		School card	Parental document	Immunisation card	Parental verbal	Total (%)	Not known	Not immunised
Gascoyne area	43			42		42 (98)		1
Geraldton	277	202	4	15	38	259 (93.5)	5	13
Murchison area	20	12	1	3	1	17 (85)	1	2
Northampton	15			13		13 (87)	2	
North Midlands	42	26		14	1	41 (98)		1
Total	397	240	5	87	40	372 (93.7)	8	17

For the majority of the 88% of students who were immunised, immunisation status was confirmed by either the school card or the immunisation record card (Figure). These records had been completed by either community nurses or general practitioners and showed the date and signature.

Figure. Rubella immunisation status, by confirmation category



The number of immunisations that were confirmed by the parent(s) represented only 12% (n=45) of the number of confirmed immunisations. The parent(s) either confirmed in writing or by telephone specifying the date the student had received the vaccination.

Only 23 students (6.3%) either were not immunised or the immunisation status was unknown. Included in this category were students who had transferred from other areas, lost their records or had not received vaccination for medical reasons.

Discussion

Recent media attention has focussed on the Australian Bureau of Statistics' evidence of low immunisation rates throughout Australia. The results of this survey indicate that immunisation rates are not low in all parts of Australia for all diseases, and may help to balance the alarmist message of the popular media.

The success of rubella immunisation in the community is dependent on a high uptake (80-90%) with measles-mumps-rubella (MMR) at age 12 months, and rubella (year 7) immunisation[2]. A 1992 survey in the Midwest and Gascoyne Region showed the rate of primary immunisation, including MMR, to be 87%[5]. The MMR uptake rate, combined with the high year 8 rubella immunisation rate (93.7%) for the Region could certainly have contributed to the low level of reporting of rubella cases. It is anticipated that the change in 1993 to a two dose MMR schedule will provide the community with an even greater degree of herd protection.

The study did not follow up females who were not attending school. This could have lead to a bias in the group surveyed, as those females not attending may have been more likely to be not immunised for rubella. The results were not compared to other Regions in Western Australia where there was a higher level of rubella case reporting as there were no other rubella vaccine uptake rates available. The number of females of a comparable age to the year 8 students who were not attending school should be relatively small although in some remote towns such as Wiluna nonattendance at school is a factor.

Acknowledgments

Data on the immunisation of students in the Midwest and Gascoyne were provided by Mary Fegan, Merilyn Eastland, Chris Jones, Janice Kingston-Clancy, Robin McKechnie, Gillian Manuel, Celia Miller, Patricia Moore, Deborah O'Donnell, Valmar Rogers, Anne Sanders, Heather Schumacher and Theresa Seymour.

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CDI Editorial Comment

The proportion of women aged 15 to 44 years who had been immunised against rubella in Australia overall was much lower than 93.7% when the Australian Bureau of Statistics (ABS) last conducted an immunisation survey, in 1989-90. The ABS survey revealed that 76.2% of women aged 15 to 44 years had been immmunised against rubella, 18.0% had not been immunised, and 5.8% did not know whether they had been immunised. Of the 18.0% not immunised, 45.0% had had rubella, or a blood test which showed rubella immunity. Thus 9.9% were found not to be immune to rubella.

Increased rubella activity in Australia over the last year has been documented by both the National Notifiable Diseases Surveillance System and the *CDI* Laboratory Reporting Schemes. The outbreak has included 589 notifications (11.9% of the total) and 196 laboratory reports of rubella in women aged 15 to 44 years since the beginning of 1992. The laboratory reports have included eight pregnant women (one six weeks, one 18 weeks) and reports of a stillbirth (infant with myocarditis) and a termination of pregnancy at 17.5 weeks.

The rate of rubella immunisation in Australia women and the overall rubella herd immunity are therefore currently insufficient to prevent infections in pregnancy. The introduction of rubella (MMR) vaccine for children at 12 months, and a second MMR dose for both females and males at 10 to 16 years, is expected to lead eventually to increases in both the level of immunity in women of child-bearing age, and the herd immunity in the community overall.

LONGITUDINAL SURVEY OF HOSPITAL-ACQUIRED INFECTION, ROYAL ALEXANDRA HOSPITAL FOR CHILDREN, SYDNEY

(EDG McIntosh, D Dalton, D Isaacs; reproduced from The Children's Hospital Camperdown Monthly Infectious Diseases Report, No 41, April 1993)

Introduction

In previous issues of the *Monthly Infectious Disease Report* (reproduced in *CDI*), we have reported the results of six-monthly cross-sectional surveys of hospital-acquired infection. These are 'snapshots' of such infections, on a single day. They are a useful way of monitoring major trends in nosocomial infection, but limited by the nature of the study.

Following discussions by the Clinical Cross-Infection Committee, it was decided to initiate longitudinal surveillance of certain 'sentinel' infections. The infections chosen were

- chickenpox, which is relatively easily clinically diagnosed, and transmitted by the respiratory route,
- rotavirus infection, which is diagnosed by electron microscopy of diarrhoeal stools and is transmitted by the faecal-oral route, and
- respiratory syncytial virus (RSV) infection, which is diagnosed by culture or immunofluorescence on nasopharyngeal aspirates, and in infancy at least is transmitted primarily on the hands of staff or relatives, or by fomites[1].

There were a number of reasons for initiating the study. One was to maintain long term surveillance of nosocomial infections to ensure that normal infection control procedures are being observed. A second was to determine whether high-risk patients, such as immunosuppressed patients, are at risk of contracting life-threatening infections, such as RSV and chickenpox in hospital. A third is to determine the effects of changes in infection control policy, such as the decision, one year ago, to trial stopping the routine use of gowns for handling infectious patients.

Definitions

Children admitted with an infection or developing symptoms after admission but within the defined incubation period of the infection were defined as having community-acquired infection. Children who had been hospitalised for longer than the incubation period before they developed symptoms were defined as having hospital-acquired or nosocomial infection. When children had been in this hospital, discharged home and then readmitted before developing infection, a decision was made as to whether the infection was community- or hospital-acquired on the basis of the incubation period and any history of exposure.

The defined maximum incubation periods were six days for RSV, four days for rotavirus, and 21 days for chickenpox[2].

RSV infection

RSV infections were identified from the Virology Department records of patients who were culture and/or immunofluorescence positive. The dates of culture were compared with records of all admission and discharge dates for those patients, obtained from Medical Records. Most cases could then be defined as being community-acquired. If there was the slightest possibility of nosocomial infection the patient's casenotes were obtained and examined.

In 1992 there were 196 children with RSV infection (112 male). A total of 178 had community-acquired infection (CAI) and 18 had hospital-acquired infection (HAI). The mean age of the children with HAI was 13.5 months. All had significant underlying disease (malignancy 5, neurological disorder 4, chronic lung disease 3, congenital heart disease 2, tracheo-oesophageal fistula 1, pre-liver transplant 1, metabolic disease 1, megaureter 1). Three required artificial ventilation and there was one death, although RSV may also have contributed to the deaths of two oncology patients. Nosocomial infections occurred on eight different wards (oncology 4, infant's ward (1-18 months) 3, general paediatric wards 3, 3, 1, 1 and 1, cardiac intensive care 1. No transmission of RSV occurred on the isolation ward or in the other intensive care ward.

Table. Hospital- and community-acquired respiratory syncytial virus infection, 1989 to 1992, by year

	Hospital-acquired infections	Community-acquired infections	Total
1989	11	105	116
1990	13	205	218
1991	16	172	188
1992	18	178	196

One child had been in hospital for 69 days before catching RSV. The others had been in hospital for between six and 33 days (mean seven days). It has been shown before that the risk of nosocomial RSV infection increases with duration of hospital stay.

There is a trend to increasing numbers of children with HAI due to RSV (Table), but the incidence of nosocomial infection depends on the number of children exposed: thus it will depend on the number of hospitalised children with RSV and the number of children without RSV potentially exposed to RSV. The apparent rise in HAI due to RSV can probably be explained by the known increase in numbers of hospital admissions over this period.

Rotavirus

In 1992 there were 65 children in the Royal Alexandra Hospital for Children with proven rotavirus infection (electron microscopy positive). Eight of these had hospital-acquired infection. The mean age of nosocomial cases was 13.5 months. All had underlying illness (malignancy 2, post-liver transplant 1, preterm with neuromuscular disorder 1, septic arthritis 1, Hirschsprung's disease 1, chronic lung disease 1, eczema 1). In contrast to RSV, three of the cases occurred in the isolation ward, there was one in the oncology ward, and one in each of three general paediatric wards. There are no previous years' figures for rotavirus for comparison.

Chickenpox

In 1991, 34 patients were admitted with chickenpox or were incubating the disease and developed it after admission, while the figure for 1992 was 28. One case of hospital-acquired chickenpox infection of a child occurred in 1992 and none in 1991. Two staff caught chickenpox from patients in 1991, and three staff and one parent in 1992.

Discussion

In 1992 it was decided to make it non-compulsory for nursing and medical staff to wear gowns when handling infectious patients, although gowns are provided for staff or parents who wish to wear them to protect their clothes. There was no significant increase in hospital transmission of RSV or chickenpox to children following this change in policy. Surveillance of infections with the three sentinel viruses will be continued, and will act as a valuable assessment of the effectiveness of infection control policies.

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SPA POOL FOLLICULITIS IN PERTH

(Andrew Dickie, Princess Margaret Hospital for Children, Perth, Western Australia)

Two to three days after the author of this article bathed in a spa pool of a metropolitan Perth hotel, he developed fever, headache, malaise, myalgia and a vesiculo-pustular rash on the trunk and limbs. The rash was initially macular, and changed to papular, vesiculo-pustular, and finally pustular. The lesions were tender and painful. The highest lesion was on the upper trunk. The face, which had not been immersed, was not involved. The appearance of the rash was that of chickenpox but for its distribution. Chickenpox was considered unlikely, however, because of a definite prior history of chickenpox in childhood. Despite this past history, a direct fluorescent antibody test for varicella-zoster virus was performed on scraping from a lesion; this was negative. One of the vesicles was then aspirated with a tuberculin syringe, and the pus cultured. When the patient (clinical microbiologist) viewed the culture plates the following morning and saw *Pseudomonas aeruginosa*, the 'penny dropped', and the self diagnosis of spa pool folliculitis was made. No treatment was used, and the lesions gradually resolved over the following fortnight.

The index patient's wife had immersed only her lower legs in the spa, and had lesions on these areas only. His two children (nine and ten years of age) had entered the spa only briefly to warm up after swimming in the 'cold' pool, and had isolated lesions only. These lesions resolved uneventfully without treatment.

The author visited the manager of the hotel, who revealed that on the night prior to the suspected bathing episode, a guest had thrown soap or detergent into the spa following a function at the hotel, and this may have affected the chlorination. The hotel manager denied

that any other guests or visitors had complained about contracting a skin rash following bathing in the spa. It is unlikely, however, that had anyone else experienced such a skin rash several days following bathing in the spa, they would have associated the rash with the spa. The author accepted the sincere apologies of the hotel manager, and did not pursue the matter any further.

About two months later, however, the author received a telephone call from a general practitioner who had seen a child with a vesiculo-pustular rash resembling chickenpox. This general practitioner had read an article about spa pool folliculitis. When questioned about the location of the incriminated spa pool, it was found to be the identical spa pool at the same metropolitan hotel. Following this, the author decided that the hotel had an on going problem with the level of chlorination of its spa pool, which it had obviously not rectified following the previous incident. He therefore laid a complaint with the environmental officer at the relevant local council. The general practitioner was advised to lay a complaint too, on behalf of the affected child. The environmental officer stated that he would obtain frequent water samples from the spa to monitor chlorine levels, to ensure that the problem did not recur.

Comments

Outbreaks of spa pool associated dermatitis caused by *P. aeruginosa* have been reported since 1975. Particular serotypes of *P. aeuruginosa* have been involved, primarily serotypes O:11, O:9 and O:4. Factors contributing to the overgrowth of *P. aeruginosa* in spa pools have included inadequate disinfection of spa pool water, contamination of the area immediately surrounding the spa pool, and lack of proper maintenance of spa pool equipment. There have been no reports of outbreaks occurring in spas in which the pool water has been continuously maintained at pH 7.2 to 7.8, with free residual chlorine levels of at least 1.0mg/L.

Adequate chlorine levels are difficult to maintain in spa pools, because the heat and turbulent water flow promote evaporation. Spa pools therefore require more chlorine than the average pool of similar volume. Organic matter and ammonium compounds excreted by a high number of bathers in a relatively small volume of water ('high bather load') tend to inactivate chlorine. *P. aeruginosa* flourish in the hot water and multiply rapidly if the free chlorine concentration drops below 0.5mg/L or the alkalinity rises above pH 7.8. A further factor is that the skin itself is more vulnerable in a spa pool, as the hot water dilates the follicular orifices facilitating entry of the organism. However, spa pool folliculitis has also been associated with 'cold' pools.

The mean incubation period for *Pseudomonas* folliculitis is 48 hours, with a range of eight hours to five days, but it can be as long as 14 days. The papulo-pustular rash is not unique in appearance, and has been confused with insect bites, allergy, scabies, contact dermatitis, herpetic infection, urticaria, staphylococcal infection and chickenpox. Associated symptoms include earache, sore throat, conjunctivitis, lymphadenopathy, rhinitis, nausea, vomiting, abdominal cramps, malaise, fatigue, chills, headache, myalgias, painful axillary nodes, swollen and painful breasts, and low grade fever. These symptoms do not imply spread of infection but recurrent folliculitis and chronic abscess formation can occur. No specific therapy is required. Failure to culture *P. aeruginosa* from the skin lesions is not uncommon. This may be due to rapid elimination of the organism by polymophonuclear leukocytes, with the inflammation being caused primarily by the bacterial exotoxins produced.

In Western Australia, spas available for use by the public are usually examined by environmental health officers on a monthly basis. In the event of an outbreak such as this one, frequency of testing is increased to weekly, or even daily initially.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization, the PHLS Communicable Disease Surveillance Centre, London, and the United States' Centers for Disease Control and Prevention.

Hantavirus in South-western United States

Beginning in May 1993, cases of acute illness characterised by fever, myalgias, headache and cough, followed by rapid development of respiratory failure, have been reported to the health authorities of New Mexico, Arizona, Colorado and Utah. The United States' Centers for Disease Control and Prevention have recently reported findings from preliminary investigations into this illness which suggest that it is associated with a previously unrecognised hantavirus[1,2].

To 7 June, there had been 24 cases, and 12 deaths. Onsets of illness began in December 1992, but most were in May 1993. The median age was 34 years (range 13 to 87). There were 13 males and 11 females. Fourteen were American Indians, nine were white and one was hispanic.

To 2 July, laboratory evidence of acute hantavirus infection had been confirmed in 15 patients (including 11 who had died) who had onsets of illness between 1 January and 30 June. Each of the patients had one or more of the following: positive ELISA serology with elevated IgM titres, seroconversion by ELISA, positive immunohistochemistry on formalin-fixed lung tissue, or amplification of hantavirus nucleotide sequences

from frozen tissue. A further 23 patients, including 10 who have died, are also being investigated.

Two other cases, with onset in November and August 1992, have been identified retrospectively, indicating that the virus has been present previously, but not recognised. Rodents in the area are being investigated as the possible source of the virus, and 668 have been trapped in and around houses in 14 different rural sites. *Peromyscus maniculatus* (deer mouse) was the most common overall, and comprised 85% of those trapped in homes. Of the first 283 rodents trapped, hantavirus antibodies were detected in 23%.

Residents of and visitors to the affected areas are being advised to avoid activities that may disrupt rodent burrows or result in contact with rodents or aerosolisation of rodent excreta. They are also being advised to store food appropriately to avoid contamination with rodents or rodent excreta, and to dispose of food and rubbish properly to avoid attracting rodents.

Hepatitis A in former Yugoslavia

Hepatitis A is endemic in many areas of former Yugoslavia. Outbreaks were reported to the World Health Organization in Zenica, Mostar and Sarajevo in the (northern) summer of 1992. Numbers declined during the winter, but have increased since early April this year. There have been recent reports of hepatitis A from Sarajevo (55 cases), Gracanica (100 cases), Kakanj (180 cases) and Srebrenica (80 cases). In those parts of Bosnia-Herzegovina affected by the war, and in the UN protected ares, overcrowding, damage to sewer pipes, the disruption of clean water supplies due to lack of chlorine, interrupted supplies of electricity (to pump water) and damage to water pipes, have created the conditions which favour spread of hepatitis A virus[3].

Dengue in Comoros

Grand Comoro, one of the country's four islands, has been experiencing an epidemic of dengue since mid-February. Dengue type 1 has been confirmed in 62 cases, and a total of 50,000 cases is estimated to have occurred, based on results of a serosurvey of 442 persons. An epidemiological surveillance system is being developed to monitor the epidemic and to detect haemorrhagic forms and/or shock syndrome.

Plague in Uganda

An outbreak of plague has been reported from the Nebbi District in the Western Region of Uganda. A total of 167 cases and 18 deaths were recorded for the period 3 April to 28 May.

Cholera Update

Part of the Lao Peoples' Democratic Republic has been declared cholera infected. The affected area is the Phine District of the Savannakhet Province. Districts within the Inhambane, Manica, Maputo and Zambezia Provinces of Mozambique have been removed from the list of infected areas.

Cases have been reported for May and June from Bolivia, Brazil, Chile, El Salvador, Laos, Malaysia, Mexico, Mozambique and Nicaragua.

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CDI NOTICE TO READERS

MMWR in electronic form

The United States' Centers for Disease Control and Prevention's *Morbidity and Mortality Weekly Report* (*MMWR*) is now available to any electronic mail address in Australia. *MMWR* usually arrives each Friday, the day of publication in Atlanta. It contains the full text of the printed copy, but no graphics or tables. The National Centre for Epidemiology and Population Health at the Australian National University, Canberra, maintains the mailing list. There are no charges for this service to academic (AARNET) users. Users of commercial mail networks will be billed by their system for the usual connect time and traffic charges. A typical issue is about a 30K to 40K document.

Australian users should send their request to be on the mailing list to

MMWR-request@nceph.anu.edu.au

Requests to be deleted from the mailing list should also be sent to that address.

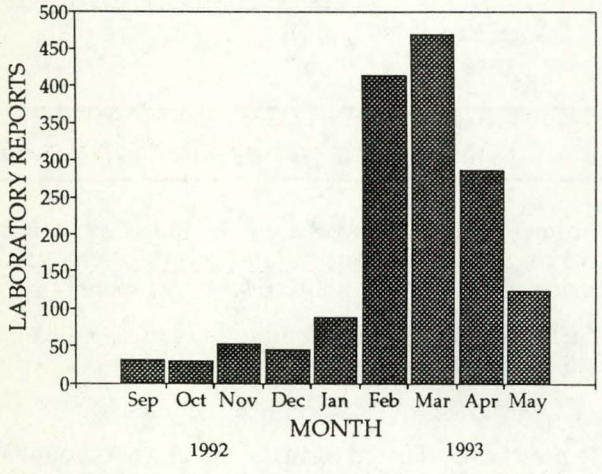
COMMUNICABLE DISEASES SURVEILLANCE

Virology and Serology Reporting Scheme

There were 1876 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 10, 11 and 12).

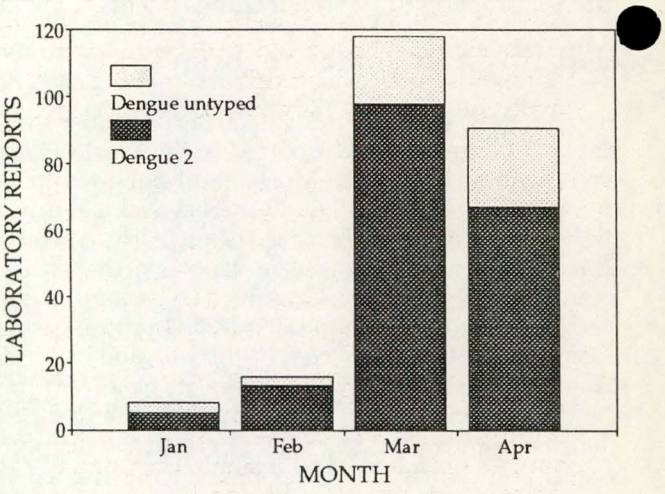
- **Measles** was reported for 8 patients. Included was one from Tasmania, which is currently experiencing a major measles outbreak, described on page 317 of this issue of *CDI*.
- There were 21 **rubella** reports this fortnight. One was for a 7 day old female who had IgM to the virus. The infant, whose mother had been vaccinated during the first trimester of pregnancy, did not have any signs of congenital abnormalities caused by the virus.
- There has been a total of 1383 reports of **Ross River virus** infection so far this year (Figure 1). All 99 diagnoses this fortnight were presumptive (IgM). Specimen collection dates were June for 2, May for 56, April for 34 and March for 5. Locations were Darwin (1), Northern Territory, unstated (1), the Brisbane area (3), Rockhampton area (12), Cairns (17), Gold Coast (3), Ipswich (2), Mackay (9), Mt Isa (1), Sunshine Coast (1), Thursday Island (1), Townsville (39), Toowoomba (3), Western Queensland (3) and Queensland, unstated (1).

Figure 1. Ross River virus laboratory reports, September 1992 to May 1993, by month of specimen collection



- **Barmah Forest virus** was reported for 12 patients. The date of specimen collection was April for 8, May for 2, and February and March for one each. All were from Queensland - 4 from Townsville, 3 from Rockhampton, and one each from the Gold Coast, Mackay, Roma, Sunshine Coast and Toowoomba.
- There were 73 reports of **dengue 2** and 22 reports of **untyped dengue** this fortnight. Sixty-four dengue 2 reports and 19 untyped dengue were from Townsville, there were 4 type 2 and one untyped report from Cairns, one report of each from Mt Isa, one report of type 2 from the both the Gold Coast and Mackay, one untyped and one type 2 reported from Brisbane. A total of 236 reports of dengue 2 and untyped dengue has been received so far this year (Figure 2).

Figure 2. Dengue 2 and untyped dengue laboratory reports, 1993, by month of specimen collection



- **Murray Valley encephalitis virus** was reported for 2 patients this fortnight, both from Darwin. One was a 29 year old male with general malaise and the other was a 62 year old male with encephalitis. Specimen collection dates were in late May for both patients.
- There were 13 reports of **adenovirus type 3** this fortnight. A total of 94 of these reports have been received for the year so far, 48 from New South Wales, 3 from the ACT, 11 from South Australia, 31 from Victoria and one from Western Australia. Respiratory tract or gastrointestinal disease has been reported commonly for children aged less than 14 years. Eye disease has been the most common report for adults.
- **Herpes simplex type 1** reports this fortnight included a 28 year old female with lesions on the breasts, and virus isolated from skin samples and breast milk. Her son had the virus isolated from a buccal swab. Also included were a 48 year old female renal transplant patient (oesophageal isolate), a neutropaenic patient and a 62 year old male with meningitis (skin scraping isolate).

- **Herpes simplex type 2** reports included one HIV positive patient, and a 26 year old female who was 38 weeks pregnant (genital isolate).
- **Untyped herpes simplex virus** infections reported this fortnight include a 2 year old female with severe pneumonia, post bone marrow transplant (pre-mortem lung isolate, untyped adenovirus too), a one month old female whose mother had active genital herpes (high titre), an HIV positive patient and a patient with malignancy.
- There were 71 reports of **cytomegalovirus** infection. Eleven patients were HIV positive (2 lung isolates, post mortem), 2 females (2 years and 3 years) were the daughters of a CMV-positive female, 2 were transplant patients, one had other immunocompromisation and one was 36 weeks pregnant.
- **Varicella-zoster virus** was reported for 26 patients this fortnight. Included were a 5 year old male with panuveitis, a 43 year old male with pneumonia (antigen detection in bronchial sample), a 6 year old male with encephalitis and a 33 year old pregnant female.
- **Untyped enterovirus** was reported for the first time to the *CDI* Laboratory Reporting Schemes on the basis of detection of nucleic acid by PCR in CSF, faeces and other samples. The four patients were aged one month, one month, 2 years and 14 years, and all had meningitis as the reported symptom.
- There were 35 reports of **influenza**, 13 of **influenza A** (2 isolates, 1 IgM, 9 single high titres, 1 other serological) and 22 of **influenza B** (6 isolations, 8 antigen detections and 8 single high titres). Two influenza A reports and one influenza B report were for patients aged over 65 years. There has been a total of 78 reports of influenza A and 65 reports of influenza B with 1993 specimen collection dates so far.
- **Respiratory syncytial virus** infection was reported for 286 patients this fortnight, 164 males, 121 females and 1 unknown. Included were 16 patients aged less than one month, and 188 aged one to 11 months. The number of reports received so far this year is about the same as the average recorded for the last 5 years (Figure 3).
- There were 132 **rotavirus** reports this fortnight. Forty-seven patients were aged less than 12 months, and a further 70 were aged one to 4 years. For 3 patients (one year, one year and 12 years) untyped adenovirus was also isolated from faeces. A one month old female patient was hospitalised with her two siblings; all 3 had a history of vomiting and diarrhoea. The number of rotavirus reports received so far this year is slightly higher than the average recorded for the last 5 years (Figure 4).
- There were 24 cases of **Q fever** reported this fortnight. Three were in females (40 years, 45 years and 63 years with cardiac symptoms) and 21 were in males (age range 16 to 65 years). Abattoir work or other animal contact was reported as a risk factor for 6 patients. Locations recorded were Brisbane (4), Toowoomba (2), Townsville (2), Western Queensland (2), Warwick (2), Mackay (1), Kingaroy (1), Ipswich (1), Beenleigh (1), Cairns (1), Victoria, unstated (1), Wodonga (1), Bourke (1), Albury (1), Cowra (1), Taree (1) and Windsor (1).
- There was one report of ***Legionella longbeachae*** infection. The patient was a male in the 25 to 44 years age group, from the Townsville area. Lower respiratory tract infection was the reported symptom.

Figure 3. Respiratory syncytial virus laboratory reports, 1993 and 1988-92 average, by month of specimen collection

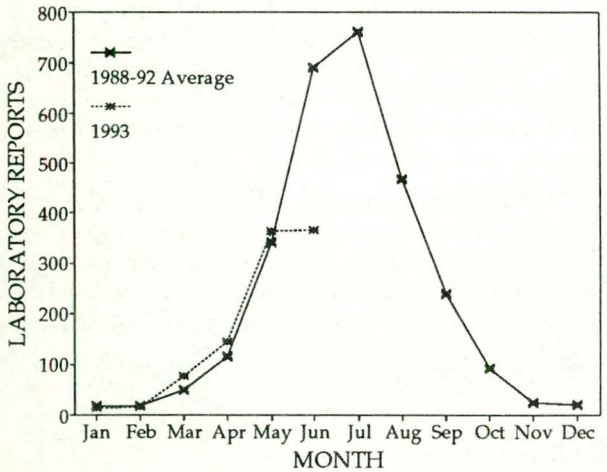


Figure 4. Rotavirus laboratory reports, 1993 and 1988-92 average, by month of specimen collection

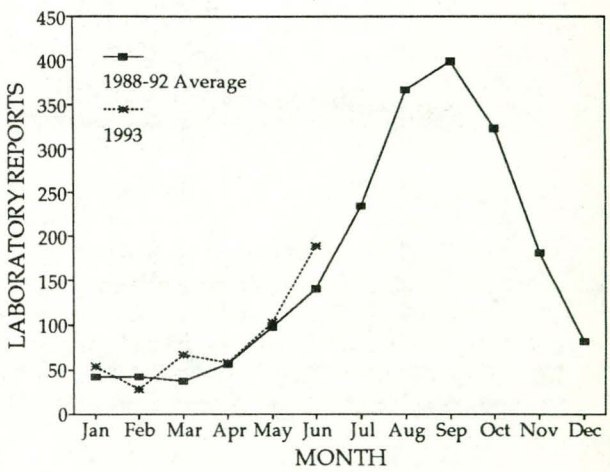


Table 1. Australian Sentinel Practice Research Network, Weeks 26 and 27 1993

Condition	Week 26, to 27 June 1993		Week 27, to 4 July 1993	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	82	17.4	61	12.9
Measles	2	0.4	4	0.8
Rubella	1	0.2	0	0
Pertussis	0	0	0	0
Genital herpes	5	1.1	3	0.6
Gastroenteritis	64	13.6	60	12.7

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network collected data from 4714 patient encounters in Week 26 and from 4736 patient encounters in Week 27 (Table 1). Measles was reported for 3 patients this fortnight, the first reports of this disease made to ASPREN since Week 17 (ending 25 April). Influenza continues to be reported at a high rate.

HIV and AIDS Surveillance

Methodological note

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 (ACT, 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*, available from the National Centre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst NSW 2010. Telephone: (02) 332 4648 Facsimile: (02) 332 1837.

HIV and AIDS diagnoses and AIDS deaths reported for February 1993, as reported to 31 May 1993, are included in this issue of *CDI* (Tables 2 and 3).

Table 2. New diagnoses of HIV infection, new diagnoses of AIDS and deaths from AIDS occurring in the period 1 to 28 February 1993, by sex and State or Territory in which diagnosis was made

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA			
										This Period 1993	This Period 1992	Year to Date 1993	Year to Date 1992
HIV Diagnoses	Female	2	5	0	1	0	0	1	0	9	8	18	18
	Male	2	38	1	5	3	0	23	1	73	105	153	231
	Sex not reported	0	1	0	0	0	0	0	0	1	4	2	9
	Total[1]	4	44	1	6	3	0	24	1	83	118	173	259
AIDS Diagnoses	Female	0	0	0	0	1	0	0	0	1	1	1	2
	Male	0	14	0	0	1	0	3	0	18	26	48	44
	Total[1]	0	14	0	0	2	0	3	0	19	27	49	46
AIDS Deaths	Female	0	0	0	0	1	0	0	0	1	2	2	4
	Male	0	6	0	1	2	0	1	0	10	33	32	76
	Total[1]	0	6	0	1	3	0	1	0	11	35	34	80

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

Table 3. Cumulative diagnoses of HIV infection, AIDS and deaths from AIDS since the introduction of HIV antibody testing to 28 February 1993, by sex and State or Territory

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	AUSTRALIA
HIV Diagnoses	Female	10	459	6	62	36	3	123	40	739
	Male	135	8827	66	1133	489	65	2795	606	14116
	Sex not reported	0	2027	0	0	0	0	64	0	2091
	Total[1]	145	11318	72	1198	525	68	2989	647	16962
AIDS Diagnoses	Female	2	75	0	14	10	2	17	9	129
	Male	43	2280	16	339	154	23	825	181	3661
	Total[1]	45	2360	16	354	164	25	845	190	3999
AIDS Deaths	Female	2	43	0	10	3	1	9	3	71
	Male	33	1471	6	223	93	13	567	115	2476
	Total[1]	35	1426	6	234	96	14	578	118	2552

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

Measles in Tasmania, 1993, interim report

Since mid-April, Tasmania has been experiencing a major outbreak of measles. A total of 259 cases had been notified to the end of June, one in February, none in March, 33 in April, 70 in May and 155 in June. Most of the cases have been from the South Region (232), 17 have been from the North, 10 from the North West and 3 unknown.

The outbreak has been largely focussed in the southern part of the State encompassing the greater metropolitan area of Hobart and there has been a large concentration of cases in the Huon Valley region south of Hobart. In addition, many of the early northern cases had some recent contact with the southern part of the state.

There is an even distribution of cases in all age groups up to the late teens (Table 4). The majority of cases have been unvaccinated, although the determination of immunisaton status has largely been reliant on parental recall.

Table 4. Measles notifications, Tasmania, 1993, by age group

Age group (years)	Notifications
0-4	70
5-9	57
10-14	67
15-19	49
20-24	6
25-29	4
Unknown	6
Total	259

The surveillance of this outbreak has been an active process with all doctors having been contacted twice by circular and encouraged to report cases.

A range of control measures have been and are still being employed:

a) Exclusion of cases attending school and child care for 5 days after the onset of the rash,

b) encouragement of the immunisation of infants as young as 6 months, particularly if attending child care,

c) a letter sent to all parents of children attending school and child care centres recommending that unvaccinated children be vaccinated,

d) use of press releases encouraging parents to have children vaccinated, and

e) rapid immunisation programs following case notification, particularly if the notification was prompt.

Following the actions above, a significant increase in the distribution of MMR throughout the State has been noted.

In Hobart over 30 children have required hospitalisation. No serious long-term complications have been reported to date.

(David Coleman and Mark Jacobs, Public Health Branch, Department of Community and Health Services, Tasmania)

***CDI* Editorial Comment**

The Centre for Disease Control in Cairns, Queensland, has reported that there has been one case of measles in Cairns, imported from Tasmania. No local transmission has occurred as yet.

Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by 5 laboratories. A total of 111 reports have been included:

Royal Hobart Hospital 30, Liverpool Hospital 68, Northern Tasmanian Pathology Service 7, TB Lynch Pathologists - Rockhampton 2, Toowoomba General Hospital 4.

Organisms reported 5 or more times from blood are detailed in Table 5. Other blood isolates not included in Table 5 were:

Gram positive: 2 *Streptococcus* Group B (1 neonate), 1 *Streptococcus* Group G, 1 *Streptococcus* Group F, 1 *Streptococcus* milleri, 1 *Streptococcus sanguis*, 1

Corynebacterium jeikeium (HIV), 1 *Enterococcus faecalis*, 1 *Enterococcus faecium*, *Lactobacillus leichmannii*.

Gram negative: 1 *Flavimonas oryzihabitans* (4 year old male), 3 *Acinetobacter* species, 3 *Klebsiella* species, 1 *Klebsiella oxytoca*, 1 *Enterobacter cloacae*, 1 *Enterobacter* species, 1 *Serratia liquefaciens*, 3 *Pseudomonas aeruginosa* 1 *Pseudomonas paucimobilis*, 1 *Neisseria meningitidis* (group Y in a 53 year old male), 1 *Salmonella* Typhimurium species, 1 *Xanthomonas maltophilia*, 1 *Providencia* species, 1 *Pasteurella multocida*.

Anaerobes: 1 *Bacteroides fragilis*, 1 *Clostridium tertium*, 2 *Fusobacterium* species, 1 *Peptostreptococcus* species.

Fungi 1: *Candida parapsilosis*.

Ages of patients with bacterial blood isoaltes ranged from less than one month to over 75 years (Table 6).

Peritoneal dialysate: 1 *Fusarium* species, 2 *Staphylococcus epidermidis*.

Joint fluid: 1 *Staphylococcus epidermidis*, 1 *Streptococcus* Group G.

Other: 1 *Staphylococcus aureus*, 1 *Escherichia coli*.

Figure 5. LabDOSS reports of blood isolates, by age group

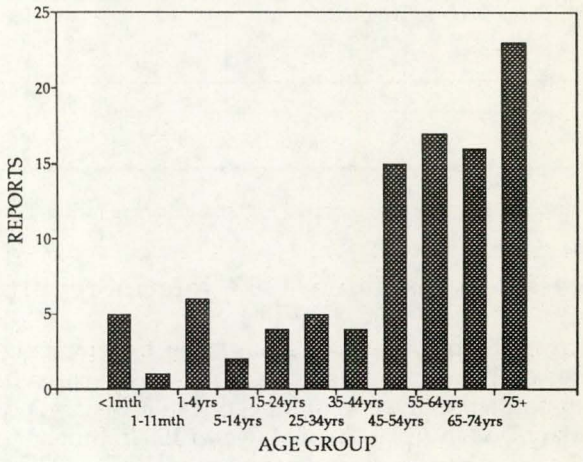


Table 5. LabDOSS reports of blood isolates, by organism and clinical information

Organism	Clinical Information						Risk Factors					Total[1] this fortnight	Total reported this year
	Bone/Joint	Lower respiratory	Endocarditis	Gastrointestinal	Urinary Tract	Skin	Surgery	Immunosuppressed	IV line	Perinatal	Neonatal		
Staphylococcus aureus[2]		1	1			2	1		6			15	336
Staphylococcus epidermidis												5	101
Staphylococcus coagulase negative[3]		1						1	1			8	142
Streptococcus pneumoniae		4										7	66
Escherichia coli				5	11			3				22	425
Haemophilus influenzae[4]		3				1						5	34

1. Only organisms with 5 or more reports are included in this table.
2. MRSA 1.
3. *S. warneri* 1, *S. hominis* 1.
4. Type b 3 (18 months, 4 years, 26 years).

Table 6. LabDOSS meningitis reports, by organism and age group

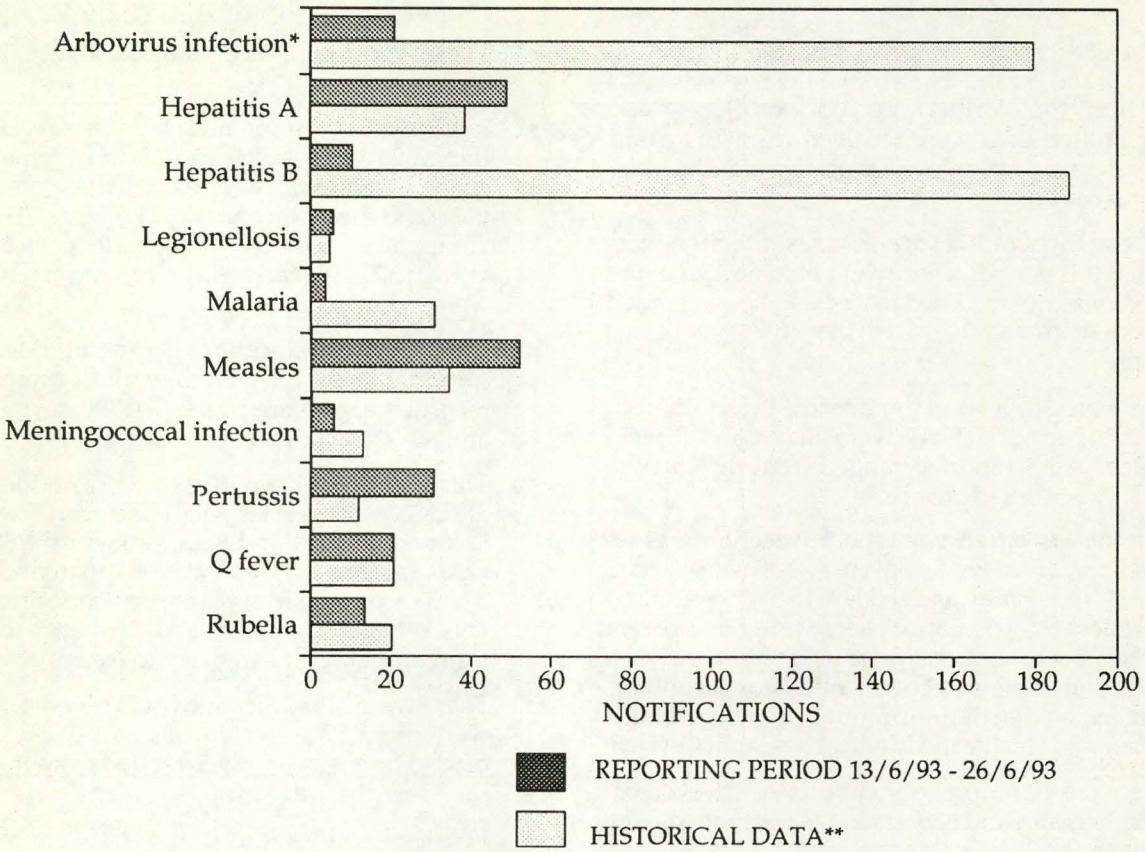
	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	75+ years	Total	Total reported this year
Propionibacterium species				1			1	1
Haemophilus influenzae	1 (type b)	1 (no type)					2	22
Streptococcus pneumoniae						1	1	10
Cryptococcus neoformans var *neoformans* var *gatti*			1 (HIV)		1 (HIV)			20

National Notifiable Diseases Surveillance System, 13 to 26 June 1993

A total of 688 reports was received for this period (Tables 7, 8 and 9, and Figure 6). Reports were not received from the Northern Territory or Queensland and only limited data were received from Tasmania. The tables, figures and analysis must therefore be interpreted with caution.

- Nineteen cases of **Ross River virus infection** were notified this period. There were 14 males, 3 females and sex was not recorded in 2 cases. Ages recorded ranged from the 10-14 to the 70-74 years age groups.
- There were 38 cases of **gonococcal infection** notified this period. Thirty were males and 8 were females. Ages reported ranged from the 15-19 to the 75-79 years age groups.
- ***Haemophilus influenzae* type b infection** was reported for 10 cases. Seven were males and 3 females. One case was aged less than one year and 5 were less than 5 years. There were no apparent clusters of cases. *Haemophilus influenzae* type b immunisation is now recommended for all infants commencing the routine immunisation schedule of the National Health and Medical Research Council.
- There were 49 reports of **hepatitis A**. These comprised 16 males and 33 females. Ages ranged from the 0-4 to the 80-84 years age group.
- Two cases of **hydatid infection** were notified, both in females in the 40-45 and 70-75 years age groups
- There were 6 notifications of **legionellosis**. Five cases were males and one was female. Two cases were in the 15-19 years age group, the others were over 50 years of age.
- There was a single case of **leprosy** reported for a male in the 30-34 years age group from the Melbourne statistical division.
- A single case of **leptospirosis** was reported for a male in the 50-54 years age group from a rural area of Western Australia.
- There were 4 reports of **listeriosis**, 2 males and 2 females. Three had onset dates on the same day in the same postcode area.
- There were 4 reports of **malaria**, 2 were males and 2 were females.
- Fifty-two reports of **measles** were received. Of these, 24 were males and 28 were females. In a single case the age was recorded as less than one year, and the mean age was 11.6 years. There were 10 apparent clusters in separate postcode areas with 2 to 7 cases each. Six of these apparent clusters were in Tasmania.
- There were 6 notifications of **meningococcal infection**. Of these, 2 were males and 4 were females, recorded ages were in the 0-4 (2 cases), 5-9, 45-49 and 65-69 (one case each) years age groups.
- Thirty-one cases of **pertussis** were notified. A single case was aged less than one year, 6 were aged less than 5 years and ages ranged up to the 90-94 years age group. There were 4 apparent clusters of 2 or 3 cases each in separate postcode areas. Intervals between the index and further cases ranged from onset on the same day to 6 days.
- There were 21 notifications of **Q fever**. Of these, 18 were males, 2 were females and sex was not recorded in one case. Ages ranged from the 15-19 to the 65-69 years age groups.
- Fourteen notifications of **rubella** were received, 8 males and 6 females. Two cases were recorded as being aged less than one year. The mean age was 18.3 years and there were no reports for females in the 15-44 years age group. There were 2 apparent clusters of 2 cases each in separate postcode areas.
- There were 24 notifications of **syphilis** received this period. Fourteen were males and 10 were females.
- There were 15 notifications of **tuberculosis**, 9 males and 6 females. Ages ranged from the 20-24 to the 70-74 years age groups.
- There was a single report of **typhoid** in a male in the 35-39 years age group from the Australian Capital Territory.

Figure 6. Selected National Notifiable Diseases Surveillance System reports, and historical data **



* Includes Ross River virus and Dengue

** The historical data are the averages of the number of notifications in 6 previous 2-week reporting periods: the corresponding periods of the last 2 years and the periods immediately preceding and following those.

Table 7. Notifiable Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 13 to 26 June 1993

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1] This Period 1993	This Period 1992	Year to Date 1993	Year to Date 1992
Diphtheria	0	0			0	0	0	0	0	0	19	8
Haemophilus influenzae b infection[2]	0	1			2	0	3	4	10	35	217	231
Measles	0	24			0	25	2	1	52	37	668	456
Mumps	0	0	NN	NN	NN	NN	0	0	0	1	1	15
Pertussis	1	4			8	0	3	15	31	22	736	218
Poliomyelitis	0	0			0	0	0	0	0	0	0	0
Rubella[3]	0	2			3	0	6	3	14	23	1370	222
Tetanus	0	0		NN	0	0	0	0	0	0	5	6

1. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision, so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.

2 SA: only as 'bacterial meningitis'; meningococcal infection is separately notified; Tas: only as 'non-meningococcal meningitis'; Vic: epiglottitis and meningitis only.

3. NT, Tas: CRS only; ACT, NSW, Qld: rubella only.

NN Not Notifiable.

Table 8. Other Notifiable Diseases[1], for the reporting period 13 to 26 June 1993

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2] This Period 1993	This Period 1992	Year to Date 1993	Year to Date 1992
Arbovirus infection (NEC)[3]	0	0	NN		0	0	1	1	2	12	339	182
Ross River virus infection	0	11			1	NN	3	4	19	148	4348	4704
Dengue	0	-			-	NN	0	NN	0	45	201	98
Campylobacteriosis[4]	2	0			47	8	40	24	121	293	3746	3921
Chlamydial infection (NEC)[5]	1	NN			0	0	29	23	53	243	2973	3346
Donovanosis	0	NN			NN	NN	0	0	0	7	19	37
Gonococcal infection[6]	0	12			0	0	1	25	38	122	1396	1425
Hepatitis A	0	38			3	0	3	5	49	77	973	1036
Hepatitis B	1	0			0	0	3	7	11	199	1048	2423
Hepatitis C	10	0	NN		NN	1	21	56	88	379	2816	4022
Hepatitis (NEC)	0	0			0	0	1	NN	1	3	39	32
Legionellosis	0	3			0	0	1	2	6	4	92	105
Leptospirosis	0	0			0	0	0	1	1	5	80	54
Listeriosis	0	0	NN		NN	0	4	0	4	1	26	20
Malaria	0	2			0	0	1	1	4	60	309	391
Meningococcal infection	0	4			1	0	0	1	6	13	108	97
Ornithosis	0	NN			0	0	0	1	1	1	45	46
Q fever	0	20			1	0	0	0	21	28	366	228
Salmonellosis (NEC)	2	24			13	1	14	24	78	135	2683	2851
Shigellosis[4]	0	-			2	0	2	11	15	35	412	313
Syphilis	0	16			0	1	2	5	24	114	1019	1255
Tuberculosis	0	7			0	0	2	6	15	34	388	351
Typhoid[7]	1	0			0	0	0	0	1	0	20	29
Yersiniosis (NEC)[4]	0	-			7	0	0	0	7	18	218	359

1. For HIV and AIDS, see Tables 2 and 3. For rarely notified diseases, see Table 9.
2. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.
3. SA, Tas: includes Ross River virus and dengue.
   WA: includes dengue.
4. NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.
5. WA: genital only.
6. NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.
7. NSW and Vic: includes paratyphoid.

NN Not Notifiable.
NEC Not Elsewhere Classified.
- Elsewhere Classified.

Table 9. Rarely Notified Diseases[1] for the reporting period 13 to 26 June 1993

DISEASES	Total This Period	Reporting States or Territories	Year to Date 1993
Botulism	0		0
Brucellosis	0		12
Chancroid	1	Vic	2
Cholera	0		2
Hydatid infection	2	NSW, Vic	17
Leprosy	1	Vic	6
Lymphogranuloma venereum	0		0
Plague	0		0
Rabies	0		0
Yellow fever	0		0
Other viral haemorrhagic fevers	0		0

1. Fewer than 50 cases of each of these diseases were notified each year during the period 1987 to 1992.

Table 10. Laboratory reports by State or Territory of reporting laboratory for the reporting period 17 to 30 June 1993, historical data[1], and total reports for the year

	STATE OR TERRITORY OF REPORTING LABORATORY							Total this fortnight	Historical data[1]	Total reported this year
	ACT	NSW	Qld	SA	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA										
Measles virus		2		2	1	2	1	8	5.8	180
Mumps virus				1				1	1.0	34
Rubella virus			14	4		1	2	21	4.5	572
HEPATITIS VIRUSES										
Hepatitis A virus		1	7			1		9	12.3	333
Hepatitis B virus		22	13	8	2	20	16	81	82.8	1,400
Hepatitis C virus		1	9	43	5		71	129	70.2	2,074
Hepatitis D virus			1					1	2.8	35
ARBOVIRUSES										
Ross River virus			97			1	1	99	35.2	1,481
Barmah Forest virus			12					12	5.0	144
Dengue type 2			73					73	11.0	191
Dengue not typed			22					22	5.0	58
MVE virus							2	2	.2	8
Flavivirus (unspecified)			10					10	.0	59
ADENOVIRUSES										
Adenovirus type 1		5						5	3.2	43
Adenovirus type 2		3			1	4		8	3.3	57
Adenovirus type 3		6				7		13	2.8	122
Adenovirus type 4						1		1	.5	57
Adenovirus type 5		1						1	1.2	19
Adenovirus type 7		1						1	.2	5
Adenovirus type 40		2						2	.0	12
Adenovirus not typed/pending		21	13	5	1	11	12	63	36.8	669
HERPES VIRUSES										
Herpes simplex virus type 1		10	19	28	3	43	20	123	85.7	2,252
Herpes simplex virus type 2		47	20	21	2	40	43	173	132.2	2,646
Herpes simplex not typed/pending	3	33	1			5	2	44	31.3	355
Cytomegalovirus		10	12	1		33	15	71	63.5	862
Varicella-zoster virus		7	3	2		9	5	26	17.7	521
Epstein-Barr virus		7	35	15		6	8	71	44.5	1,029
Herpes virus group - not typed				2			1	3	2.3	17
OTHER DNA VIRUSES										
Poxvirus group not typed						2		2	.2	5
Parvovirus						4		4	1.7	66
PICORNA VIRUS FAMILY										
Coxsackievirus A9	1	4						5	1.3	35
Coxsackievirus B1		1					1	2	.2	61
Coxsackievirus B3		1						1	.2	8
Coxsackievirus B4		1						1	1.8	5
Coxsackievirus B5		1						1	.7	35
Echovirus type 7		4						4	.2	90
Echovirus type 9		1						1	7.7	45
Echovirus type 11		6				2	1	9	.3	38
Echovirus type 14		5						5	.0	17
Echovirus type 30		2				2		4	.0	17

Table 10. Laboratory reports by State or Territory of reporting laboratory for the reporting period 17 to 30 June 1993, historical data[1], and total reports for the year, continued

	STATE OR TERRITORY OF REPORTING LABORATORY							Total this fortnight	Historical data[1]	Total reported this year
	ACT	NSW	Qld	SA	Tas	Vic	WA			
Poliovirus type 1 (uncharacterised)		4						4	3.2	29
Poliovirus type 2 (uncharacterised)		4						4	2.0	22
Poliovirus type 3 (uncharacterised)		2				1		3	1.2	16
Rhinovirus (all types)		3	3		1	6	4	17	32.7	392
Enterovirus not typed/pending		6	26			11	5	48	32.0	414
ORTHO/PARAMYXOVIRUSES										
Influenza A virus			8	3			2	13	34.8	96
Influenza B virus		1	7	2			12	22	4.8	70
Parainfluenza virus type 1		1						1	5.5	16
Parainfluenza virus type 2		2	2			1		5	8.2	57
Parainfluenza virus type 3		6	2	1		11	3	23	17.5	268
Parainfluenza virus typing pending						3		3	4.8	21
Respiratory syncytial virus	9	73	74	26	4	74	26	286	243.3	1,002
OTHER RNA VIRUSES										
Rotavirus	13	32	4	5	1	28	49	132	70.8	660
Norwalk agent		2						2	.7	13
Small virus (like) particle						1		1	1.7	27
OTHER										
Chlamydia trachomatis not typed	3	11	32	7		7	39	99	79.3	1,671
Chlamydia psittaci			1	1				2	4.7	49
Chlamydia species		1						1	.0	9
Mycoplasma pneumoniae		3	9	3	1	12	7	35	19.5	1,045
Coxiella burnetii (Q fever)		6	17			1		24	6.2	266
Streptococcus group A			7					7	.0	142
Bordetella pertussis			3			2		5	.2	98
Bordetella parapertussis			1					1	.0	1
Legionella longbeachae			1					1	.0	2
Legionella species			2					2	.0	6
Leptospira hardjo			1					1	.0	6
Treponema pallidum		2	20					22	.2	377
TOTAL	29	364	581	180	22	352	348	1,876	1,248.3	22,432

1. The historical data are the averages of the numbers of reports in 6 previous 2 week reporting periods: the corresponding periods of the last 2 years and the periods immediately preceding and following those.

Table 11. Laboratory reports by clinical information for the reporting period 17 to 30 June 1993

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus								5				3	8
Mumps virus												1	1
Rubella virus								5		2		14	21
HEPATITIS VIRUSES													
Hepatitis A virus							3					6	9
Hepatitis B virus							19					62	81
Hepatitis C virus							7					122	129
Hepatitis D virus							1						1
ARBOVIRUSES													
Ross River virus			1		1	1	1	4		33		58	99
Barmah Forest virus										1		11	12
Dengue type 2			1					8		6		58	73
Dengue not typed								2		2		18	22
MVE virus	1											1	2
Flavivirus (unspecified)								1				9	10
ADENOVIRUSES													
Adenovirus type 1						2						3	5
Adenovirus type 2					4	2			1			1	8
Adenovirus type 3					7				2			4	13
Adenovirus type 4									1				1
Adenovirus type 5								1					1
Adenovirus type 7												1	1
Adenovirus type 40						2							2
Adenovirus not typed/pending					22	28			1		1	11	63
HERPES VIRUSES													
Herpes simplex virus type 1		1			7		1	69	3		33	9	123
Herpes simplex virus type 2								63			96	14	173
Herpes simplex not typed/pending					4			18	2		6	14	44
Cytomegalovirus		1			26	1	2	1				40	71
Varicella-zoster virus	1				1			20	1			3	26
Epstein-Barr virus					7		3			1		60	71
Herpes virus group - not typed								2				1	3
OTHER DNA VIRUSES													
Poxvirus group not typed								2					2
Parvovirus								1				3	4
PICORNA VIRUS FAMILY													
Coxsackievirus A9		3										2	5
Coxsackievirus B1												2	2
Coxsackievirus B3						1							1
Coxsackievirus B4												1	1
Coxsackievirus B5		1											1
Echovirus type 7						3						1	4
Echovirus type 9					1								1
Echovirus type 11		3			1							5	9

Table 11. Laboratory reports by clinical information for the reporting period 17 to 30 June 1993, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
Echovirus type 14		1						1				3	5
Echovirus type 30		3										1	4
Poliovirus type 1 (uncharacterised)					2							2	4
Poliovirus type 2 (uncharacterised)		1										3	4
Poliovirus type 3 (uncharacterised)					1	1						1	3
Rhinovirus (all types)					13			1				3	17
Enterovirus not typed/pending		7	5		20	5						11	48
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					4							9	13
Influenza B virus					16							6	22
Parainfluenza virus type 1												1	1
Parainfluenza virus type 2					5								5
Parainfluenza virus type 3					22							1	23
Parainfluenza virus typing pending					3								3
Respiratory syncytial virus					270	1						15	286
OTHER RNA VIRUSES													
Rotavirus	1					126						5	132
Norwalk agent						2							2
Small virus (like) particle						1							1
OTHER													
Chlamydia trachomatis not typed					1						73	25	99
Chlamydia psittaci					2								2
Chlamydia species					1								1
Mycoplasma pneumoniae					23			1				11	35
Coxiella burnetii (Q fever)					1		1			1		21	24
Streptococcus group A					2							5	7
Bordetella pertussis					2							3	5
Bordetella parapertussis												1	1
Legionella longbeachae					1								1
Legionella species												2	2
Leptospira hardjo												1	1
Treponema pallidum										1	2	19	22
TOTAL	3	21	7		470	176	38	205	11	47	211	687	1876

Table 12. Laboratory reports by contributing laboratories for the reporting period 17 to 30 June 1993

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	29
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	235
	Prince Henry/Prince of Wales Hospitals, Sydney	8
	Royal Alexandra Hospital for Children, Camperdown	56
	South West Area Pathology Service, Liverpool	65
Queensland	Dr TB Lynch, Pathologist, Rockhampton	74
	Queensland Medical Laboratory, West End	28
	State Health Laboratory, Brisbane	479
South Australia	Institute of Medical & Veterinary Science, Adelaide	180
Tasmania	Northern Tasmanian Pathology Service, Launceston	9
	Royal Hobart Hospital, Hobart	13
Victoria	Fairfield Hospital, Melbourne	222
	Microbiological Diagnostic Unit, University of Melbourne	6
	Royal Children's Hospital, Melbourne	124
Western Australia	Princess Margaret Hospital, Perth	104
	State Health Laboratory Services, Perth	244
TOTAL		1876