COMMUNICABLE DISEASES INTELLIGENCE

ISSN 0725-3141 VOLUME 17 NUMBER 9 3 May 1993

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

DENGUE AND DENGUE HAEMORRHAGIC FEVER IN CHARTERS TOWERS, QUEENSLAND

(David Row, Charters Towers Hospital; Michael Pearce, George Hapgood, John Sheridan, Queensland Health)

A dengue epidemic is currently occurring in the northern Queensland town of Charters Towers. The cause of the epidemic is dengue 2 virus, the same serotype involved in the continuing epidemic in Townsville. Cases have been ascertained using the following clinical case definition:

Any patient with a high fever of sudden onset with five of the following signs or symptoms:

A - retro-orbital pain
- bone pain
- myalgia and/or arthralgia
- headache
- abnormal bleeding episodes
- abnormal taste in mouth
- vomiting and nausea and/or diarrhoea
- macular or maculopapular rash or confluent petechial rash
- thrombocytopaenia and leucopaenia; or

B - is afebrile with a macular or maculopapular rash or confluent petechial rash, and has a recent clinical history consistent with 'A'.

The first reported case was a 32 year old woman, a resident of Charters Towers who developed a fever on 1 March 1993. By 16 April 1993, 190 cases that satisfied the clinical case definition had been reported to Queensland Health (Figure 1), and 10 of these had been confirmed by viral isolation or the detection of circulating IgM to dengue 2 virus. Blood samples from many patients are currently undergoing laboratory testing. Eighty-two patients were male and 108 were female. Most were aged between 16 and 50 years (Figure 2). Three patients have been hospitalised.

A 42 year old woman, admitted to Charters Towers Hospital on 26 March, had grade II dengue haemorrhagic fever according the World Health Organization criteria[1]. This is the first confirmed case of haemorrhagic fever in the current Townsville and Charters Towers dengue epidemics. Her initial symptoms appeared on 21 March; they were a frontal headache, fever, rigors, arthralgia and myalgia. At admission, she had a maculopapular rash and a positive Hess test (a tourniquet test for capillary fragility); she was bleeding from the gums and her blood pressure was 100/50mm Hg. Her normal systolic pressure was 120mm Hg. The results of serial blood tests are given in the Table.

Three blood samples were sent for serological and virological examination on 23 March, 31 March and 14 April. So far, IgM antibodies to dengue 2 have been detected in the second blood sample.

Figure 1. Notified dengue cases in Charters Towers, by week of onset, 1 March to 14 April 1993

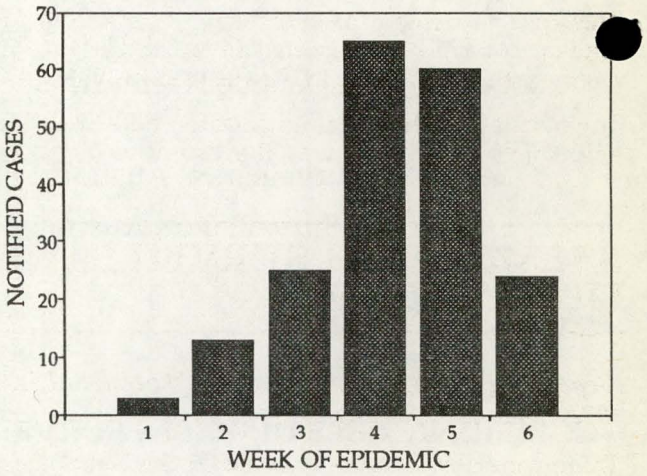


Figure 2. Notified dengue cases in Charters Towers, by age group and sex, 1 March to 14 April 1993

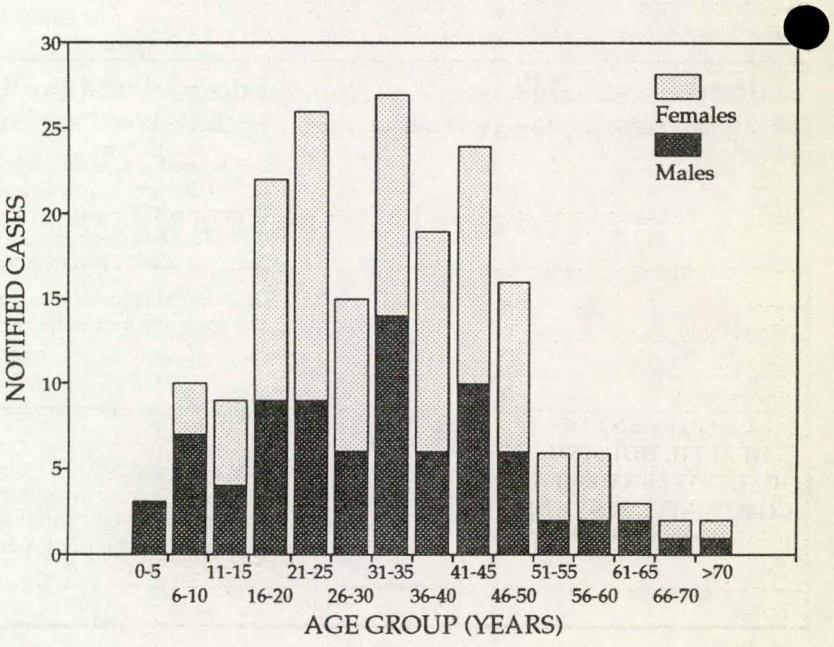


Table. Serial haematological values of a patient with dengue haemorrhagic fever, Charters Towers Hospital, March 1993

Haematological variable	Date					
	23 March	24 March	26 March	27 March	28 March	29 March
White cell count (10^9/L)	2.9	2.5	3.5	2.5	3.4	3.3
Haemoglobin (g/dL)	14.9	14.4	18.5	16.1	15.7	14.8
Haematocrit (%)	45.1	44.6	55.5	49.5	48.1	44.7
Platelets (10^9/L)	71	34	17	18	28	34

Reference

1. World Health Organization. Dengue haemorrhagic fever: diagnosis, treatment and control. Geneva: World Health Organization, 1986.

CDI Editorial Comment

This case of dengue haemorrhagic fever is the first known to have been reported in Australia since the re-emergence of dengue in Queensland in 1981.

Townsville was the main centre of the 1981-82 dengue epidemic[1]. Dengue-1 was the causative agent, although there was at least one case of dengue-2 infection. Thirteen patients suffered 'dengue fever with haemorrhage' (as has also been reported in the current Townsville-Charters Towers epidemic), but there were no cases of 'dengue haemorrhagic fever', which has a stricter case definition.

Prior to 1981, the last dengue epidemic in Australia had been in the Townsville and Innisfail areas in the 1950s.

Reference

1. Guard RW. Dengue surveillance - Cairns. *Comm Dis Intell* 1982;(23):5-7.

SALMONELLA SURVEILLANCE, AUSTRALIA, SECOND QUARTER 1992

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

There were 1695 reports received by the National *Salmonella* Surveillance Scheme (NSSS) for the second quarter of1992 (Table 1).

There were 1208 Australian acquired cases of *Salmonella* infection reported which represented a 30% decrease over the total number of cases for the same period last year. There were 119 follow-ups, 8 cases from migrants and refugees and 67 cases acquired overseas. There were 130 Australian acquired cases of *Shigella* as against 186 for the corresponding period of 1991, also a decrease of 30%.

By comparison to the second quarter of 1991, there was a 9% increase in the *Salmonella* case rate per 100,000 population in Victoria and a one per cent increase in Queensland. All other States and Territories recorded decreased case rates. The largest of these decreases were from New South Wales (-28%) and Western Australia (-26%) (Table 2).

The top ten *Salmonella* serovars accounted for 65% of all Australian acquired cases notified to the NSSS. The most common serovar was *S.* Typhimurium with 367 cases from 40 phage types (PT). The two most common

Table 1. Total reports received, by State and Territory

	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Total
Salmonella	8	247	263	449	99	187	37	112	1402
Shigella	2	19	22	12	17	40	0	52	164
Aeromonas	0	1	4	1	0	0	0	0	6
Campylobacter	0	0	43	2	0	0	0	0	45
Escherichia coli (EPEC)	0	0	2	4	0	0	0	0	6
Plesiomonas	0	1	2	0	0	0	0	10	13
Vibrio	1	1	0	0	0	0	0	0	2
Yersinia	1	20	6	27	2	0	0	1	57
Total	12	289	342	497	118	227	37	175	1695

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

	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Total
2nd Quarter 1992	2.8	3.9	4.9	15.7	6.8	11.4	8.0	63.9	1208
1st Quarter 1992	4.8	6.9	5.0	25.5	5.9	16.2	11.2	73.6	1718
2nd Quarter 1991	4.0	5.4	4.5	15.5	7.4	15.4	8.7	78.1	1351
2nd Quarter 1990	6.4	5.7	5.2	14.7	12.9	10.7	8.0	58.8	1355

were PT 9 (79 cases) and PT 135 (51 cases). *S.* Enteritidis returned to the top ten; PT 26 accounted for 57% of the cases notified to the NSSS and most of these were from Queensland. Notifications of *S.* Enteritidis PT 4 were received from travellers returning from India, Thailand and the United Kingdom.

Outbreaks

Six outbreaks were recorded during the quarter. Three were of phage types of *S.* Typhimurium (PT 135 from Victoria, PT 9 and RDNC from Perth) and two were of *S.* Bovismorbificans PT 7, from Tasmania and Victoria (Table 3).

New and unusual *Salmonella* serovars

The only unusual *Salmonella* serovars notified during the quarter were *S.* Essen (F/54 New South Wales ex Malaysia) and *S.* Albany (F/64, New South Wales).

Typhoid and paratyphoid cases

There were 8 cases of *S.* Typhi reported, 5 cases of *S.* Paratyphi A, 1 case of *S.* Paratyphi B and 21 cases of *S.* Paratyphi B biovar Java (Table 4).

Table 3. Outbreaks

Organism	Place	Cases[1]	Date	Notes
S. Bovismorbificans 7	Tasmania	19	April	no details
S. Bovismorbificans 7	Victoria	15	May-June	several regions
S. Paratyphi B biovar Java	Gove area, NT	4	May-June	no details
S. Typhimurium 135	Melbourne	12	May	no details
S. Typhimurium 9	Perth	15	mid-June	no details
S. Typhimurium RDNC+	Perth	7	April	no details

1. Number of cases reported to NSSS.

Table 4. Typhoid and paratyphoid cases

S. Typhi			
Vi-phage type	Sex/Age (years)	State or Territory	Notes
A	F/16	Qld	ex South-East Asia
A	M/60	Vic	Vietnamese refugee screen
B1	F/28	NSW	no details provided
B1 var	M/28	NSW	travel in the Philippines
B1 var	F/23	WA	recent travel in Thailand
B1 var	F/9	Vic	from the Philippines
B1 var	F/26	NSW	returned from the Philippines
degraded	F/2	Vic	ex Lebanon

S. Paratyphi A			
Vi-phage type	Sex/Age (years)	State or Territory	Notes
1	F/65	Vic	recently arrived from Sri Lanka
1	M/6	Vic	contact with F/65 above
1	M/35	Tas	visited India and Pakistan
RDNC	M/12	NSW	visited South-East Asia
RDNC	M/44	Vic	recent travel in Cambodia

Table 4. Typhoid and paratyphoid cases, continued

S. Paratyphi B			
Vi-phage type	Sex/Age (years)	State or Territory	Notes
1 var	F/18	Qld	

S. Paratyphi B biovar Java[1]					
Type	Sex/Age (years)	State/Territory	Type	Sex/Age (years)	State/Territory
1 var	M/ns[2]	Qld	1 var	M/32	Qld
1 var	F/8	Qld	1 var	F/ns	Qld
Battersea	F/56	NT	Dundee	F/17	WA
Dundee	F/23[3]	Vic	Dundee	F/19	Vic
RDNC	M/1	NT	RDNC	F/1	NT
RDNC	F/52	Vic	RDNC	F/1	NT
RDNC	F/<1	Vic	RDNC	F/ns	Qld
RDNC	M/3	Qld	RDNC	M/51	Qld
untypable	F/2	NT	untypable	F/1	NT
var	M/1	SA	var	F/1	SA
untyped	F/<1	NSW			

1. In the next Newsletter we will discuss in detail the variation in properties of *S.* Paratyphi B and biovar Java, particularly the difference in virulence between the two.
2. NS not stated.
3. Acquired in Bali.

Isolations from blood, urine and unusual sites

During the quarter, there were 12 reports of bacteraemia, excluding enteric fever, 18 reports of isolations from urine, and 12 reports of isolations from unusual sites (Table 5).

Infections acquired overseas

These include migrants and refugees.

ASIA

Unspecified: *S.* Blockley, *S.* Enteritidis PT 4, *S.* Infantis, *S.* Isangi.
Indonesia: *C. jejuni* subspecies *jejuni*, *S.* Kentucky, *S.*

Table 5. Isolations from blood, urine and unusual sites

Bacteraemias excluding enteric fever					
Organism	Sex/Age (years)	State or Territory	Organism	Sex/Age (years)	State or Territory
S. Aberdeen	F/<1	Qld	*S.* Typhimurium 170	M/<1	Vic
S. Birkenhead	M/<1	NSW	*S.* Typhimurium 2	M/61	Vic
S. Bovismorbificans 21	F/61	NSW	*S.* Typhimurium 6	M/1	NT
S. Bovismorbificans 7	F/58	Vic	*S.* Virchow	F/<1	Qld
S. Typhimurium 126	M/38	NSW	*S.* Virchow	F/18	Qld
S. Typhimurium 126	M/26	NSW	*Y. enterocolytica* O:3 Bio4	F/50	NSW

Urines					
Organism	Sex/Age (years)	State or Territory	Organism	Sex/Age (years)	State or Territory
S. ser 4, 12:d:-	F/69	Vic	*S.* Hadar	F/20	Tas
S. Adelaide	F/62	Qld	*S.* Infantis	F/80	Vic
S. Bovismorbificans 13	F/9	NSW	*S.* Infantis	F/77	SA
S. Bovismorbificans 23	F/61	NSW	*S.* Orion	M/74	Qld
S. Cerro	F/18	Qld	*S.* Potsdam	F/82	Qld
S. Chester	F/28	Vic	*S.* Singapore	F/15	Vic
S. Derby	M/67	NSW	*S.* Stanley	F/5	Vic
S. Dublin	M/60	Vic	*S.* Typhimurium 44	F/11	Vic
S. Give	F/36	Vic	*S.* Virchow	F/70	Vic

Table 5. Isolations from blood, urine and unusual sites, contined

Unusual Sites			
Organism	Sex/Age (years)	State or Territory	Site
S. Bareilly	ns[1]/62	Qld	perianal abscess
S. Bovismorbificans 7	M/4	Tas	perianal wound
S. Bovismorbificans 7	M/10	Tas	ankle swab - osteomyelitis
S. Cubana	F/41	Qld	cervical swab
S. Dublin	F/<1	NSW	knee aspirate - septic arthritis
S. Livingstone	F/29	NSW	CSF - returned from Bali
S. Singapore	F/12	NSW	appendix swab
S. Singapore	F/15	Vic	appendix swab and urine
S. Typhimurium 135	M/63	Qld	abdominal abcess
S. Typhimurium 135	M/37	NSW	perianal swab
S. Typhimurium RDNC	M/64	NSW	abdominal sinus swab
S. Virchow	M/<1	Qld	CSF and faeces

1. NS not stated

Livingstone, *S.* Lexington, *Sh. sonnei* biotypes a and g.
Bali: *C. jejuni* subspecies *jejuni*, *S.* Adelaide, *S.* Berta, *S.* Blockley (2), *S.* Hadar (2), *S.* Javiana, *S.* Livingstone, *S.* Senftenberg, *S.* Thompson, *S.* Weltevreden, *Sh. sonnei.*
Thailand: *S.* Anatum (2), *S.* Blockley, *S.* Derby, *S.* Emek, *S.* Enteritidis PT 4, *S.* Typhimurium 135, *S.* Virchow, *Sh. boydii* 4.
Malaysia: *S.* Enteritidis RDNC, *S.* Essen, *Sh. boydii* 17.
Singapore: *S.* Bovismorbificans 2.
Cambodia: *S.* Typhimurium 145.
Vietnam: *S.* ser 4,12:d:-, *S.* Amsterdam, *S.* Hadar, *S.* Typhimurium 12a, *S.* Typhimurium 21, *S.* Virchow, *Sh. flexneri* 3a, *Sh. flexneri* 6, *Sh. boydii* 14.
Philippines: *S.* Hadar, *S.* Typhimurium untypable.
Afghanistan: *Sh. flexneri* 3a.
Kurdistan: *Sh. flexneri* 2a.
Pakistan: *S.* Agona, *S.* Typhimurium untypable, *Sh. flexneri* 6.
Nepal: *C. jejuni* subspecies *jejuni*, *Sh. dysenteriae* 2, *Sh. flexneri* 6, *Sh. sonnei* biotype g.
India: *S.* Enteritidis PT 4, *S.* Typhimurium 135, *S.* T phimurium untypable, *V. cholerae* non O1.

AFRICA

Egypt: *S.* Infantis.

EUROPE

Unspecified: *S.* Dublin.
United Kingdom: *S.* Enteritidis PT 4.

PACIFIC

New Caledonia: *Sh. flexneri* 2a.
Solomon Islands: *Sh. sonnei* biotype g (2).
Papua New Guinea: *Y. enterocolitica.*

AMERICAS

USA: *S.* Virchow.
Mexico: *V. parahaemolyticus.*

Table 6. Cases of *Shigella* acquired in Australia, by State or Territory

Organism	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Total
Sh. boydii 4	0	1	0	0	0	0	0	0	1
Sh. boydii 14	0	0	1	0	0	0	0	0	1
Sh. flexneri	1	1	1	0	0	0	0	0	3
Sh. flexneri 1b	0	2	0	0	0	0	0	0	2
Sh. flexneri 2a	0	0	2	2	2	16	0	11	33
Sh. flexneri 3a	0	6	1	0	0	2	0	0	9
Sh. flexneri 3b	0	1	1	0	0	0	0	0	2
Sh. flexneri 6	0	0	1	1	3	11	0	5	21
Sh. flexneri var Y	0	1	0	0	0	0	0	4	5
Sh. sonnei	0	0	0	7	0	3	0	0	10
Sh. sonnei biotype a	0	2	1	1	6	0	0	26	36
Sh. sonnei biotype g	0	2	1	0	4	0	0	0	7
Total	1	16	9	11	15	32	0	46	130

UNSPECIFIED COUNTRIES:

S. Blockley (2), *S.* Enteritidis PT4 (2), *S.* Infantis, *S.* Stanley, *S.* Thompson, *S.* Typhimurium untypable, *Sh. flexneri* var Y, *Sh. sonnei*, *Sh. sonnei* biotype a, *Sh. sonnei* biotype g (3).

Shigella infections

A total of 164 reports of *Shigella* infections were received for this quarter. Of these, four were follow-up specimens, nine were from migrants or refugees and 21 were reported from travellers returning from overseas.

Table 7. Mixed infections, first (23) and second (18) quarters

Organisms isolated	Sex/Age (years)	State or Territory
S. Anatum, *Campylobacter*	M/1	ACT
S. Anatum, *C. jejuni*	F/<1	Qld
S. Ball, *S.* Tennessee	M/62	NT
S. Bredeney, *C. jejuni* subspecies *jejuni*	F/<1	Qld
S. Bredeney, *C. jejuni* subspecies *jejuni*	M/1	Qld
S. Derby, *S.* Weltevreden	F/31	NSW
S. Eastbourne, *S.* Oranienburg, *S.* Tennessee	F/1	WA
S. Enteritidis PT 4, *Yersinia* species, *Aeromonas* species, *Campylobacter* species	F/27	Qld
S. Enteritidis PT 4, *S.* Manhattan	F/41[1]	Vic
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/75	Tas
S. Hadar, *C. jejuni* subspecies *jejuni*	M/12	Vic
S. Havana, *Cryptosporidium* species	M/1	Qld
S. Havana, *S.* Typhimurium PT 9	M/8	SA
S. Heidelberg, *Campylobacter* species	M/18	NSW
S. Heidelberg, *Campylobacter* species	M/18	NSW
S. Hvittingfoss, *S.* Urbana	M/36	WA
S. Hvittingfoss, *Campylobacter* species	M/26[1]	NSW
S. Infantis, *Campylobacter* species	F/2	NT
S. Johannesburg, *S.* Muenchen	M/2	Qld
S. Lansing, *S.* Litchfield	F/1	WA
S. Mgulani, *S.* Saintpaul	M/1	Qld
S. Muenchen, *S.* Oranienburg	F/5	NT
S. Newport, *Sh. flexneri* 2a	M/2	SA
S. Oranienburg, *C. coli*	F/<1	NT
S. Paratyphi B Beccles var, *Sh. sonnei* biotype a	F/23[1]	Vic
S. Saintpaul, *Escherichia coli* O125:K70:B15	F/<1	Qld
S. Saintpaul, *Cryptosporidium* species	F/2	Qld
S. Saintpaul, *Cryptosporidium* species	F/1	Qld
S. Senftenberg, *Sh. flexneri* 1b	F/58[1]	Vic
S. Senftenberg, *S.* Treforest	M/<1	WA
S. Tennessee, *S.* Chester	M/<1	WA
S. Typhimurium PT 3, *C. jejuni*	M/32	Qld
S. Typhimurium PT 8, *Giardia* species	M/1	NSW
S. Typhimurium PT 9, *S.* Bovismorbificans	F/<1	WA
S. Typhimurium PT 9, *A. hydrophila*	F/3	Vic
S. Weilikade, *Giardia lamblia*	M/<1	Qld
S. Weltevreden, *S.* Typhimurium	F/<1	WA
S. Virchow, *C. jejuni*	M/1	Qld
Sh. flexneri 1b, *Giardia* species	M/29	NSW

1. Acquired overseas (F/41 Hong Kong, M/26 Philippines and Thailand, F/23 Indonesia, F/58 not specified).

This left a total of 130 cases reported as acquired in Australia (Table 6).

The most common *Shigella* was *Sh. sonnei* biotype a with 36 cases, followed by *Sh. flexneri* 2a with 33 cases. Of the total acquired in Australia, 68% were *Sh. flexneri* 2a, *Sh. flexneri* 6 and *Sh. sonnei* biotype a. There were no outbreaks of *Shigella* during the quarter and the percentage of reports due to these biotypes has therefore declined.

Shigella infections acquired overseas include *Sh. boydii* 17 (Malaysia), *Sh. boydii* 4 (Thailand), *Sh. dysenteriae* 2 (Nepal), *Sh. flexneri* 2a (Vanuatu), *Sh. flexneri* 3a (Afghanistan, Vietnam), *Sh. flexneri* 6 (Pakistan, Nepal), *Sh. sonnei* (Bali), *Sh. sonnei* biotype a (Indonesia), *Sh. sonnei* biotype g (Solomon Islands).

Mixed infections

There were 18 reports of mixed infections for the second quarter of 1992, and 23 for the first quarter, not included in the previous report (Table 7).

Top ten *Salmonella* serovars

Of the 1208 Australian acquired cases of *Salmonella* infection, 790 (65%) were isolates from the top ten serovars (Table 8). *S.* Typhimurium, with 367 cases from 40 phage types, was the most common serovar and accounted for 30% of the total Australian acquired cases.

Phage types 9 and 135 were the most common *S.* Typhimurium phage types with 79 and 51 cases respectively, of which 66% were from New South Wales and Victoria (Table 9). The top five phage types accounted for 58% of Australian acquired cases of *S.* Typhimurium.

Update

Seven cases of ***S.* Enteritidis PT 4** have been notified from Queensland since July 1992 and four of these, from the region around Cairns, were acquired in Australia. Enquiries revealed that one patient (F/2[illegible]) reported having acquired the infection at a catered function in September (see *CDI* 1993;**17**:158).

The number of cases of ***S.* Hadar** is continuing to rise steadily and, from October 1992 to the end of February

Table 8. Top ten *Salmonella* serovars

Serovar	Position in 1st quarter 1992	Number of cases	% of total	Origin/number of cases
S. Typhimurium[1]	1	367	30.4	Vic 110, NSW 100, WA 57
S. Virchow	2	84	6.9	Qld 75
S. Bovisborbificans[1]	-	66	5.5	Vic 23, Tas 19, NSW 10
S. Saintpaul	3	61	5.0	Qld 28, NT 12, WA 10
S. Chester	4	45	3.7	Qld 20, NT 8, WA 7
S. Heidelberg	10	37	3.1	Qld 22, NSW 12
S. Infantis	7	37	3.1	NT 11, NSW 7, WA 7
S. Birkenhead	5	32	2.6	NSW 17, Qld 13
S. Hadar	8	31	2.6	Vic 9, WA 9
S. Enteritidis	-	30	2.5	Qld 21, NSW 5
Total		790	65.4	

In: *S.* Bovismorbificans, *S.* Enteritidis.
Out: *S.* anatum (27 cases), *S.* Muenchen (25 cases).
1. associated with outbreaks.

Table 9. Top five phage types of *S.* Typhimurium

Phage type	Position in 1st quarter 1992	Number of cases	% of total	Origin/number of cases
9[1]	1	79	21.5	Vic 34, NSW 20, WA 18
135[1]	2	51	13.9	Vic 22, NSW 10, Qld 7
170	3	38	10.4	Vic 19, NSW 14
108	5	24	6.5	NSW 9, Qld 7, SA 7
126	4	23	6.3	NSW 13, SA 7
Total		215	58.6	

Just out: phage type 44 (22 cases SA 9, NSW 6, Vic 5).
1. associated with outbreaks.

1993, there were 42 cases reported to the NSSS from New South Wales, 40 from around Sydney and two from Orange.

Since September 1992 there have been several separate incidents of ***Sh. boydii* 1** reported as having been acquired in Australia. This particular serotype is usually isolated from travellers returning from the Indian subcontinent and is not a common notification to the NSSS. However, 47 cases have been notified from Western Australia since mid-September, 42 of which were from the north-west of the State and two from Geraldton. There were 14 cases in November and December. Five cases were notified from South Australia (Ceduna, Oodnadatta, Port Augusta, Coober Pedy and Adelaide) and eight from the Northern Territory (Alice Springs 4, Katherine 2, Darwin 1 and Tennant Creek 1). The latter case (F/46, Tennant Creek) had contact and shared food with workmates, some of whom were from India. One case (F/93) was notified from Mt Isa in February.

There were three cases of *S.* **Ohio** reported from young children in communities near Alice Springs in mid-December, two cases of *S.* **Johannesburg** in the children's ward at Mount Isa Hospital in mid-December and two cases of *S.* **ser 16:l,v:-** from infants in the Yarrabah community (far North Queensland) in November and December.

Six cases of *S.* **Zanzibar var 15+** were reported from the Cairns area on 1 November 1992. All except one (F/1) were adults.

Nine cases of *S.* **Wandsworth** have been reported since mid-November and eight of these were infants in the communities of Milingimbi and Numbulwar in Eastern Arnhem Land.

Three cases of *S.* **Bovismorbificans 14** in children (M/2, M/7, F/12) were reported from the Hunter region near Newcastle in early January.

Six cases of ***Sh. sonnei* biotype a** were reported from both adults and children in Moree in New South Wales at the end of January 1993.

CDI Editorial Comment

CDI sometimes receives comments about the way in which the names of the *Salmonella* serovars are presented in *CDI*, as it appears to differ from that used for other organisms, such as *Escherichia coli*.

The 1988 edition of the Kaufmann-White scheme updated *Salmonella* nomenclature, recognising that all *Salmonella* are classified as one species, *Salmonella enterica*[1]. Subspecies I, *Salmonella enterica* subspecies *enterica*, accounts for more than 99.5% of isolated *Salmonella* strains. Designation such as Typhimurium and Bovismorbificans refer to serovars within subspecies I, and not to individual species. The standard form is to present subspecies I serovar names capitalised, and not italicised. Full names therefore follow the format *Salmonella enterica* subspecies *enterica* serotype Typhimurium. The shortened form *Salmonella* Typhimurium is an accepted alternative, and the style used in *CDI*.

Further explanation of *Salmonella* nomenclature has been detailed by the *Salmonella* Reference Laboratory[1] and by David Old, in a recent editorial[2].

References

1. *Salmonella* Reference Laboratory. *Monthly report - April, 1988*. Adelaide: Institute of Medical and Veterinary Science, 1988.
2. Old DC. Nomenclature of *Salmonella* [editorial]. *J Med Microbiol* 1992;**37**:361-363.

GONOCOCCAL SURVEILLANCE, AUSTRALIA, 1 OCTOBER TO 31 DECEMBER 1992

(Contributed by the Australian Gonococcal Surveillance Programme - AGSP. Co-ordinator Dr J W Tapsall, The Prince of Wales Hospital, Sydney)

The antibiotic sensitivity of 498 isolates of Neisseria gonorrhoeae examined by participating laboratories in the December quarter of 1992 forms the basis of this report. All strains were tested for their sensitivity to penicillin and 422 for sensitivity to spectinomycin, ceftriaxone or ciprofloxacin and for high level tetracycline resistance. Results for penicillin are shown in the Table as aggregated data, which do not account for the sometimes considerable regional variation in patterns of antibiotic resistance. With the penicillin group of antibiotics, these differences are shown in the Table for those centres with large numbers of isolates.

As noted in our report for the September quarter 1992 (*CDI* 1993;**17**:119), there has recently been a considerable increase in the proportion of strains fully sensitive to the penicillins, particularly in male patients. Chromosomally mediated resistance to the penicillins was particularly noted in Sydney where strains of this type were more numerous than PPNG (penicillinase producing *N. gonorrhoeae* - plasmid mediated resistance). In Melbourne, a lower percentage of these so-called CMRNG were present. There were 44 strains of PPNG isolated in Australia, with Sydney and Melbourne together accounting for 33 of these and lower numbers in Perth, Adelaide and Brisbane. Again in this quarter Sydney was the only centre where local acquisition of PPNG was recorded, and these in low numbers, emphasising the declining importance of endemically acquired PPNG. In the corresponding period in 1991

there were 36 instances of infection with PPNG in Australia.

Four hundred and twenty-two of the isolates were examined for sensitivity to other agents. All strains were sensitive to ceftriaxone and spectinomycin but 15 isolates (3.5%) showed some level of resistance to the quinolones. These were detected in Sydney, Melbourne and Brisbane. High level tetracycline resistance (TRNG) was detected in Adelaide and Sydney, 2.6% of strains tested falling into this category.

The total number of strains tested (498) is a slight increase on both the 425 strains examined in the September quarter of 1992 and the 427 strains examined between October and December 1991.

Table. Penicillin sensitivity of *Neisseria gonorrhoeae* isolated in Australia, 1 October to 31 December 1992 (n tested = 498)

Centre	Percentage of Isolates[1]			
	Sensitive[2]	Less Sensitive[3]	Relatively Resistant[4]	PPNG[5]
Brisbane	28 (16.4)	64 (76)	0 (0)	8 (7.6)
Sydney	22.7 (21)	46.3 (52.4)	22.2 (15.3)	8.8 (11.3)
Melbourne	54.4 (28.3)	28.1 (58.2)	4.4 (1.5)	13.2 (12)
Adelaide	41.8	54.5	0	3.6
Australia	30.3 (21.1)	50.6 (65.9)	10.3 (4.7)	8.8 (8.4)

1. Figures in parentheses represent data from the corresponding period in 1991.
2. Sensitive, MIC ≤ 0.03 mg/L.
3. Less sensitive 0.06 - 0.5 mg/L.
4. Relatively resistant ≥ 1.0 mg/L.
5. PPNG = penicillinase producing *N. gonorrhoeae*.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization, the Department of Foreign Affairs and Trade and the United States Centers for Disease Control.

Cholera Update

All or parts of fifty-six countries were considered to be cholera infected on 8 April: Angola, Argentina, Belize, Benin, Bhutan, Bolivia, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, Chad, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Ecuador, El Salvador, French Guiana, Ghana, Guatemala, Guinea, Guyana, Honduras, India, Indonesia, Iraq, Kenya, Liberia, Malawi, Malaysia, Mali, Mauritania, Mexico, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Panama, Peru, Suriname, Rwanda, Sao-Tome and Principe, Swaziland, Tanzania, Togo, Tuvalu, Uganda, Ukraine, Venezuela, Vietnam, Zaire, Zambia and Zimbabwe.

Cases have been reported for February, March and April from Argentina, Belize, Bolivia, Brazil, Chile, Ecuador, El Salvador, Guatemala, Honduras, Malawi, Mexico, Mozambique, Nicaragua, Panama, Peru, Rwanda, Zambia and Zimbabwe.

E. coli O157:H7 infections in the United States

There has recently been two outbreaks of *E. coli* O157:H7 infections in the United States. The first began on 15 November 1992, and by 28 February this year had included more than 500 laboratory confirmed infections and four associated deaths[1]. The States of Washington, Idaho, California and Nevada all reported cases. An ongoing investigation has reported that the outbreak resulted from consumption of hamburgers from one restaurant chain. A meat traceback identified five slaughter plants in the United States and one in Canada as the likely sources of carcasses used in the contaminated hamburgers. Further tracing in the United States led to farms and auctions in six western States. The outbreak stimulated a multistate recall of unused hamburger patties in January.

In March, there was another outbreak of *E. coli* O157:H7 infections, in Oregon. By 7 April, there had been 10 confirmed cases and a further 51 probable cases. The outbreak was associated with salad dressing in another restaurant chain.

In Australia, *E. coli* O157:H7 infections are not notifiable, and there is no central data collection for information on cases. Reports of the organism can, however, be sent to the National *Salmonella* Surveillance Scheme, which is seeking data on the epidemiology of the organism in Australia.

Reference

1. Centers for Disease Control. O157:H7 infections from hamburgers - western United States, 1993. *MMWR* 1993;**42**:85-86.

COMMUNICABLE DISEASES SURVEILLANCE

Laboratory Reporting Schemes

There were 1,228 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 8, 9 and 10), and 136 reports of isolates from normally sterile sites (LabDOSS, Table 4).

- **Measles** was reported for 4 patients. Ages were 4 years, 9 years, 18 years and 22 years.
- There were 16 **rubella** reports this fortnight. Included were 3 reports in females in the age group 15 to 44 years, and a one year old male whose mother was 6 weeks pregnant. There has been a total of 230 reports so far this year, and 169 reports of infection in females in the age group 15 to 44 years since the current epidemic began in July last year (Figure 1).
- A total of 86 reports of **hepatitis C** were received. Included were 2 patients with a history of injecting drug use and one who was pregnant.
- There were 66 reports of **Ross River virus** infection. All diagnoses were presumptive (IgM). Locations (or reporting laboratories) were Victoria (29 reports), New South Wales (5), Western Australia (2) and Queensland (30). There have been 858 reports of Ross River virus infection so far this year, mainly from South Australia, Queensland and Victoria (Figure 2).
- **Barmah Forest virus** was reported for 6 patients (all IgM). All were aged between 43 and 64 years, all were from Queensland and all had specimen collection dates in March.
- A case of Australian encephalitis caused by **Murray Valley encephalitis virus** was reported from Western Australia. More details about this, and an associated case, are on page 192 of this issue of *CDI*.
- An isolation of **adenovirus type 28** was reported from a Melbourne laboratory. There have only been 20 reports of this virus previously received by this scheme, the last one in January 1992. The patient was a 29 year old HIV and CMV positive male who was febrile and had diarrhoea (faeces isolate).
- An **untyped adenovirus** was reported from a faeces sample from a 9 month old female who had been admitted with a history of 3 to 4 days' diarrhoea. The patient suffered cardiopulmonary arrest and subsequently died.
- There were 47 reports of **cytomegalovirus** infection. Included were 4 congenitally infected infants, a two month old male with a history of blood transfusion thought to be associated with the infection, 5 transplant patients, 4 patients who were HIV positive (one isolate from postmortem lung tissue), and a 26 year old female who was 5 weeks pregnant (probable primary infection).
- **Parvovirus** infection was reported for one patient, an 8 year old female. The reported syndrome was red cell maturation arrest, and the diagnosis was by detection of nucleic acid.
- There were 3 reports of **influenza**, 1 of **influenza A H_1N_1** (reported as single high titre) and 2 of **influenza B** (one isolation in Western Australia, one

Figure 1. Rubella laboratory reports, July 1992 to April 1993, by month of specimen collection and patient type

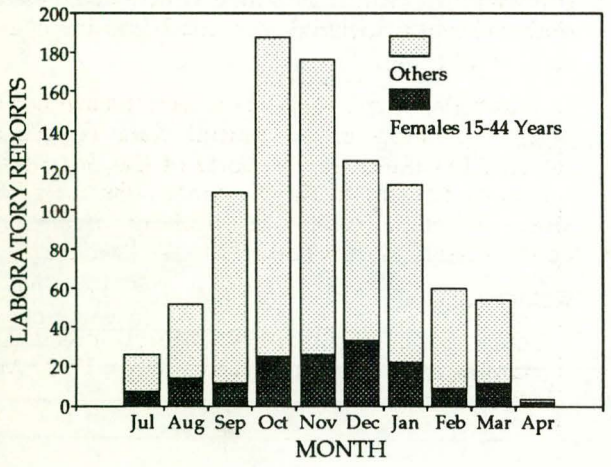
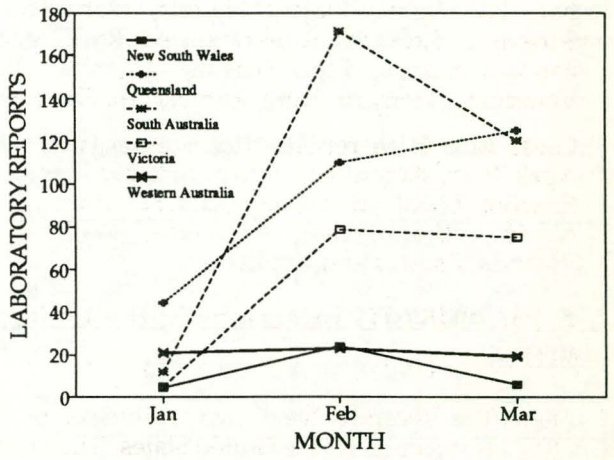
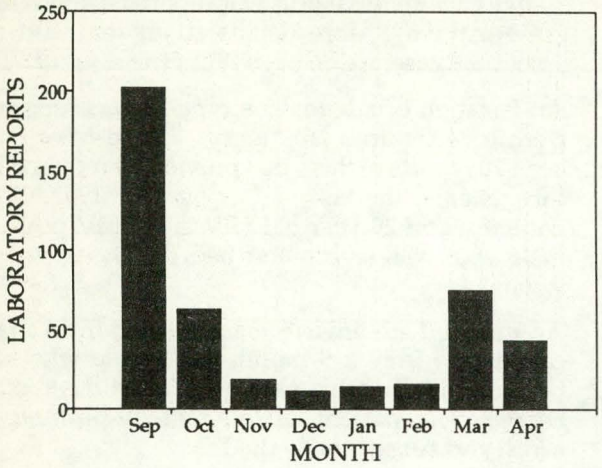


Figure 2. Ross River virus laboratory reports, 1993, by month of specimen collection and State or Territory of reporting laboratory[1]



1. Not included in the graph are 2 reports from the ACT in February and one report from Tasmania in January.

Figure 3. Respiratory syncytial virus laboratory reports, September 1992 to April 1993, by month of specimen collection



single high titre). The patient with the **influenza A H_1N_1** infection was a male aged 79 years.

- The seasonal peak in reports of **respiratory syncytial virus** is beginning. A total of 77 reports were received this fortnight, bringing the total for March to 75, the highest monthly total since September last year (Figure 3).
- **Rotavirus** reports are also beginning to be received in greater numbers; there were 33 this fortnight. Rotavirus reports usually peak in August-September.
- The 8 cases of **Q fever** reported came from laboratories in Queensland, New South Wales and Western Australia. There have been 103 reports of Q fever so far this year, more than the 60 to 70 usually reported in the first quarter each year.

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network collected data from 4,558 patient encounters in Week 16 and from 3,717 patient encounters in Week 17 (Table 1). Influenza and gastroenteritis were the most commonly reported conditions.

HIV and AIDS Surveillance

HIV and AIDS surveillance data are compiled by the National Centre in HIV Epidemiology and Clinical Research (NCHECR) from data supplied to the National HIV Database and the National AIDS Registry, which are maintained by the NCHECR on behalf of the States and Territories.

HIV and AIDS diagnoses and AIDS deaths reported for December 1992 and cumulative to 31 December 1992, as reported to 31 March 1993, are included in this issue of *CDI* (Tables 2 and 3).

Australian encephalitis in Western Australia

Two cases of Australian encephalitis caused by Murray Valley encephalitis (MVE) virus have been confirmed in Western Australia. Both patients came from the north-east of the State, one from Fitzroy Crossing, and the other from a community south of Hall's Creek.

The first patient was a one year old male who had encephalitis, was hospitalised in Perth, and was later able to return home. IgM to MVE virus was detected in two of his blood samples (one dated 1 April 1993). The second patient was also a one year old male, who had encephalitis and was hospitalised in Darwin, but died. His CSF and blood were both positive for IgM to MVE virus.

A third patient is also being investigated for possible Australian encephalitis. This 2 year old female was hospitalised in Darwin with encephalitis and fitting. Preliminary results have provided serological evidence of flavivirus infection.

These cases follow evidence from the Australian Encephalitis: Sentinel Chicken Surveillance Programme that there has been considerable and widespread flavivirus activity in the Kimberley recently. Chickens from flocks in Fitzroy Crossing and Halls Creek seroconverted to MVE virus or to MVE and Kunjin viruses in March (*CDI* 1993;**17**:169).

(State Health Laboratory, Perth)

Table 1. Australian Sentinel Practice Research Network, Weeks 16 and 17 1993

Condition	Week 16, to 18 April 1993		Week 17, to 25 April 1993	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	20	4.4	11	3.0
Measles	0	0	1	0.3
Rubella	0	0	1	0.3
Pertussis	0	0	0	0
Genital herpes	0	0	3	0.8
Gastroenteritis	48	10.5	42	11.3

Table 2. New diagnoses of HIV infection, new diagnoses of AIDS and deaths from AIDS occurring in the period 1 to 31 December 1992, by sex and State or Territory in which diagnosis was made

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA			
										This Period 1992	This Period 1991	Year to Date 1992	Year to Date 1991
HIV Diagnoses	Female	0	2	0	0	1	0	0	2	5	6	90	76
	Male	0	32	2	2	4	0	16	5	61	64	1109	1231
	Total[1]	0	35[2]	2	2	5	0	16	7	67[3]	74[4]	1219[5]	1401[6]
AIDS Diagnoses	Female	0	0	0	0	0	0	0	1	1	4	25	19
	Male	0	15	0	1	2	1	10	3	32	38	599	625
	Total[1]	0	15	0	1	2	1	10	4	34	42	626	646
AIDS Deaths	Female	1	0	0	1	0	0	0	0	2	0	13	4
	Male	0	7	0	5	2	0	18	1	33	22	473	242
	Total[1]	1	7	0	6	2	0	18	1	35	22	489	246

1. Persons whose sex was reported as transsexual are included in the totals.
2. Total for NSW for December includes 1 person whose sex was not reported.
3. Total for December 1992 includes 1 person whose sex was not reported.
4. Total for December 1991 inlcudes 4 persons whose sex was not reported.
5. Total for the year to date 1992 includes 18 persons whose sex was not reported.
6. Total for the year to date 1991 includes 93 persons whose sex was not reported.

Table 3. Cumulative diagnoses of HIV infection, AIDS and deaths from AIDS since the introduction of HIV antibody testing to 31 December 1992, by sex and State or Territory

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	AUSTRALIA
HIV Diagnoses	Female	8	453	6	60	36	3	116	39	721
	Male	133	8736	64	1123	482	64	2758	602	13962
	Total[1]	141	11219[2]	70	1186	518	67	2945[3]	642	16788[4]
AIDS Diagnoses	Female	2	75	0	14	9	2	17	9	128
	Male	43	2236	15	336	151	23	818	179	3801
	Total[1]	45	2316	15	351	160	25	838	188	3938
AIDS Deaths	Female	2	43	0	9	2	1	9	3	69
	Male	33	1409	6	214	89	13	563	114	2441
	Total[1]	35	1454	6	224	91	14	574	117	2515

1. Persons whose sex was reported as transsexual are included in the totals.
2. HIV total for NSW includes 2025 persons whose sex was not reported.
3. HIV total for VIC includes 64 persons whose sex was not reported.
4. HIV total for Australia includes 16 persons whose sex was reported as transsexual and 2089 persons whose sex was not reported.

Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by 7 laboratories. A total of 136 reports have been included: IMVS Adelaide 50, Gosford Hospital 10, Royal North Shore Hospital 42, Northern Tasmanian Pathology Service 23, Nambour Hospital 5, TB Lynch Rockhampton 3, Central Queensland Pathology Service 3.

Gosford Hospital also provided 36 reports for December 1992 and 84 reports for January and February 1993. These records have been merged with the total LabDOSS files for the respective years.

Organisms reported 5 or more times from blood are detailed in Table 4. Other blood isolates not included in Table 4 were:

Gram positive: 2 *Streptococcus sanguis*, 1 *Streptococcus "viridans"*, 1 *Streptococcus bovis* (endocarditis), 4 *Streptococcus pneumoniae*, 1 *Corynebacterium jekeium*, 4 *Enterococcus faecalis*, 1 *Enterococcus faecium*, 1 *Enterococcus* species.

Gram negative: 2 *Aeromonas* species (1 A. *hydrophila*, 1 A. *sobria*), 3 *Acinetobacter* species, 2 *Klebsiella oxytoca*, 3 *Serratia marcescens*, 1 *Pseudomonas* species, 1 *Haemophilus influenzae* (lower respiratory tract infection in a 29 year old patient), 1 *Salmonella* Typhi (from a New South Wales laboratory, history of overseas travel), 2 *Morganella morganii*, 1 *Proteus mirabilis*, 1 *Proteus vulgaris*, 1 *Xanthomonas maltophilia*.

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

Fungi: 1 *Cryptococcus neoformans* (HIV positive patient).

CSF isolates and meningitis reports

1 *Haemophilus influenzae* type b (6 month old female), 1 *Neisseria meningitidis* group B (Tasmanian laboratory, 3 month old female), 1 *Enterobacter aerogenes* (surgery).

Table 4. LabDOSS reports of blood isolates

Organism	Total[1]	Clinical Information						Risk Factors				
		Bone/Joint	Lower respiratory	Endocarditis	Gastrointestinal	Urinary Tract	Skin	Surgery	Immunosuppressed	IV line	Perinatal	Neonatal
Staphylococcus aureus	23[2]		3	1		1	6	3	7	2		
Staphylococcus coagulase negative	8				1	1	1		1			
Escherichia coli	29				11	9		1	7			
Klebsiella pneumonia	8		1		3		1		5			1
Enterobacter species	8[3]				1	1		1				
Pseudomonas aeruginosa	6				2	1	1	1	2			

1. Only organisms with 5 or more reports are included in this table.
2. MRSA 1.
3. *Enterobacter cloacae* 4.

Isolates from sites other than blood or CSF

Peritoneal dialysate: 1 *Escherichia coli*, 2 *Staphylococcus aureus*, 1 *Pseudomonas aeruginosa*, 2 *Staphylococcus epidermidis*.

Joint fluid: 2 *Staphylococcus aureus*, 1 *Proteus mirabilis*, 1 Group G *Streptococcus* (joint replacement).

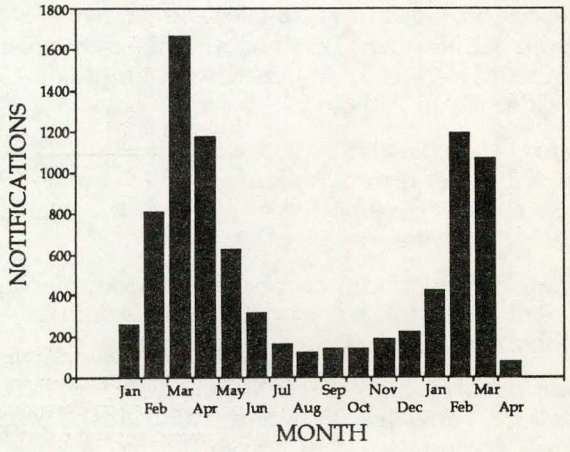
Other: 1 *Escherichia coli*, 1 *Proteus mirabilis*, 1 *Citrobacter freundii*.

National Notifiable Diseases Surveillance System, 4 to 17 April 1993

A total of 1,166 reports were received for this period. Reports were not available for South Australia (Figure 5, Tables 5, 6 and 7).

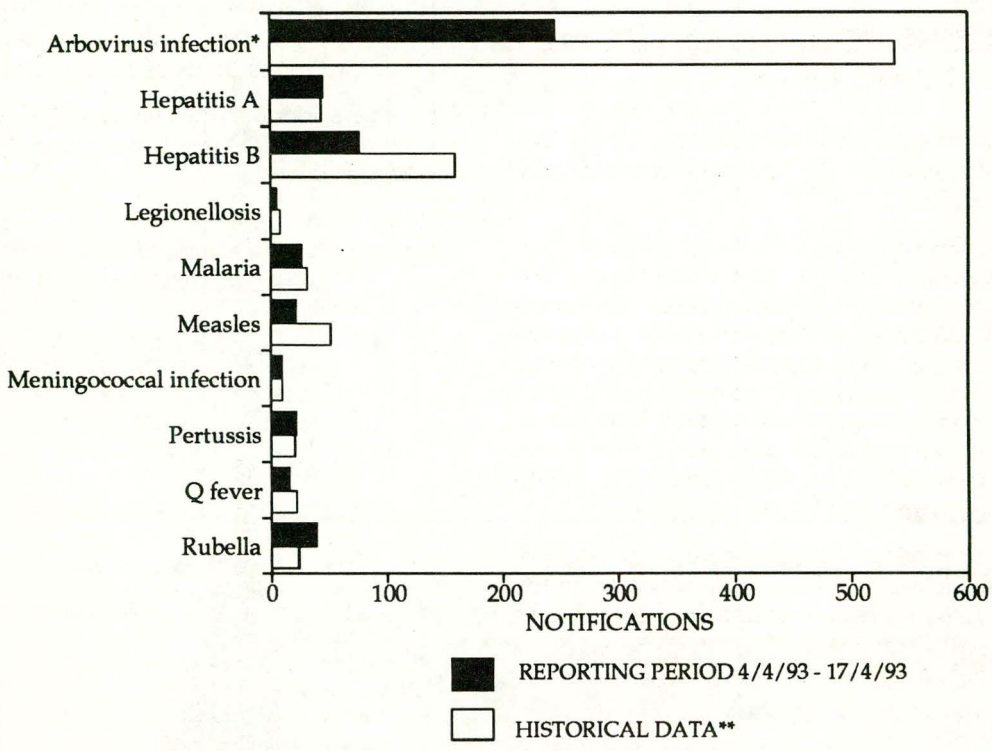
- There were 668 reports received of notifications of **Ross River virus infection.** This brings the total for 1993 to 2,958 (Figure 4). Reported cases this period comprised 120 males, 98 females and sex was unknown in 1 case. Ages reported ranged from the 5-9 to the 85-89 years age groups and dates of onset were recorded as January in 4 reports, February in 15, March in 140 and April in 60. Reports were for cases in statistical divisions in rural New South Wales, Queensland and Western Australia.
- Three notifications of **dengue** were received from the Townsville region. There were 2 males (in the 25-29 and 45-49 years age groups) and a female (in the 25-29 years age group). Onset dates were recorded as February.
- There were 58 notifications of **gonococcal infection** received. Of these, 46 were males and 12 females. There was one male and one female in the 10-14 years age group.
- Reports of ***Haemophilus influenzae* type b infection** were received for 13 cases. These comprised 6 males, 6 females and one case of unrecorded sex. Three (2 males and one sex unrecorded) were aged less than one year and nine were aged less than 5 years. There was one apparent cluster of 2 cases occurring on the same day in the same postcode area.
- Forty-seven notifications of **hepatitis A** were received. Sex was recorded as male for 25 cases and female for 22. Recorded ages ranged from the 0-4 to the 65-69 years age groups, the modal age being the 5-9 years age group with 10 cases. Cases occurred in residents of 15 statistical divisions.
- There was a single report of **hydatid infection,** in a female in the 60-64 years age group from rural Queensland.

Figure 4. Notifications of Ross River virus infection, 1991 to April 1993 by month of onset



- Seven reports of **legionellosis** were received, 3 males and 4 females. Ages ranged from the 45-49 to the 75-79 years age groups. There was no apparent clustering of cases.
- A single case of **leprosy** was reported in a male in the 15-19 years age group.
- Four cases of **leptospirosis** were notified, all males with ages in the 20-24 to the 50-54 years age groups. All occurred in residents of rural Queensland and 2 had onset dates within 6 days of each other in the same postcode area.
- Twenty-eight cases of **malaria** were notified this period, 19 males and 9 females, with ages in the 5-9 to 45-49 years age groups. One case was recorded as being from the 'malaria receptive' zone.
- There were 23 notifications of **measles** received. Twelve were males and 11 were females. For 2 cases the age was recorded as less than one year and the mean age was 7.8 years. There were 2 apparent clusters in 3 postcode areas with 5 cases over a period of 28 days and 4 cases over a period of 22 days respectively.
- Ten cases of **meningococcal infection** were notified this period, 6 males and 4 females. Ages ranged from the 0-4 years to the 45-49 years age groups. There was no apparent clustering of cases.
- Twenty-two reports of **pertussis** notifications were received, 15 males and 7 females. Of these cases, 3 were aged less than 5 years and one less than one year. There was an apparent cluster in a single postcode area with 2 cases occurring on the same day.
- Sixteen notifications of **Q fever** were reported this period, 14 males and 2 females. Ages ranged from the 15-19 years to the 60-64 years age groups.
- Forty-one reports of **rubella** were received. Sex was recorded as male for 27 cases and female for 14. Ages ranged from the 5-9 to the 55-59 years age groups and the mean age was 27.2 years. There were 10 reports for females in the 15-44 years age group. There were 4 apparent clusters in separate postcode areas with 2 cases (3 apparent clusters) and 6 cases (one apparent cluster) each. Onset dates were on the same day or separated by intervals up to 15 days.
- There were 58 notifications of **syphilis** received. Thirty-two were males and 26 were females. Two cases were aged less than 10 years.
- Fourteen cases of **tuberculosis** were notified this period. One case was aged less than one year and the remainder were in the 35-39 to the 75-79 years age groups. Males accounted for 7 cases, females for 6 and sex was not recorded in one case.

Figure 5. 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 5. Notifiable Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 4 to 17 April 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	0	3	4
Measles	0	18	0	4		0	1	0	23	31	337	305
Mumps	0	0	NN	NN	NN	NN	0	0	0	3	0	10
Pertussis	0	8	0	8		0	0	6	22	33	443	152
Poliomyelitis	0	0	0	0		0	0	0	0	0	0	0
Rubella[2]	1	4	0	36		0	0	0	41	20	1016	143
Tetanus	0	0	0	NN		0	0	0	0	0	3	4

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

NN Not Notifiable.

Table 6. Other Notifiable Diseases[1], for the reporting period 4 to 17 April 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	3	NN	19		1	0	2	25	15	224	118
Ross River virus infection	0	35	1	177	-	NN	1	5	219	668	2958	3018
Dengue	0	-	0	3	-	NN	0	NN	3	2	44	7
Campylobacteriosis[4]	2	-	8	110		5	0	24	149	271	2367	2476
Chlamydial infection (NEC)[5]	0	NN	31	79		12	1	0	123	526	1603	2108
Donovanosis	0	NN	1	0	NN	NN	0	0	1	7	13	20
Gonococcal infection[6]	2	3	18	31		0	0	4	58	179	821	821
Haemophilus influenzae b infection[7]	0	5	NN	4		0	4	0	13	8	118	120
Hepatitis A	0	14	1	30		0	0	2	47	91	586	636
Hepatitis B	0	1	2	65		1	0	8	77	209	681	1411
Hepatitis C	5	0	NN	95	NN	6	0	0	106	293	1378	2278
Hepatitis (NEC)	0	0	0	6		0	0	NN	6	1	28	9
Legionellosis	0	2	0	2		0	2	1	7	4	43	36
Leptospirosis	0	0	0	4		0	0	0	4	4	53	34
Listeriosis	0	0	NN	0	NN	0	0	0	0	2	12	11
Malaria	1	2	16	4		2	2	1	28	32	214	222
Meningococcal infection	0	7	0	0		0	1	2	10	9	64	46
Ornithosis	0	NN	0	0		0	0	0	0	3	27	32
Q fever	0	4	0	8		0	1	3	16	20	194	133
Salmonellosis (NEC)	0	31	5	67		5	3	44	155	254	1742	1948
Shigellosis[4]	0	-	0	18		0	0	7	25	21	311	182
Syphilis	0	12	25	21		0	0	0	58	137	601	711
Tuberculosis	0	3	0	6		0	1	4	14	42	227	208
Typhoid[8]	0	0	0	0		0	0	0	0	2	17	23
Yersiniosis (NEC)[4]	0	-	0	17		0	0	0	17	40	140	224

1. For HIV infection and AIDS, see Tables 2 and 3. For rarely notified diseases, see Table 7.
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. SA: only as 'bacterial meningitis'; meningococcal infection is separately notified; Tas: only as 'non-meningococcal meningitis'; Vic: epiglottitis and meningitis only.
8. NSW and Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 7. Rarely Notified Diseases[1] for the reporting period 4 to 17 April 1993

DISEASES	Total This Period	Reporting States or Territories	Year to Date 1993
Botulism	0		0
Brucellosis	0		9
Chancroid	0		1
Cholera	1	Qld	2
Hydatid infection	1	Qld	11
Leprosy	1	NT	4
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 8. Laboratory reports by State or Territory of reporting laboratory for the reporting period 8 to 21 April 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	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA									
Measles virus		1	2		1		4	7.5	141
Mumps virus			1		1	1	3	1.7	20
Rubella virus		2	13		1		16	5.3	472
HEPATITIS VIRUSES									
Hepatitis A virus		3	6			5	14	13.0	232
Hepatitis B virus	2	24	47		28	23	124	82.5	951
Hepatitis C virus	2		32	1		51	86	45.5	1,203
Hepatitis D virus			19				19	1.5	27
ARBOVIRUSES									
Ross River virus		5	30		29	2	66	123.3	956
Barmah Forest virus			6				6	14.5	89
MVE virus						1	1	.8	1
ADENOVIRUSES									
Adenovirus type 1		2					2	3.3	33
Adenovirus type 2		3			1		4	4.0	28
Adenovirus type 3	3	3			3		9	2.8	73
Adenovirus type 4					1		1	1.2	49
Adenovirus type 8					1		1	.3	7
Adenovirus type 26					1		1	.7	1
Adenovirus type 28					1		1	.0	1
Adenovirus type 40		1					1	.2	6
Adenovirus not typed/pending		9	19		1	12	41	32.5	418
HERPES VIRUSES									
Herpes simplex virus type 1		15	67		36	16	134	117.3	1,549
Herpes simplex virus type 2		22	88		23	26	159	151.3	1,747
Herpes simplex not typed/pending		20			2	4	26	27.2	227
Cytomegalovirus		9	12	1	11	14	47	73.8	565
Varicella-zoster virus		7	10		7	4	28	17.2	339
Epstein-Barr virus		15	13		3	5	36	51.2	731

Table 8. Laboratory reports by State or Territory of reporting laboratory for the reporting period 8 to 21 April 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	Tas	Vic	WA			
OTHER DNA VIRUSES									
Parvovirus				1	1		2	1.8	51
PICORNA VIRUS FAMILY									
Coxsackievirus A9		3					3	.5	23
Coxsackievirus A16				1			1	.0	8
Coxsackievirus B1		4					4	.7	50
Coxsackievirus B3				1	1		2	.5	4
Echovirus type 7		7			1		8	.0	71
Echovirus type 9				2	2		4	1.7	39
Echovirus type 11		1			1		2	.2	12
Echovirus type 14		1			1		2	.2	7
Echovirus type 19						1	1	.0	3
Echovirus type 30					1		1	.0	3
Poliovirus type 1 (uncharacterised)		1					1	1.7	21
Poliovirus type 2 (uncharacterised)		1					1	1.3	13
Poliovirus type 3 (uncharacterised)		2					2	.8	11
Rhinovirus (all types)	1	2	16	1	3	2	25	21.2	264
Enterovirus not typed/pending		10	20			5	35	33.7	261
ORTHO/PARAMYXOVIRUSES									
Influenza A virus H_1N_1		1					1	.0	2
Influenza B virus			1			1	2	1.8	22
Parainfluenza virus type 2		1	7				8	5.2	15
Parainfluenza virus type 3		2	10		1	1	14	18.3	182
Parainfluenza virus typing pending						1	1	5.5	5
Respiratory syncytial virus		21	52	2	4	1	80	33.0	168
OTHER RNA VIRUSES									
HIV-1			1			4	5	1.5	33
HTLV-1						1	1	.3	4
Rotavirus		2	1	2		28	33	32.0	328
Coronavirus		1					1	.7	9
Small virus (like) particle		1			1		2	3.0	20
OTHER									
Chlamydia trachomatis not typed		17	42	1	7	13	80	90.3	1,071
Chlamydia psittaci				1	3		4	6.0	36
Mycoplasma pneumoniae		18	16		7	3	44	16.8	766
Coxiella burnetii (Q fever)		4	3			1	8	13.5	154
Streptococcus group A			9				9	.0	100
Bordetella pertussis		1			1		2	.0	48
Bordetella species			4				4	.0	87
Treponema pallidum			2				2	.0	247
Toxoplasma gondii			3				3	.0	24
TOTAL	8	242	552	14	186	226	1,228	1,070.8	14,028

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 9. Laboratory reports by clinical information for the reporting period 8 to 21 April 1993

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus												4	4
Mumps virus												3	3
Rubella virus								7		3		6	16
HEPATITIS VIRUSES													
Hepatitis A virus							9					5	14
Hepatitis B virus							45			1		78	124
Hepatitis C virus							5					81	86
Hepatitis D virus							19						19
ARBOVIRUSES													
Ross River virus								2		45		19	66
Barmah Forest virus								1		2		3	6
MVE virus	1												1
ADENOVIRUSES													
Adenovirus type 1						1						1	2
Adenovirus type 2					1	3							4
Adenovirus type 3					3	1			4			1	9
Adenovirus type 4									1				1
Adenovirus type 8									1				1
Adenovirus type 26						1							1
Adenovirus type 28						1							1
Adenovirus type 40						1							1
Adenovirus not typed/pending					18	10		1	8			4	41
HERPES VIRUSES													
Herpes simplex virus type 1					7	1		75	12		33	6	134
Herpes simplex virus type 2								59			88	12	159
Herpes simplex not typed/pending	1				3			13	1		1	7	26
Cytomegalovirus				4	19		1					23	47
Varicella-zoster virus					2			19		1		6	28
Epstein-Barr virus					7		3	1		2		23	36
OTHER DNA VIRUSES													
Parvovirus								1				1	2
PICORNA VIRUS FAMILY													
Coxsackievirus A9		2										1	3
Coxsackievirus A16								1					1
Coxsackievirus B1						2		1				1	4
Coxsackievirus B3					2								2
Echovirus type 7		1			1	2						4	8
Echovirus type 9		3										1	4
Echovirus type 11		1				1							2
Echovirus type 14		1										1	2
Echovirus type 19	1												1
Echovirus type 30		1											1
Poliovirus type 1 (uncharacterised)												1	1
Poliovirus type 2 (uncharacterised)												1	1

Table 9. Laboratory reports by clinical information for the reporting period 8 to 21 April 1993, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
Poliovirus type 3 (uncharacterised)												2	2
Rhinovirus (all types)					23			1				1	25
Enterovirus not typed/pending		4	2		10	9		1	1			8	35
ORTHO/PARAMYXOVIRUSES													
Influenza A virus H_1N_1					1								1
Influenza B virus					1	1							2
Parainfluenza virus type 2					8								8
Parainfluenza virus type 3					14								14
Parainfluenza virus typing pending					1								1
Respiratory syncytial virus					77			1				2	80
OTHER RNA VIRUSES													
HIV-1												5	5
HTLV-1												1	1
Rotavirus						33							33
Coronavirus						1							1
Small virus (like) particle						2							2
OTHER													
Chlamydia trachomatis not typed									3		62	15	80
Chlamydia psittaci					4								4
Mycoplasma pneumoniae					25							19	44
Coxiella burnetii (Q fever)												8	8
Streptococcus group A								1				8	9
Bordetella pertussis					2								2
Bordetella species												4	4
Treponema pallidum												2	2
Toxoplasma gondii							1					2	3
TOTAL	3	13	2	4	229	70	83	185	31	54	184	370	1228

Table 10. Laboratory reports by contributing laboratories for the reporting period 8 to 21 April 1993

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	8
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	205
	Prince Henry/Prince of Wales Hospitals, Sydney	4
	Royal Alexandra Hospital for Children, Camperdown	33
Queensland	Dr TB Lynch, Pathologist, Rockhampton	28
	Queensland Medical Laboratory, West End	282
	State Health Laboratory, Brisbane	242
Tasmania	Northern Tasmanian Pathology Service, Launceston General Hospital	14
Victoria	Fairfield Hospital, Melbourne	179
	Microbiological Diagnostic Unit, University of Melbourne	7
Western Australia	Princess Margaret Hospital, Perth	59
	State Health Laboratory Services, Perth	167
TOTAL		1228