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

NATIONAL SALMONELLA SURVEILLANCE SCHEME HUMAN FIRST QUARTER REPORT 1992

(Reproduced with acknowledgement from the National Salmonella Surveillance Scheme, Human First Quarter Report, 1992, Editor Joan Powling)

Human Isolates - First Quarter 1992

A total of 2,197 reports were received for the first quarter of 1992 (Table 1).

There were 1718 Australian acquired salmonellosis cases notified during this quarter which was almost 16% less than the total for the same period in 1991 (2039). There were 121 Australian acquired shigellosis cases compared to 233 in the corresponding period last year, a decrease of 48 percent. No outbreaks of *Shigella* infection were notified during the quarter which accounts for the much lower total.

By comparison to the same period last year the salmonellosis case rate per 100,000 head of population decreased in all states except Queensland where there was a 62 percent increase. The biggest percentage decreases in case rates were recorded in South Australia (52%), Tasmania (40%, Victoria (45%) and New South Wales (33%).

The top ten *Salmonella* serovars accounted for 67 percent of all Australian-acquired cases in this quarter (67% Q1/1991 also). *S Typhimurium* was at the top of the list with 510 cases (30 percent of total) and of these PT 9 was the most common phage type with 72 cases, 72 percent of which were from Victoria and New South Wales. The next most common serovars were S Virchow (138 cases) and S Saintpaul (134 cases) of which 75 percent of the combined total were notified from Queensland. There were no recorded outbreaks of these two serovars, simply an increase in the number of reported cases.

Only three outbreaks were notified during this quarter, the largest being that of S Typhimurium RDNC+ with 28 cases from Perth between mid February and late March (Table 2).

There were 99 serovars of *Salmonella* isolated from the 1718 cases (108 serovars, Q1/1991). Of these, 93 serovars were from subspecies 1 (8 phage types of S Bovismorbificans, 4 of S Enteritidis, 3 of S Heidelberg and 45 of S Typhimurium), 1 from subspecies 2, 4 from subspecies 3 (S Arizonae) and one from subspecies 4.

New and unusual *Salmonella* serovars notified during the quarter included S Bonn (M/34, Vic), S Bron (M/38, SA), S Kisangani (F/2 and F/10, WA), S Telelkebir (M/29, Tas ex Madagascar). S Bron, first isolated in 1962 from Germany, and S Telelkebir, first isolated in 1951 in Egypt, are new records for the NSSS.

Unusual phage types of S Typhimurium notified during the quarter were PT 123 (NSW); PT 142 (Vic); PT 168 (NSW); PT 3 (Qld 3) and PT 38 (NSW).

Salmonella Infections - Case Rates

The total number of salmonellosis cases acquired in Australia for the period was 1718. There were 11 cases from migrants and refugees, 122 follow-ups and 89 cases acquired overseas. Case rate comparisons for recent years are presented in Table 3.

Table 1. Total reports received, National *Salmonella* Surveillance Scheme, human first quarter 1992

	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Total
Salmonella	15	426	283	707	86	248	52	123	1940
Shigella	1	22	18	9	19	41	-	40	150
Aeromonas	-	-	3	-	-	-	-	-	3
Campylobacter	-	-	7	-	-	-	-	-	7
Plesiomonas	-	1	1	-	-	-	-	-	2
Vibrio	1	1	-	-	-	-	-	-	2
Yersinia	-	40	3	40	5	-	-	5	93
Total	17	490	315	756	110	289	52	168	2197

Table 2. Salmonellosis outbreaks, human first quarter 1992

	Place	Number of cases	Period
S Bovismorbificans 7	Tasmania	5	Feb-March*
S Tennessee	Perth	5	5th February
S Typhimurium RDNC+	Perth	28	Feb-March

* outbreak continued Q2/1992

Infections Acquired Overseas (excluding enteric fever):

ASIA (unspecified): S Blockley, S Virchow, *Sh flexneri* 1b, S Infantis, S Kentucky, S Newport, S Virchow, *Sh flexneri* 2a, *Sh flexneri* var X **Bali:** S Blockley, S Hadar, S Isangi, S Javiana, S Livingstone, S Potsdam, *Sh sonnei* biotype e **Sri Lanka:** S Bareilly, S Enteritidis PT 7a **India:** S Montevideo, *Sh dysenteriae* 2, *Sh flexneri* 1b **Nepal:** S Infantis, *Sh flexneri* 3a **Thailand:** *Pl shigelloides*, S Anatum, S Blockley, S Bovismorbificans PT 16, S Chester, S Derby, S Enteritidis PT 4, S Hadar, S Javiana, S Krefeld, *Sh flexneri* 1a, *Y enterocolitica* O3 Bio4 **Singapore:** S Agona **Hong Kong:** S Enteritidis PT 4 (2), S Manhattan **Philippines:** S Hvittingfoss (2) **Vietnam:** S Chester **Cambodia:** *C coli*, *Sh flexneri* 2a **Papua New Guinea:** S Mbandaka, S Reading, S Uganda, S Virchow, *Sh flexneri* 6

AFRICA (unspecified): S Blockley **Mozambique:** S Senftenberg **Egypt:** *Sh flexneri* 1a **Madagascar:** S Telelkebir

PACIFIC New Caledonia: *Sh flexneri* 2a

AMERICAS Argentina: S Enteritidis PT 4 (2)

EUROPE Britain: S Blockley, S Enteritidis PT 4, *Sh sonnei* **Yugoslavia** S Typhimurium PT 8

Plus from unspecified countries: S Blockley (2), S Derby, S Emek,

(S Hadar, S Heidelberg, S Potsdam, S Saintpaul, S Virchow, S Weltevreden, *Sh boydii* 2, *Sh flexneri* 6)

Shigella Infections

There were 150 reports of *Shigella* infection notified during this quarter. Of these 7 were follow-up specimens, 6 were from migrants and refugees and 16 were notified from travellers returning from overseas leaving a total of 121 cases assumed to have been acquired in Australia. See Table 4.

Sh flexneri 2a, *Sh flexneri* 6 and *Sh sonnei* biotype a accounted for 76% of the total cases of shigellosis acquired in Australia. The most common serotype was *Sh sonnei* biotype a with 41 cases.

Shigella infections acquired overseas include *Sh boydii* 2 (not specified) *Sh boydii* 4 (Vietnam) *Sh dysenteriae* 2 (India), *Sh flexneri* 1a (Egypt), *Sh flexneri* 1b (India, South-east Asia), *Sh flexneri* 2a (Indonesia, Cambodia and New Caledonia), *Sh flexneri* 3a (Nepal), *Sh flexneri* 6 (Papua New Guinea), *Sh flexneri* var X (Indonesia), *Sh sonnei* biotype a (Tonga and Bali), *Sh sonnei* (Britain).

Table 3. Case rates per 100,000 for *Salmonella* infections for first quarters for 1989 to 1992 and last quarter 1991

	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Total
1st Q 1992	4.8	6.9	5.0	25.4	5.9	16.1	11.2	73.6	1718
4th Q 1991	5.6	5.0	3.5	14.1	5.1	8.5	4.8	54.9	1084
1st Q 1991	7.6	9.9	9.1	15.7	12.2	17.1	22.0	90.4	2039
1st Q 1990	8.4	9.3	7.3	24.2	16.6	20.2	11.7	91.7	2145
1st Q 1989	6.8	9.5	8.0	19.0	12.5	15.0	18.8	56.2	1902

Table 4. *Shigella* infections acquired in Australia, human first quarter 1992

Organism	ACT	NSW	Vic	Qld	SA	WA	Tas	NT	Total
Sh flexneri	-	1	-	-	-	-	-	-	1
Sh flexneri 1a	-	1	-	-	-	-	-	-	1
Sh flexneri 1b	-	3	1	-	-	-	-	-	4
Sh flexneri 2a	-	3	-	1	4	9	-	11	28
Sh flexneri 3a	-	-	-	-	1	-	-	-	1
Sh flexneri 3c	-	1	-	-	-	-	-	-	1
Sh flexneri 4a	1	1	-	1	-	-	-	1	4
Sh flexneri 4a mannitol neg	-	-	-	-	-	-	-	1	1
Sh flexneri 6	-	-	-	-	-	15	-	8	23
Sh flexneri var Y	-	-	1	1	-	-	-	-	2
Sh sonnei	-	-	-	-	-	5	-	2	7
Sh sonnei biotype a	-	4	1	4	11	8	-	13	41
Sh sonnei biotype g	-	3	2	-	1	-	-	1	7
Total	1	17	5	7	17	37	-	37	121

Top Ten *Salmonella* Serovars

Of the 1718 Australian acquired cases of *Salmonella* infection 1145 (67%) were isolates from the top ten *Salmonella* serovars (Table 5). Their position in the previous quarter (Q4/1991) is also given where applicable. In this quarter only one of the top ten salmonellas (S Typhimurium RDNC+ from WA) was associated with an outbreak.

S Typhimurium with 510 cases from 45 phage types, was the most common *Salmonella* serovar and accounted for almost 30 percent of the total Australian acquired cases of salmonellosis. S Typhimurium PT 9 was the most common phage type with 72 cases mainly from Victoria and New South Wales. The top five phage types accounted for 46% of Australian acquired cases of S Typhimurium (Table 6).

Table 5. Top ten *Salmonella* serovars, human first quarter 1992

	Position Q4/1991	No. of cases	% of total	Origin/No. of cases
S Typhimurium	1	510	29.7	NSW 180, Vic 124
S Virchow	5	138	8.0	Qld 119
S Saintpaul	4	134	7.8	Qld 85, WA 17, NT 15
S Chester	6	66	3.8	Qld 26, NSW 15, WA 10
S Birkenhead	7	64	3.7	Qld 33, NSW 30
S Muenchen	10	64	3.7	Qld 30, WA 15
S Infantis	9	58	3.4	NSW 18, Vic 13, SA 10
S Hadar	-	40	2.3	Vic 18, NSW 12
S Anatum	8	37	2.2	Qld 16
S Heidelberg	3	34	2.0	Qld 20, NSW 12
Total		1145	66.6	

In: S Hadar
Out: S Bovismorbificans

Table 6. Top five phage types of Salmonella Typhimurium, human first quarter 1992

Phage type	Position Q4/1991	No. of cases	% of total	Origin/No. of cases
9	2	72	14.1	Vic 30, NSW 22
135	1	63	12.4	Vic 19, NSW 18
170	4	46	9.0	Vic 28, NSW 11
126	-	32	6.3	NSW 25
108	-	20	3.9	NSW 9, Qld 6
Total		233	45.7	

In: phage types 126, 108
Out: phage types 12a, 101

Table 7. Typhoid and Paratyphoid cases, human first quarter 1992

Vi-phage type	Sex/Age	State	Notes
S Typhi: 22 cases			
38	F/26	Vic	from El Salvador
A	F/70	Qld	from the Philippines
A	M/17	ACT	from Pakistan
A	M/9	Vic	from Bangladesh
A	F/42	NSW	ex overseas, not specified
B1 var	M/14	Vic	ex overseas, not specified
D2	M/17	Qld	from Papua New Guinea
D2	M/49	Qld	from Papua New Guinea
E1	M/15	NSW	from India
E1	F/31	NSW	recent travel in India
E1	F/11	NSW	no details (Indian surname)
E1	F/20	NSW	recent travel in India
E2	M/26	NSW	from the Philippines
E7	M/40	NSW	from Western Samoa
degraded	M/36	Vic	no details, Asian surname
degraded	M/15	Vic	returned from Lebanon,family
degraded	M/13	Vic	brother of M/15 above
degraded	F/28	Vic	ex Thailand and Indonesia
degraded	M/53	NSW	recent travel in the Philippines
untypable	M/32	WA	Indian ex Afghanistan
untypable	F/53	SA	no travel in last seven years
untypable	F/32	WA	ex Indonesia
S Paratyphi A: 7 cases			
1	M/21	Vic	recent visit to Indonesia
1	M/26	Vic	recent travel in Malaysia
1	F/ns	Vic	visiting from Sri Lanka
1	M/1	Vic	grandson of F/ns above
2	F/39	NSW	visited India
2	M/16	ACT	brother of M/17 S Typhi A (Pakistan)
RDNC	F/22	SA	no details
S Paratyphi B: 4 cases			
3al var	M/26	Vic	worker, sewage treatment plant
Battersea	M/2	Qld	no details supplied
Beccles var	F/23	Vic	travel in Indonesia
Dundee var	M/ns	NSW	no details supplied

Table 8. Isolates from Blood, Urine and Unusual Sites, human first quarter 1992

Organism	Sex/Age	State	Organism	Sex/Age	State
Bacteraemias excluding enteric fever (31):					
S Aberdeen	M/ns	Qld	S Saintpaul	M/<1	Qld
S Abony	F/2	Qld	S Saintpaul	F/1	Qld
S Abony	F/2	Qld	S Telelkebir	M/29*	Tas
S Adelaide	F/1	NT	S Typhimurium 126	M/59	NSW
S Chester	M/<1	NT	S Typhimurium 38	M/75	NSW
S Chester	M/2	Qld	S Typhimurium 9	M/12	NSW
S Chester	F/73	NSW	S Typhimurium	F/3	Vic
S Dublin	M/40	WA	S Virchow	M/4	Qld
S Dublin	F/28	WA	S Virchow	F/<1	Qld
S Enteritidis 26	M/45	ACT	S Virchow	M/<1	Vic
S Enteritidis 4	M/54*	WA	S Virchow	M/77	Qld
S Heidelberg	M/8	NSW	S Virchow	M/<1	Qld
S Heidelberg 1	M/2	Qld	S Waycross	M/2	Qld
S Kinondoni	M/<1	Qld	S Waycross	M/1	NSW
S Meunchen	M/<1	Qld	*Y enterocolitica* 0:3 Bio 4	F/66	NSW
S Ohlstedt	F/<1	Qld			
Urines (18):					
S4, 12:d:-	F/69	Vic	S Poona	M/5	NT
S Agona	F/27	Vic	S Potsdam	F/81	Qld
S Derby	M/67	NSW	S Saintpaul	F/21	Qld
S Enteritis RDNC	F/44	Vic	S Typhimurium 170	M/<1	Vic
S Give	F/77	SA	S Typhimurium RDNC	F/59	SA
S Infantis	F/57	Vic	S Virchow	F/44	Qld
S Litchfield	F/65	Qld	S Virchow	M/41	Qld
S Liverpool	F/34	Vic	S Virchow	M/2	Qld
S Meunchen	F/25	Qld	S Virchow	M/77	Qld
Unusual Sites (5):					
S Aberdeen	M/ns	Qld	CSF, blood and faeces; meningitis		
S Chester	M/<1	NT	CSF; meningitis		
S Saintpaul	M/<1	Qld	CSF		
S Virchow	M/77	Qld	knee aspirate, blood and faeces		
Y enterocolitica 0:7,8 Bio 1A	F/1	NSW	Sputum; bronchiectasis		

* acquired overseas (M/54 Hong Kong, M/29 Madagascar)

ns = not stated

GONOCOCCAL SURVEILLANCE - AUSTRALIA, 1 JULY TO 30 SEPTEMBER 1992

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

This report details the antibiotic sensitivity of isolates of *Neisseria gonorrhoeae* examined by Australian Gonococcal Surveillance Programme participating laboratories in the September quarter of 1992. Four hundred and twenty five strains were examined for their sensitivity to penicillin and 360 for sensitivity to spectinomycin, ceftriaxone and ciprofloxacin and for high level tetracycline resistance (TRNG). The results obtained are shown in Tables 1 and 2 as aggregated national data. However considerable regional variation in patterns of gonococcal sensitivity to antibiotics is known to exist. This is demonstrated for penicillin by showing data from the three centres with the largest number of isolates. The low number of strains resistant to the other antibiotics precludes a similar analysis for these agents, although in general terms resistance is seen most often in the more populous areas.

One notable aspect of this report is the continuing increase in the number and proportion of isolates from male patients in Sydney and Melbourne which are fully sensitive to penicillin. This trend has been evident for some time in these centres and also to a lesser degree in Brisbane. PPNG were isolated less frequently in this quarter than in the preceding June quarter (38 - 9% of all isolates vs 62 or 12%) but numbers were similar in the corresponding period in 1991. Sydney, Melbourne and Perth accounted for most of the PPNG and smaller numbers were present in Brisbane and Adelaide. Only in Sydney was there evidence of endemic transmission of PPNG. Additionally, Sydney served as a focus of infection for interstate travellers. Chromosomally mediated penicillin resistance (CMRNG) was found in a significant proportion of strains in Melbourne (13%) and Sydney (5.5%), but not at all in the other centres.

All isolates examined were sensitive to spectinomycin and ceftriaxone. For some strains however, the minimal inhibitory concentrations (MIC's) of ceftriaxone were increased. While these MIC levels were not exceptionally high and do not necessitate any alteration of current treatment regimens, this trend amongst gonococci towards decreased sensitivity to this antibiotic will continue to be monitored. A small number of strains also showed decreased sensitivity to quinolone antibiotics (ciprofloxacin MIC range 0.03 - 0.5 mg/l) and another strain originating in the Philippines revealed still higher levels of resistance (ciprofloxacin MIC 2mg/l). The appearance of strains less sensitive to this group of antibiotics some time ago prompted recommendations that higher dose regimens of quinolone antibiotics be used, e.g. 500 mg rather than 250 mg doses of ciprofloxacin. Subsequently it has been shown that these higher dose regimens will not cure infections with higher level quinolone resistance. These strains remain rare in Australia. High level tetracycline resistance (TRNG) was observed in strains from two centres and some of the infections were acquired from local contacts. Most, but not all, of the TRNG were also PPNG.

The total number of strains examined (425) is slightly less than the 452 gonococci tested in the corresponding quarter of 1991, but is considerably less than the 507 isolates reported for the June 1992 quarter.

Table 1. Antibiotic sensitivity of *Neisseria gonorrhoeae* isolated in Australia 1 July to 30 September 1992 - penicillin (n tested = 425)

	Percentage of Isolates			
Centre	Sensitive	Less Sensitive	Rel. Resistant	PPNG
Brisbane	28 [17.3]*	65 [74.1]	0 [0]	7 [8.6]
Sydney	36.5 [16.5]	49 [58.5]	5.5 [15.8]	9 [9.4]
Melbourne	62 [31.2]	18 [55.9]	13 [3.2]	7 [9.7]
Australia	43	42.5	5.5	9

Sensitive, MIC ≤ 0.03mg/L; Less Sensitive, 0.06 - 0.5mg/L; Relatively Resistant, ≥ 1mg/L;
PPNG = penicillinase - producing N. gonorrhoeae
* Figures in brackets represent data from the equivalent period in 1991

Table 2. Antibiotic sensitivity of *Neisseria gonorrhoeae* isolated in Australia 1 July to 30 September 1992 - other antibiotics (n tested = 360)

Antibiotic	Sensitive	Less Sensitive	Rel. Resistant	Resistant	TRNG
Ceftriaxone	344	16 [4.4%]	0		
Ciprofloxacin	351	8 [2.2%]	1		
Spectinomycin	360			0	
Tetracycline					7 [1.9%]**

Sensitive, MIC ≤ 0.03mg/L; Less Sensitive, 0.06 - 0.5mg/L; Relatively Resistant, ≥ 1mg/L
** TRNG only, MIC ≥ 8mg/L

OVERSEAS BRIEFS

In the last two weeks the following information has been supplied by the World Health Organisation.

Yellow fever in Kenya

As of 12 March the yellow fever outbreak in Kenya accounted for 41 cases with 18 fatalities in the two districts affected by the outbreak (Baringo and Elgeyo Marakwet). A mass immunisation campaign was launched in infected areas on 8 February.

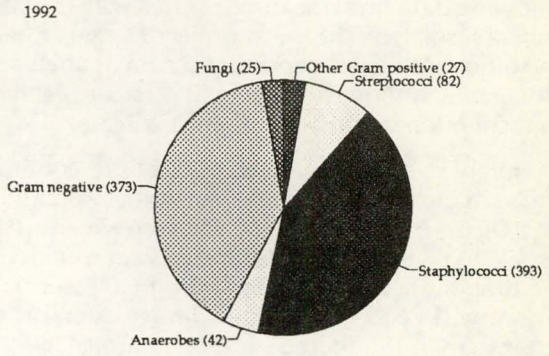
Cholera in Mozambique

The province of Niassa, in the Mandimba district, has been delared free of cholera.

CDI NOTICE TO READERS

A correction is required for the article 'Distribution of blood culture isolates from three large specialised metropolitan hospitals, 1991-1992 published in *CDI* 1993;17:97-99.

Figure 2 which used pie diagrams to show blood culture isolates did not present the 1992 data. The 1992 pie diagram for the blood culture isolates is as follows:



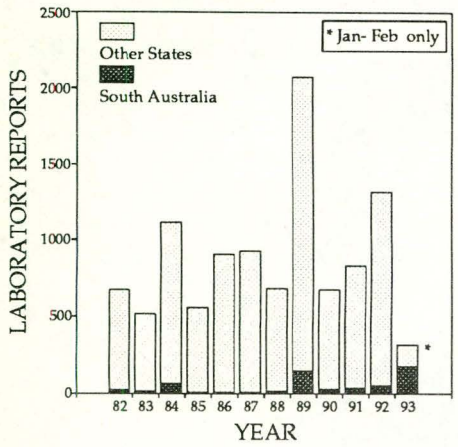
COMMUNICABLE DISEASES SURVEILLANCE

Laboratory Reporting Schemes

There were 1,626 reports received in the CDI Virology and Serology Reporting Scheme this fortnight (Tables 7, 8 and 9), and 241 reports of isolates from normally sterile sites (LabDOSS, Table 2).

- There were 11 reports of **measles** from four states (SA 4, NSW 3, Vic 3 and WA 1). Of these one was 8 years of age, six were aged from 14 to 17 years of age and two were adults. Ages were not provided for two reports. This brings the number of cases for the year to 68.
- Of the 32 **rubella** reports received during this fortnight 27 originated from around Queensland. These reports include one neonate, and six females in the age group 15 to 44 years.
- Forty-eight **hepatitis A** reports were received, including a symptomatic infection in a staff member from a hospital for the developmentally disabled. Asymptomatic hepatitis A infection in 7 patients from this hospital was reported in the last surveillance period. There has been slightly increased hepatitis A activity in NSW and Queensland over the last few months.
- Three pregnant women were reported as HBsAg positive. Of the 115 **hepatitis B** reports received during this period 29 were women between the ages of 15 and 44 years.
- Of the 141 **hepatitis C** reports, risk factors were provided for 16: 14 injecting drug users, one HIV positive patient and one patient on renal dialysis. One hepatitis C antibody positive woman was pregnant.
- During this fortnight 220 reports of **Ross River virus** infection has been received. Of these cases 130 were from South Australia, 61 from Victoria, 16 from Western Australia and 13 from Queensland. This is the largest number of cases of Ross River virus infection reported from South Australia since the inception of the CDI virus surveillance scheme (Figure 1). The largest number of cases previously

Figure 1. Laboratory reports of Ross River virus,



reported in any one month in South Australia was 31; so far 163 have been reported for February 1993. Eight reports noted exposure in the vicinity of the Murray River. Age and sex breakdown of the 1993 reports are shown in Table 1. One report from Victoria was a four-fold change in antibody titre; the remainder of the reports were of IgM detection (presumptive cases). This outbreak is also discussed in the National Notifiable Diseases Surveillance System (page 124).

- A case of **dengue fever** was reported in a 52 year old male from WA (IgM, presumptive diagnosis).
- Two confirmed **flavivirus infections (untyped)** were reported, one in a 49 year old male who had travelled in Malaysia (dengue fever is suspected) and one in a 20 year old male. A presumptive diagnosis (IgM detection) was reported in a 22 year old female.
- **Influenza A H3N2** (similar to Beijing 352/89) was isolated from a 1 year old female. Seven reports of confirmed **influenza B** infection were received (6 isolates from males aged 13 to 15 years and one fourfold increase in titre in a 34 year old male).
- Six reports of **coxsackievirus B1** were received including 2 CSF isolates (a 1 month old male and a female under one month of age).
- Two reports were received of **coxsackievirus B5** isolates in adult patients with meningitis. The samples were faecal and throat samples.
- Seven cases of **echovirus 7** infection were reported including meningitis in an 8 year old female (nasopharyngeal sample) and a 16 year old female (CSF sample). Other isolates were from faecal samples (4) and a skin sample.
- Of the six **echovirus 9** reports, 4 were CSF isolates (males aged 9 years, 6 months and 3 months and a 2 month old female), and two were nasopharyngeal isolates (a 4 year old male with encephalitis and a 9 month old female with respiratory symptoms).

Table 1. Age & sex of 1993 Ross River virus infection reports

Age group	Sex			Total
	Male	Female	Unknown	
< 1 month	2	1	0	3
5-14 years	5	8	0	13
15-24 years	13	25	0	38
25-44 years	85	83	0	168
45-64 years	44	38	1	83
65-74 years	4	6	0	10
75-99 years	2	1	0	3
Unknown	0	2	0	2
Total	155	164	1	320

- **Echovirus 25** was isolated from a nasopharyngeal sample of a 7 year old male with meningitis and a 5 year old male with gastric symptoms.
- Seventy-one reports of ***Mycoplasma pneumoniae*** were received bringing the reports for January to 167 and for February to 121. There has now been a reduction in mycoplasma activity in all states since the September-October peak in 1992.
- Twelve reports of **Q fever** were received including: 10 adult males aged 27 to 59 years (IgM), a 26 year old male (fourfold rise in titre) and a 4 year old boy with high fever (single high titre).
- ***Bordetella pertussis*** infection was reported for 3 patients including a 1 month old male, a 16 year old female and a 34 year old female. **Bordetella species** infection was reported in a further 4 patients, 2 males and 2 females whose ages ranged from 15 to 71 years.
- Of the eight ***Treponema pallidum*** reports, one was a pregnant female. However the test reult is a single high titre using haemagglutination assay and no history is given.

Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by 8 laboratories. CDI welcomes The Institute of Medical and Veterinary Science, Adelaide, to the LabDOSS scheme. Royal Brisbane Hospital also provided 96 records which will be added to the 1992 database.

A total of 241 reports have been included in this issue (96 IMVS Adelaide, 47 Royal Prince Alfred Hospital, 29 Concord Hospital, 32 Royal North Shore Hospital, 14 Northern Tasmania Pathology Service, 10 New England Pathology Tamworth, 8 Nambour Hospital, 5 TB Lynch Pathologists - Rockhampton).

Organisms reported 5 or more times from blood are detailed in Table 2.

Other blood isolates not included in Table 2 were:

Table 2. LabDOSS reports of blood isolates for the reporting period 4 March to 17 March 1993

Organism	Total[1]	Clinical Information						Risk Factors					
		Bone/Joint	Lower respiratory	Endocarditis	Gastrointestinal	Urinary Tract	Skin	Surgery	Immunosuppressed	IV line	Perinatal	Neonatal
Staphylococcus aureus	39	3	1		1		10	3	10	16		
Staphylococcus epidermidis	16			1	2		3		7	4		
Staphylococcus coagulase negative	14				1		2		1	6		
Enterococcus sp	6[2]				3				2			
Escherichia coli	50							3	16			
Klebsiella sp	14[3]				2							
Proteus mirabilis	5				1							
Pseudomonas aeruginosa	11				3			1	6			
Enterobacter sp	10[4]								4			

1. Only organisms with 5 or more reports are included in this table.
2. 3 *Enterococcus faecalis*
3. 11 *Klebsiella pneumoniae*, 1 *Klebsiella cytac*
4. 2 *Enterobacter aerogenes*, 3 *Enterobacter cloacae*

Gram positive:

1 Bacillus cereus, 2 Streptococcus Group A, *2 Streptococcus mitis, 1 Streptococcus* Group B, *2 Streptococcus* Group G, *3 Streptococcus milleri, 3 Streptococcus pneumoniae, 1 Streptococcus sanguis*, 3 *Streptococcus* "viridans", 3 *Streptococcus* species, *1 Corynebacterium* JK.

Gram negative:

4 *Acinetobacter sp*, 2 *Aeromonas sp (1 hydrophila)*, *5 Serratia* species (3 *marcescens*), *1 Cardiobacterium hominis, 1 Citrobacter freundii*, 1 *Pasteurella sp*, *1 Pseudomonas* species, 1 *Pseudomonas flourescens*, *1 Haemophilus influenzae*, 1 *Neisseria meningitidis*, 1 *Salmonella typhi* (F 33), 1 *Salmonella sp*, 1 *Morganella morgani, 1 Xanthomonas maltophilia.*

Anaerobes: 1 *Bacteroides fragilis*, 1 *Bacteroides species*, 1 *Bacteroides loeschii.*

Fungi: 2 *Candida* species (1 *parapsilopsis*, 1 *kruseii*).

CSF Isolates and Meningitis Reports

2 *Haemophilus influenzae* (M 3 type b, F 41), 3 *Neisseria meningitidis* (F 27 group B, M 1, M 12), 2 *Cryptococcus neoformans*, 1 *Candida albicans*, 1 *Staphylococcus aureus*, 1 *Staphylococcus epidermidis*, 1 *Klebsiella pneumoniae.*

Isolates from Sites other than Blood or CSF

Peritoneal Dialysate: 2 *Staphylococcus aureus*, 2 *Staphylococcus epidermidis*, 1 *Klebsiella pneumoniae.*

Joint fluid: 1 *Escherichia coli*, 1 *Staphylococcus aureus*, 1 *Staphylococcus epidermidis*, 1 *Streptococcus* group G.

Other: 1 *Nocardia sp*, 2 *Staphylococcus aureus*, 1 *Escherichia coli.*

Australian Sentinel Practice Reseach Network

The Australian Sentinel Practice Research Network collected data from 6768 patient encounters in Week 10 and 6116 patient encounters in Week 11 (Table 3).

Influenza continues to be reported at a higher rate than at the start of the year.

Table 3. Australian Sentinel Practice Research Network, Weeks 10 and 11 1993

Condition	Week 10, to 7 March 1993		Week 11, to 14 March 1993	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	25	3.7	31	5.1
Measles	0	0	0	0
Rubella	3	0.4	1	0.2
Pertussis	0	0	2	0.3
Genital herpes	5	0.7	5	0.8
Gastroenteritis	65	9.6	40	6.5

Australian Encephalitis: Sentinel Chicken Surveillance Programme Serological Results for January/February 1993

Sentinel chicken serology was undertaken for 24 flocks in the Kimberley and Pilbara regions of Western Australia and from four of the six Northern Territory flocks in January and February 1993. There was no evidence of flavivirus activity in these regions during this period.

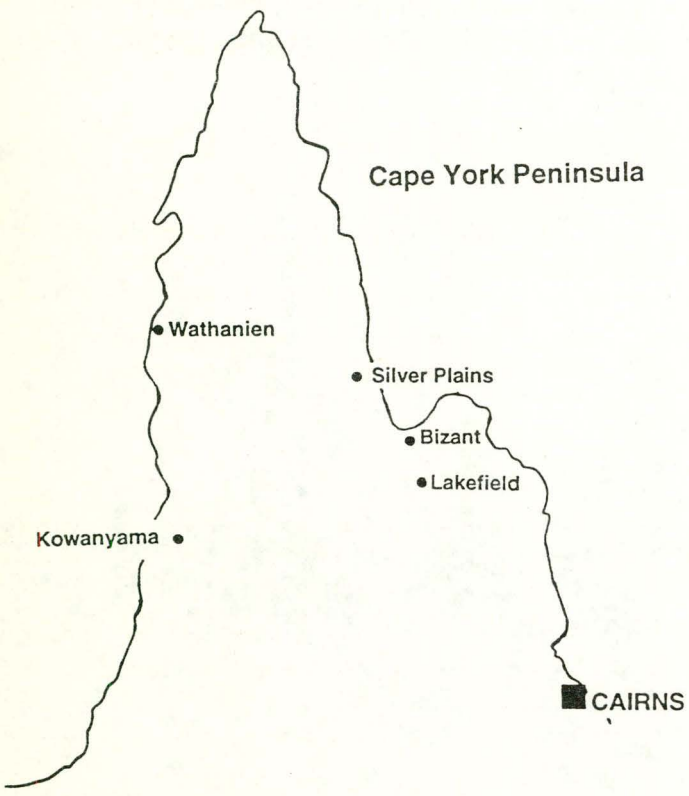
In addition there were no seroconversions to flaviviruses in the sentinel chicken flocks in NSW and Victoria.

The locations of the five sentinel chicken flocks in northern Queensland are shown in Figure 2. Sera from these flocks was tested by the State Health Laboratories, Brisbane, in January and February this year; there was no evidence of flavivirus activity.

Information on the location of sentinel chicken flocks was presented in *CDI* **16**:55-57 (1992) and *CDI* **16**:169 (1992).

(A K Broom, Department of Microbiology. The University of Western Australia; L Hueston, Virology Department. Westmead Hospital, NSW; J S Mackenzie, Department of Microbiology. The University of Western Australia; L Smythe, State Health Laboratories, Brisbane; J Whitehead, Victorian Institute of Animal Science)

Figure 2. Northern Queensland sentinel chicken monitoring sites



Ross River Virus Infection in South Australia

The largest outbreak of Ross River virus infection in South Australia has been occurring during the 1992/1993 summer. Annual notifications for the last 12 years show a distinct rise this year (Figure 3). Record rainfall in 1992 across the state contributed to an increase in mosquito numbers, the known vector for the disease. Several parts of the state outside the Murray River Valley have recorded cases for the first time. Serological notification of Ross River virus infection in South Australia rose above expected levels in mid December 1992 with a peak in the last week of February 1993 (Figure 4).

The clinical pattern of infection is similar to that reported previously with joint pain, a macular-papular rash, and flu like illness being predominant. Fifty five percent of cases are in the 30-49 age group. The major area of residence or travel to, across all age groups, is the Murray River Valley.

(Margaret Ashwell, NCEPH, ANU; Joanne Bell, Scott Cameron, Joane Hunt, South Australian Health Commission; Suzanne Selden, NCEPH/SAHC; Nigel Stocks, NCEPH and Nerissa Walton, SAHC).

Figure 3. Ross River virus reports, South Australia, 1980 to summer 1993

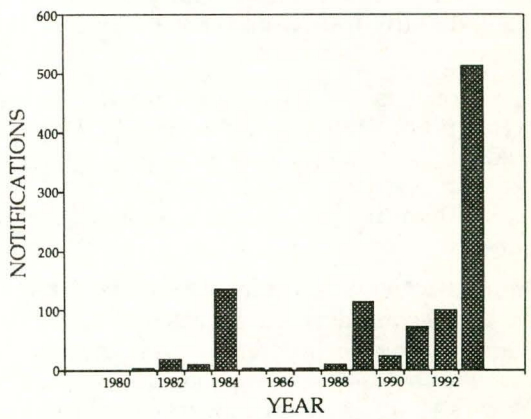
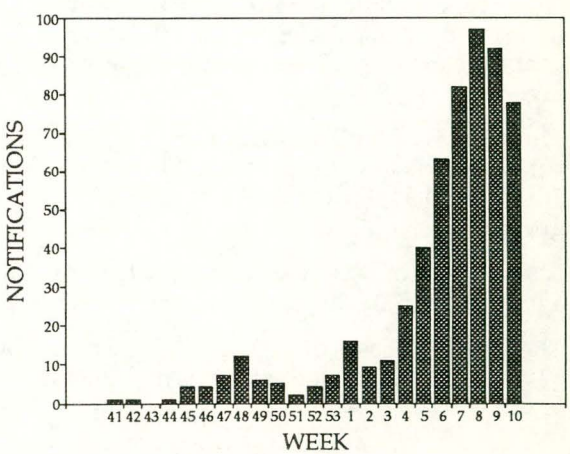


Figure 4. Ross River virus reports, South Australia, summer 1992/1993

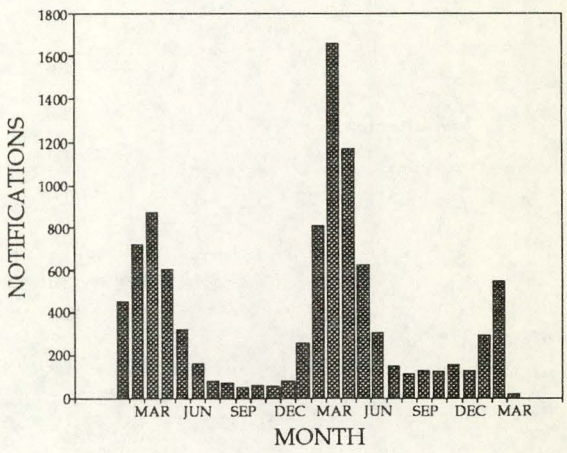


National Notifiable Diseases Surveillance System, 21 February to 6 March 1993

A total of 1,226 reports was received for this period. Reports were not available for Queensland or for the Australian Capital Territory (7 reports were received last period from the ACT for the first few days of this period and are included here).

- A total of 427 reports was received of notifications of **Ross River virus infection** to bring the figure for 1993 to date to 963. Of these, 217 were males, 206 were females and sex was unknown in 4. Reported ages ranged from the 0-4 to the 80-84 years age groups. Onset dates were recorded as January in 35 reports, February in 374 and March in 18. Reports were for cases in the statistical divisions of Adelaide (64), Murray in New South Wales (43), Northern Mallee in Victoria (28), Murraylands in South Australia (26) and unknown (161). Another 23 statistical divisions contributed the balance of the reports. There were 512 reports of Ross River virus infection in the corresponding period in 1992 (Figure 5).
- There was a single notification of **dengue** in a male in the 50-54 years age group with onset in February. Place of residence was not recorded.
- A single notification of **brucellosis** was received this period in a male in the 10-14 years age group.
- There were 76 notifications of **gonococcal infection** received. Fifty-four were for males and 22 for females.
- Eleven reports of ***Haemophilus influenzae* type b infection** notifications were received. There were 5 males and 6 females. Two (both males) were aged less than one year, and 7 were aged less than 5 years. There was no apparent clustering by postcode of residence.
- There were 51 notifications of **hepatitis A** received. Sex was recorded as male for 20 cases, female for 29 and was not recorded for 2. Ages ranged from the 0-4 to the 70-74 years age groups, with 24 cases aged less than 15 years. Twenty-four cases were recorded from the Sydney statistical division, with 11 other statistical divisions and unknown place of residence contributing the remaining cases.
- Seven reports of **legionellosis** were received, 4 for males and 3 for females, in the 20-24 to the 80-84 years age groups. There was no apparent clustering.
- Three cases of **leptospirosis** were notified, 2 from rural Victoria and 1 from rural New South Wales. All were males in the 60-69 and 35-39 years age groups.
- A single case of **listeriosis** was reported in a female aged less than 1 year.
- There were 23 cases of **malaria** notified this period, 17 males and 6 females with ages in the 0-4 to 55-59 years age groups. Nine of these cases were reported from the Melbourne statistical division, none were recorded as being from the 'malaria receptive' zone.
- Thirty-six cases of **measles** were notified. Twenty were males and 16 were females. In 10 cases the age was recorded as less than 1 year, in 1 case the age was not recorded, and the mean age was 6.3 years. There were 2 apparent clusters in 2 separate postcode areas with 2 cases each. The intervals between onset dates for these apparent clusters ranged from 2 to 3 days.
- Five cases of **meningococcal infection** were notified this period, 1 males and 4 females. Ages were in the 0-4 years (2 cases), 10-14 years (1 case) and 25-29 years (2 cases) age groups. There was no apparent clustering of cases.
- There were 38 reports of **pertussis** notifications. Twenty were for males and 18 for females. Thirteen cases were aged less than 5 years. There were 3 apparent clusters in separate postcode areas with 2 cases each. The intervals between onset dates for these apparent clusters ranged from the same day to 6 days.
- Thirteen notifications of **Q fever** were reported this period, and all were males. Ages ranged between the 15-19 years and the 45-49 years age groups. All but 1 case (from rural Western Australia) were reported from 5 rural and the Sydney statistical division in New South Wales.

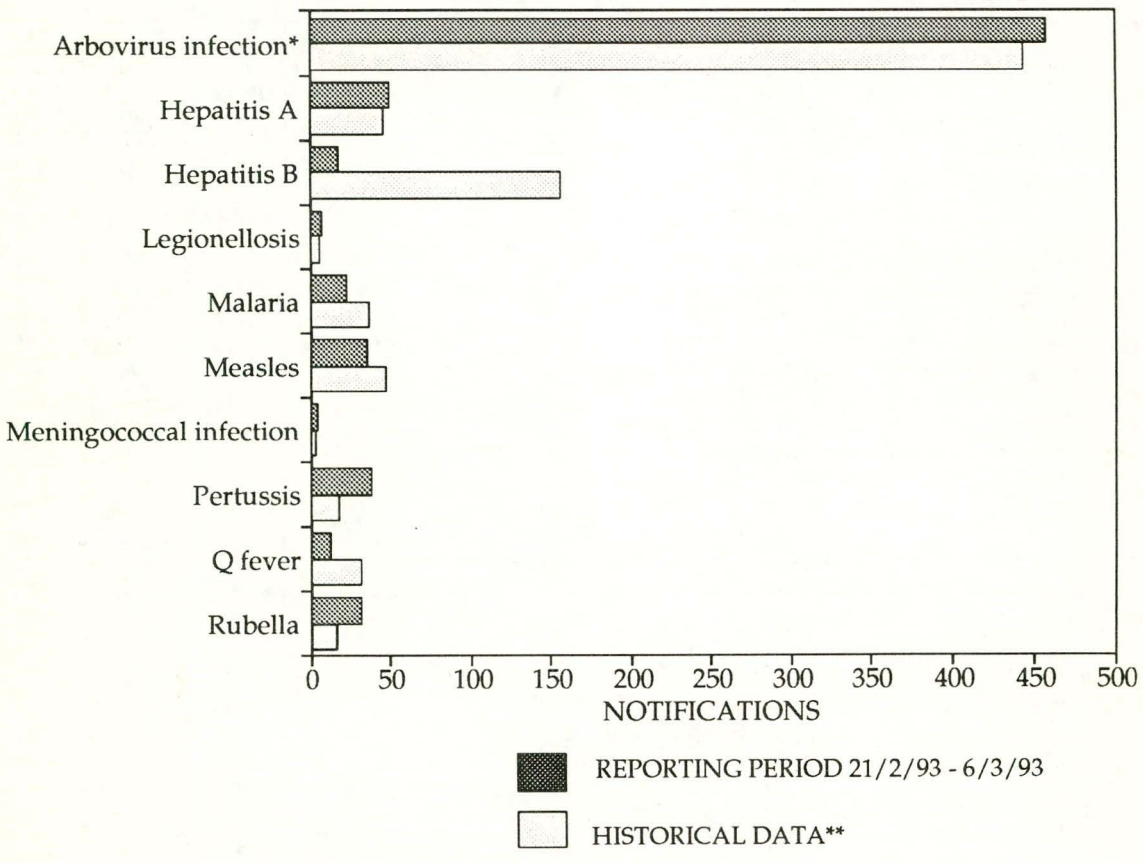
Figure 5. Notifications of Ross River virus 1991 to March 1993 by month of onset



- There were 32 reports of **rubella**. Sex was recorded as male for 18 cases and female for 14 cases. The mean age of cases notified was 20.2 years. There were 10 reports for females in the 15-44 years age group. There were 2 apparent clusters in 2 post-code areas with onset dates on the same day or separated by an interval of 6 days.

- There were 60 notifications of **syphilis** received. Thirty-one were for males and 28 for females. A single case was reported as aged less than 1 year.

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 4. Notifiable Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 21 February to 6 March 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	0	0	3
Measles	0	18	0	0	9	1	7	1	36	49	235	194
Mumps	0	0	NN	NN	NN	NN	0	NN	0	3	0	6
Pertussis	0	20	0	0	10	4	1	3	38	17	278	82
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella[2]	1	12	0	0	9	0	10	0	32	18	672	74
Tetanus	0	0	0	NN	0	0	0	0	0	2	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, WA: CRS only; ACT, NSW, Qld: rubella only; SA, Vic: rubella and CRS.

NN Not Notifiable.

Table 5. Other Notifiable Diseases[1], for the reporting period 21 February to 6 March 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	18	3	0	0	0	9	0	30	25	119	44
Ross River virus infection	0	62	41	0	242	NN	72	10	427	512	963	979
Dengue	0	-	1	0	-	NN	0	NN	1	2	8	4
Campylobacteriosis[4]	1	-	20	0	47	11	18	41	138	400	1314	1600
Chlamydial infection (NEC)	0	NN	27	0	0	1	13	0	41	252	644	1143
Donovanosis	0	NN	2	0	NN	NN	0	1	3	2	7	9
Gonococcal infection[5]	0	15	32	0	0	1	4	24	76	81	388	380
Haemophilus influenzae b infection[6]	0	6	NN	0	3	0	2	NN	11	16	55	75
Hepatitis A	0	29	7	0	6	0	6	3	51	103	310	358
Hepatitis B	1	3	4	0	0	0	0	9	17	172	240	743
Hepatitis C	3	0	3	0	NN	0	13	NN	19	215	461	1272
Hepatitis (NEC)	0	0	0	0	0	0	0	NN	0	3	8	5
Legionellosis	0	3	0	0	0	0	4	0	7	7	21	19
Leptospirosis	0	1	0	0	0	0	2	0	3	6	29	21
Listeriosis	0	1	NN	0	NN	0	0	0	1	2	8	4
Malaria	0	6	0	0	1	0	13	3	23	37	91	124
Meningococcal infection	0	2	0	0	2	0	0	1	5	4	39	24
Ornithosis	0	NN	0	0	2	0	0	0	2	7	21	18
Q fever	0	12	0	0	0	0	0	1	13	28	66	68
Salmonellosis (NEC)	1	51	8	0	21	7	12	43	143	274	913	1129
Shigellosis[4]	0	-	6	0	4	0	1	15	26	24	161	108
Syphilis	0	11	39	0	0	0	0	10	60	93	267	370
Tuberculosis	0	10	0	0	0	2	2	1	15	28	118	115
Typhoid[7]	0	0	0	0	0	0	0	0	0	5	10	17
Yersiniosis (NEC)[4]	0	-	0	0	1	0	2	0	3	40	62	137

1. 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. NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.
6. SA: only as 'bacterial meningitis'; meningococcal infection is separately notified; Tas: only as 'non-meningococcal meningitis'; Vic: epiglottitis and meningitis only.
7. NSW and Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

\- Elsewhere Classified

*

Table 6. Rarely Notified Diseases[1] for the reporting period 21 February to 6 March 1993

DISEASES	Total This Period	Reporting States or Territories	Year to Date 1993
Botulism	0		0
Brucellosis	1	NSW	5
Chancroid	0		0
Cholera	0		1
Hydatid infection	0		2
Leprosy	0		2
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 7. Laboratory reports by State or Territory of reporting laboratory for the reporting period 25 February to 10 March 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		3		4		3	1	11	4.2	119
Rubella virus		2	27	1		2		32	3.3	396
HEPATITIS VIRUSES										
Hepatitis A virus	1	10	22	8		4	3	48	14.0	193
Hepatitis B virus	1	8	63	3		16	24	115	68.8	603
Hepatitis C virus	6		37	56	1		41	141	44.7	799
Hepatitis D virus			3					3	.7	8
ARBOVIRUSES										
Ross River virus			13	130		61	16	220	44.7	416
Barmah Forest virus			8				1	9	.8	42
Dengue not typed							1	1	.5	8
Flavivirus (unspecified)			1			2		3	.5	26
ADENOVIRUSES										
Adenovirus type 1		1						1	2.0	27
Adenovirus type 2		1				1		2	1.8	22
Adenovirus type 3						5		5	1.5	34
Adenovirus type 11						1		1	1.0	4
Adenovirus type 30						1		1	.0	1
Adenovirus type 46						2		2	.0	2
Adenovirus type 47						1		1	.0	2
Adenovirus not typed/pending		5	15	6		1	5	32	25.0	277
HERPES VIRUSES										
Herpes simplex virus type 1		8	121	26		50	28	233	109.7	1,134
Herpes simplex virus type 2		7	151	16		35	24	233	123.2	1,272
Herpes simplex not typed/pending	4	9	1			5	3	22	30.8	161
Cytomegalovirus		3	30	4		13	12	62	51.0	387
Varicella-zoster virus		1	9	2		8	2	22	17.3	245

Table 7. Laboratory reports by State or Territory of reporting laboratory for the reporting period 25 February to 10 March 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			
Epstein-Barr virus		5	36	16		5	8	70	53.5	540
Herpes virus group - not typed							1	1	1.2	7
OTHER DNA VIRUSES										
Parvovirus						1		1	1.5	42
PICORNA VIRUS FAMILY										
Coxsackievirus A9		3						3	1.0	14
Coxsackievirus A16		1						1	.3	6
Coxsackievirus B1		5				1		6	.2	34
Coxsackievirus B5		1					1	2	1.3	29
Echovirus type 7		5				2		7	.2	44
Echovirus type 9	4	2						6	1.2	27
Echovirus type 14						1	1	2	.8	4
Echovirus type 17		1						1	1.3	6
Echovirus type 25				1		1		2	.2	12
Poliovirus type 2 (uncharacterised)		1						1	.8	10
Rhinovirus (all types)		2	16	1		1	1	21	13.2	170
Enterovirus not typed/pending		3	15				2	20	26.3	183
ORTHO/PARAMYXOVIRUSES										
Influenza A virus H3N2		1						1	.3	1
Influenza B virus				6			1	7	2.3	13
Parainfluenza virus type 2			2					2	2.8	4
Parainfluenza virus type 3	1	1	9	2		2		15	12.3	139
Respiratory syncytial virus		3	6	1	1	1	1	13	12.5	49
OTHER RNA VIRUSES										
HTLV-1							2	2	.0	3
Rotavirus			3	9			5	17	20.5	247
Astrovirus		1						1	.5	2
Small virus (like) particle		2						2	1.2	12
OTHER										
Chlamydia trachomatis not typed	5	12	39	17	1	8	31	113	88.2	671
Mycoplasma pneumoniae		13	20	10	1	24	3	71	15.2	558
Coxiella burnetti (Q fever)		10	1				1	12	8.5	87
Streptococcus group A			11					11	.0	77
Bordetella pertussis			2			1		3	.0	28
Bordetella species			4					4	.0	80
Treponema pallidum			8					8	.0	137
TOTAL	22	130	673	319	4	259	219	1,626	812.8	9,414

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 8. Laboratory reports by clinical information for the reporting period 25 February to 10 March 1993

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus					1			6				4	11
Rubella virus							1	14		4		13	32
HEPATITIS VIRUSES													
Hepatitis A virus							29					19	48
Hepatitis B virus							42				2	71	115
Hepatitis C virus						1	21	1				118	141
Hepatitis D virus							3						3
ARBOVIRUSES													
Ross River virus					1	1		26		110		82	220
Barmah Forest virus							1			4		4	9
Dengue not typed								1					1
Flavivirus (unspecified)												3	3
ADENOVIRUSES													
Adenovirus type 1						1							1
Adenovirus type 2					1	1							2
Adenovirus type 3									4			1	5
Adenovirus type 11												1	1
Adenovirus type 30						1							1
Adenovirus type 46						1		1					2
Adenovirus type 47						1							1
Adenovirus not typed/pending					13	11			4			4	32
HERPES VIRUSES													
Herpes simplex virus type 1					15			132	6		55	25	233
Herpes simplex virus type 2				1	2			77			141	12	233
Herpes simplex not typed/pending	1				3			12			2	4	22
Cytomegalovirus					17	1	6	1				37	62
Varicella-zoster virus								18			1	3	22
Epstein-Barr virus					6	1	1	2			1	59	70
Herpes virus group - not typed								1					1
OTHER DNA VIRUSES													
Parvovirus								1					1
PICORNA VIRUS FAMILY													
Coxsackievirus A9					1			1				1	3
Coxsackievirus A16												1	1
Coxsackievirus B1										1		5	6
Coxsackievirus B5		2											2
Echovirus type 7	1	1				1		1				3	7
Echovirus type 9	1	1			1							3	6
Echovirus type 14												2	2
Echovirus type 17		1											1
Echovirus type 25		1				1							2
Poliovirus type 2 (uncharacterised)												1	1
Rhinovirus (all types)					21								21
Enterovirus not typed/pending	1				6	8		3				2	20

Table 8. Laboratory reports by clinical information for the reporting period 25 Feburary to 10 March 1993, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
ORTHO/PARAMYXOVIRUSES													
Influenza A virus H3N2					1								1
Influenza B virus					6							1	7
Parainfluenza virus type 2					2								2
Parainfluenza virus type 3			1		12							2	15
Respiratory syncytial virus					12							1	13
OTHER RNA VIRUSES													
HTLV-1												2	2
Rotavirus						16						1	17
Astrovirus						1							1
Small virus (like) particle						1						1	2
OTHER													
Chlamydia trachomatis not typed					1				3		78	31	113
Mycoplasma pneumoniae					45			1				25	71
Coxiella burnetti (Q fever)					1					1		10	12
Streptococcus group A								2		1		8	11
Bordetella pertussis					2							1	3
Bordetella species					2							2	4
Treponema pallidum											3	5	8
TOTAL	4	6	1	1	172	48	104	301	17	121	283	568	1626

Table 9. Laboratory reports by contributing laboratories for the reporting period 25 February to 10 March 1993

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	22
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	93
	Prince Henry/Prince of Wales Hospitals, Sydney	12
	Royal Alexandra Hospital for Children, Camperdown	25
Queensland	Dr TB Lynch, Pathologist, Rockhampton	63
	Queensland Medical Laboratory, West End	306
	State Health Laboratory, Brisbane	304
South Australia	Institute of Medical & Veterinary Science, Adelaide	319
Tasmania	Northern Tasmania Pathology Service, Launceston General Hospital	4
Victoria	Fairfield Hospital, Melbourne	251
	Microbiological Diagnostic Unit, University of Melbourne	8
Western Australia	Princess Margaret Hospital, Perth	14
	State Health Laboratory Services, Perth	205
TOTAL		1626