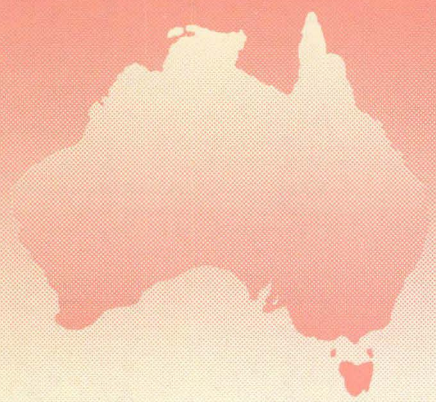

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COMMUNICABLE DISEASES NETWORK-AUSTRALIA
A National Network for Communicable Diseases Surveillance

AN OUTBREAK OF GASTROENTERITIS AT A MELBOURNE METROPOLITAN LIFESAVING CLUB

(Raina MacIntyre[1,2], Rory Wilby[1], Michael Alter[1] and Russell Brown[3])

Introduction

On 20 January 1993, the president of a lifesaving club located at a beach in Port Phillip Bay contacted Health and Community Services, Victoria, to inform us that several of their members had suffered from gastroenteritis around 15 January 1993. The Environmental Protection Authority (EPA) was also informed.

Methods

We inspected the lifesaving club and its surrounds on 20 January.

We surveyed 50 current members who had been at the club in January 1993 using a self administered questionnaire. We also collected stool specimens from respondents who were currently ill or who had been ill in the previous three days.

Results

Inspection

The club was staffed entirely by volunteers, was located about 50 metres from the beach, and had its own swimming pool. The club had a listed membership of 1,453, some of the memberships of which had lapsed. The club did not provide food on a regular basis, but had a kitchen where food was prepared occasionally.

The premises of the club were spacious and clean, but handwashing facilities in the washrooms were inadequate. The swimming pool was clean with adequate chlorine levels as recorded in the log book.

The only food served on the premises at the time of the outbreak were sausages and bread, which were both stored in a freezer over a period of two weeks. The temperature of the freezer and fridge were adequate. The sausages were barbecued daily on the premises in an adjoining shed.

There were three other sources of food in the immediate vicinity, a kiosk, a milkbar and a mobile van. They were clean, and operated in a satisfactory manner.

Survey

The response rate to the survey was 80% (40/50). Of these, 24/40 (47.5%) had been ill between 7 and 21 January 1993. The peak of illness was on January 15 (Figure 1).

The symptoms in decreasing order of frequency were abdominal pain (47%), headache (42%), nausea (37%), diarrhoea (32%), fever (32%) and malaise (21%). A few (5/19) of the ill respondents had a different pattern of symptoms, with earache and cough.

The incubation period was difficult to ascertain, since the majority (90%) of respondents attended the club and beach daily during that period, but 59% became ill within one to two hours of last leaving the beach, and 82% within 12 hours.

The duration of illness was short, with 59% ill for one day or less, and 70% ill for three days or less.

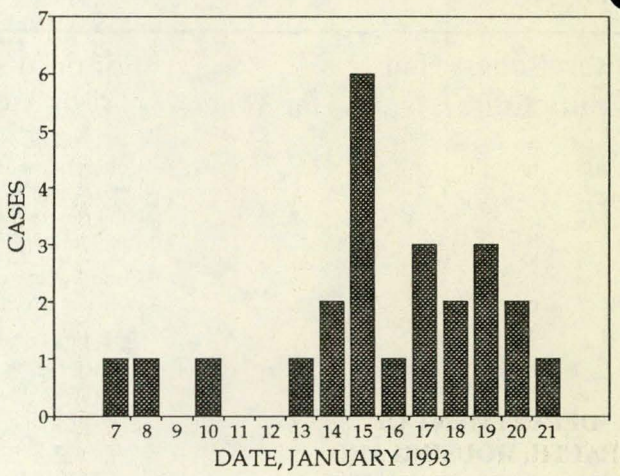
There was no association between illness and eating at the kiosk, eating at the van, eating at the milk bar, eating at any other shop or eating sausages at the club.

There was an association between swimming and illness (odds ratio 3.7, 95% confidence interval: 1.54 - 97). (The wide confidence interval reflects the small sample size.)

The majority of swimmers used both the pool and the ocean, so we were not able to differentiate significantly between these two sites.

Other indirect evidence is that *Escherichia coli* counts taken by the EPA at the beach in January were higher than those in November and December (Figure 2). The highest *E. coli* counts corresponded to periods of heavy

Figure 1. Cases of gastroenteritis at a Melbourne metropolitan lifesaving club, 7 to 21 January 1993, by date



1. Health and Community Services, Victoria
2. Communicable Diseases Network, Australia
3. Scientific and Engineering Services, Environment Protection Authority

rainfall. The water was also positive for *Salmonella* Typhimurium on 27 January 1993.

The four faecal samples collected were all negative for pathogenic bacteria, parasites and viruses.

The sausages from the club were cultured and found to be negative for gastrointestinal pathogens.

Note

We subsequently surveyed persons on the beach who were not associated with the lifesaving club, but the response rate was poor (8/70). We questioned people at other beaches in Port Phillip Bay and did not find any apparent problems; we are awaiting results of questionnaires from these areas. We are also currently collecting data from a larger sample of the lifesaving club membership.

Discussion

We do not have enough information to outline a definite cause or source of the outbreak.

The illness had a short duration, but the incubation period is unknown. This, together with the clinical information available, does not distinguish bacterial from viral (or other) aetiologies. Unfortunately, we were contacted four days after the peak of the outbreak, and were only able to collect four faecal specimens, none of which were positive for pathogenic organisms.

It seems probable that the outbreak was associated with swimming. The evidence for this is not strong, but is suggestive. First, there was an association between swimming and illness (odds ratio 3.7). The pool had been adequately chlorinated, therefore the ocean seems a more likely source of infection. Second, there was no association between food and illness. Finally, the sewage spills into the Maribyrnong River, and the resultant problems, would provide a plausible explanation for such an outbreak.

The Epsom Road main sewer at Kensington, Melbourne, has collapsed twice in the last five months, on 1 September and 26 November 1992. This sewer was built in 1896, and serves 10% of the greater metropolitan area. It has collapsed twice before, in 1960 and 1972. The collapse in November 1992 resulted in a flow of sewage, at a rate of about 360,000 litres an hour, into the Maribyrnong River and eventually into Port Phillip Bay. The EPA has monitored *E. coli* counts in the Bay regularly, and beaches have been declared unsafe for swimming on several occasions between September 1992 and January 1993, based on these counts.

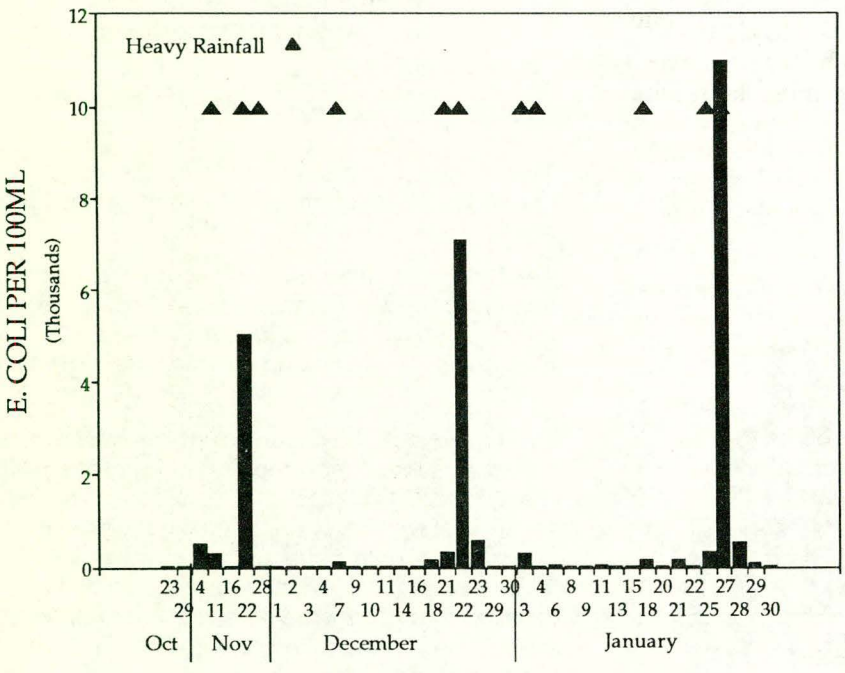
The *E. coli* counts recorded by the EPA rose progressively each month from October to January, peaking at 11,000 per 100mL on 27 January. The only factor against this explanation is that on 14 January the *Escherichia coli* count recorded by the EPA was low. The peak count on 27 January (also the date when *Salmonella* Typhimurium was isolated from the water) was 12 days after the peak of the outbreak. However, *E. coli* counts do not necessarily reflect levels of all other organisms, particularly viruses.

In summary, the outbreak of gastroenteritis at the lifesaving club was characterised by an illness of short duration and unknown aetiology. There is no direct evidence to implicate the water of Port Phillip Bay as the source of infection, but swimming was an identified risk factor for illness.

We advised the members of the club on optimal food handling and sanitary procedures, and advised that swimming at that time was not safe.

There have been no subsequent outbreaks at this location, and the EPA continues to monitor bacterial counts in the water.

Figure 3. *E. coli* counts, Port Phillip Bay, October 1992 to January 1993, selected dates[1]



1. Data provided by the Environmental Protection Agency

Acknowledgements

We wish to thank the Environmental Protection Authority for providing the *E. coli* counts, and the staff of the Microbiological Diagnostic Unit and Fairfield Hospital Virology Laboratory for analysing the faecal specimens.

STERILE SITES SURVEILLANCE REPORTS, 1992

(Leslee Roberts, Communicable Disaeses Section, Department of Health, Housing and Community Services, and National Centre for Epidemiology and Population Health, ANU)

In 1992, 16 laboratories provided 3,936 reports of organisms from sterile sites to LabDOSS (*CDI* Sterile Sites Laboratory Reporting Scheme). Reports for 1992 yet to be submitted to *CDI* will be added to the dataset as provided. Isolates reported to *CDI* but coded as contaminants are not included in the analysis of LabDOSS data.

The numbers of reports provided by each laboratory were: 947 from ICPMR Westmead; 596 from Royal Prince Alfred Hospital; 578 from Royal Brisbane Hospital; 460 from Liverpool Hospital (South West Area Pathology Service); 342 from Royal North Shore Hospital; 284 from Concord Hospital; 197 from Gosford Central Coast Hospital Services; 129 from Toowoomba General Hospital; 110 from Royal Hobart Hospital; 99 from Northern Tasmanian Pathology Service; 69 from Nambour Hospital; 43 from Central Queensland Pathology Laboratory, Mackay; 43 from Mackay Base Hospital; 29 from T.B. Lynch Pathologist, Rockhampton; 10 from Prince Charles Hospital Brisbane.

1992 was the first year of the LabDOSS Scheme and therefore there is not a large volume of data. However, the utility of the LabDOSS database will improve in time with anticipated increase in contributions. Analysis of several aspects of the 1992 data will be included in the next few issues of *CDI*. In this edition, an overview of the 1992 data is presented, followed by reports of meningitis, and reports of bacteraemia without meningitis caused by *Haemophilus influenzae*, *Neisseria meningitidis* and *Streptococcus pneumoniae*.

The 1992 reports originated largely from New South Wales as this was where LabDOSS was initially trialled. The number of reports for each month ranged between 181 and 422 (Figure 1). (Data for December from some laboratories are yet to be received.) The month of each report is based on the collection date of the specimen rather than the date the isolate was reported. It is therefore a better indication of the date of illness than the reporting date and allows more valid interpretation of seasonal trends.

There were more reports of isolates from males than from females, with a ratio of 1.3 males to 1.0 female.

As expected there was a predominance of reports of organisms isolated from normally sterile sites in the elderly (Figure 2).

Figure 1. LabDOSS reports, 1992, by month of specimen collection

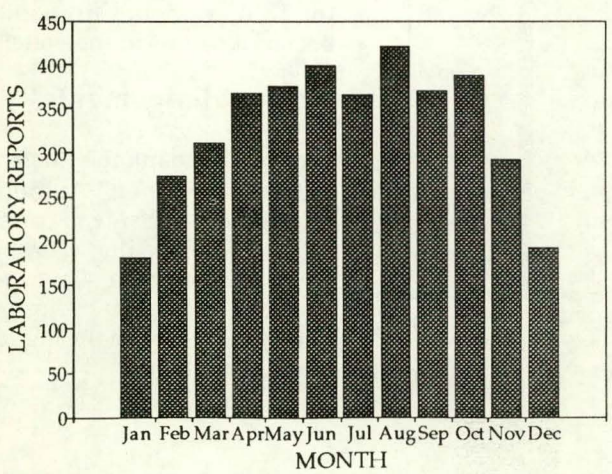
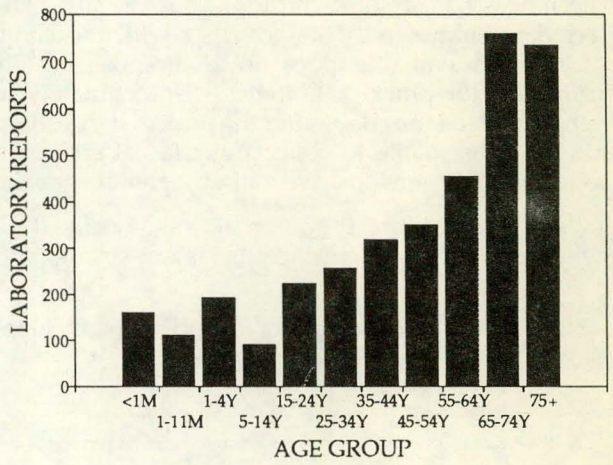


Figure 2. LabDOSS reports, 1992, by age group



Meningitis Reports, 1992

There were 173 cases of meningitis reported in 1992 (Table 1). Most reports were in children under the age of five years (Figure 3).

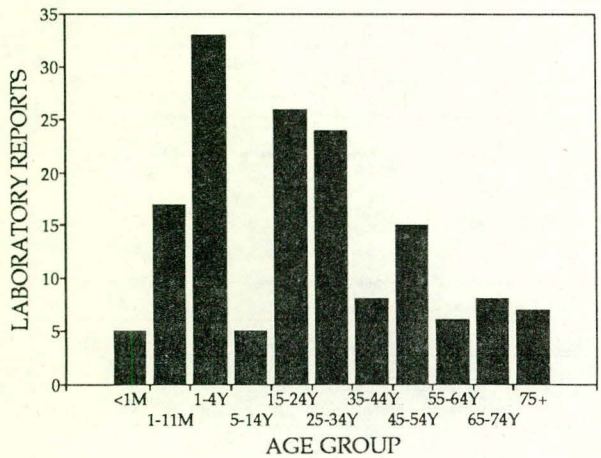
The three most frequently reported organisms are well recognised as the common causative agents of meningitis: *Haemophilus influenzae*: 36 cases, *Neisseria menigitidis*: 26 cases and *Streptococcus pneumoniae*: 21 cases.

Twenty-four of the 36 reports of *Haemophilus influenzae* meningitis were reported as due to *Haemophilus influenzae* type b (Table 2). There were 19 males and 17 females. Twenty-six (72%) of the reports of *Haemophilus influenzae* meningitis were in children less than three years of age and 14 (38%) were in children less than 18 months of age (Figure 4). *Haemophilus influenzae* type b meningitis has been reported to exhibit a biphasic seasonal pattern with peaks in spring and autumn. This

Table 1. LabDOSS reports of meningitis, 1992, by organism and age group

	Age												
	Months		Years										
	<1	1-11	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+	Unknown	Total
Acinetobacter species	1					2		1				1	5
Actinobacillus species									1				1
Candida albicans	1												1
Corynebacterium species						2				1		1	4
Cryptococcus neoformans						4	1	5	1	1	1	3	16
Enterobacter species						1						1	2
Escherichia coli	1				1								2
Haemophilus influenzae		6	21			3		1				5	36
Haemophilus parainfluenzae					1								1
Klebsiella oxytoca						1							1
Klebsiella pneumoniae								1					1
Klebsiella species					3					1	1	1	6
Listeria monocytogenes								2			1		3
Morganella species					1								1
Neisseria sicca subflava							1						1
Neisseria meningitidis		5	10		8	1						2	26
Nocardia species					1								1
Propionibacterium acnes								1		1			2
Pseudomonas aeruginosa							1				1		2
Salmonella species						1							1
Staphylococus aureus	1	1		1	2		1	1		1		2	10
Staphylococcus coagulase negative				1			1	1	1			1	5
Staphylococcus epidermidis					5	5	1	1	2	1			15
Streptococcus group A				1									1
Streptococcus group B							1						1
Streptococcus "milleri"								1					1
Streptococcus pneumoniae	1	5	2	2	2	3	1		1	2	2		21
Streptococcus sanguis											1	1	2
Streptococcus "viridans"					1	1						1	3
Xanthomonas maltophilia					1								1
Total	5	17	33	5	26	24	8	15	6	8	7	19	173

Figure 3. LabDOSS reports of meningitis, 1992, by age group



trend was not apparent with the few reports in the LabDOSS data (Figure 5).

There were 26 reports of *Neisseria menigitidis* meningitis. Fifteen (57%) of these were in children under 5 years of age. Serogroup information was provided for 10 reports (Table 3). The seasonal trend of meningococcal meningitis occurring in winter and spring is evident even with the few cases reported in 1992 (Figure 6).

Twenty-one cases of pneumococcal meningitis were reported in 1992. The cases were equally distributed between the sexes (10 females, 10 males and 1 unknown), and occurred in all age groups (Figure 7). Usually the cases occur in the elderly, the young and those with a predisposing risk factor. In the 1992 LabDOSS reports, pneumococcal meningitis occurred predominantly in the winter months (Figure 8).

Immunodeficiency was reported for 15 of the 16 cases of cryptococcal meningitis reported; 12 patients had HIV infection (10 males, 2 females).

Figure 4. ***Haemophilus influenzae*** **meningitis reports, 1992, by age group**

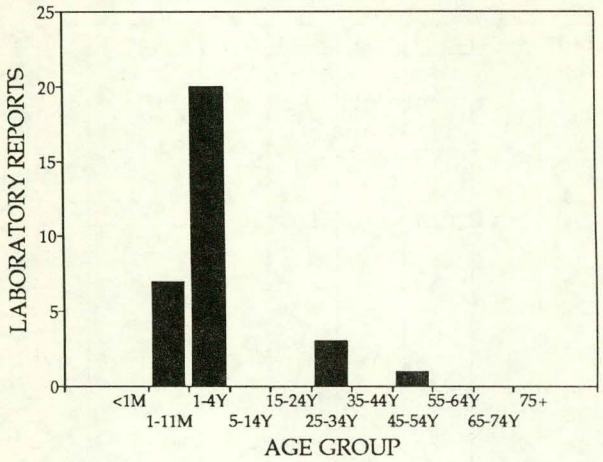


Figure 5. ***Haemophilus influenzae*** **meningitis reports, 1992, by month of specimen collection**

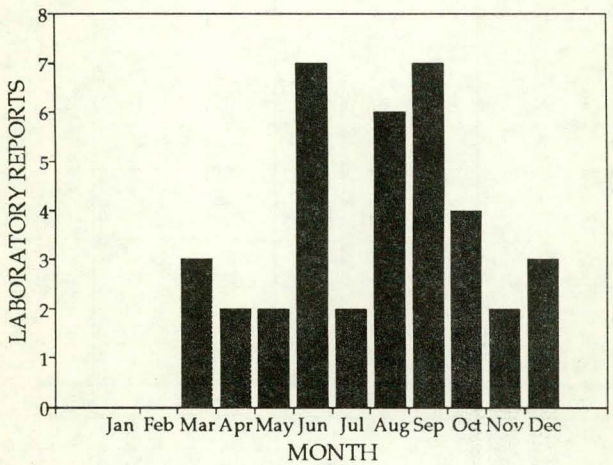


Figure 6. ***Neisseria meningitidis*** **meningitis reports, 1992, by month of specimen collection**

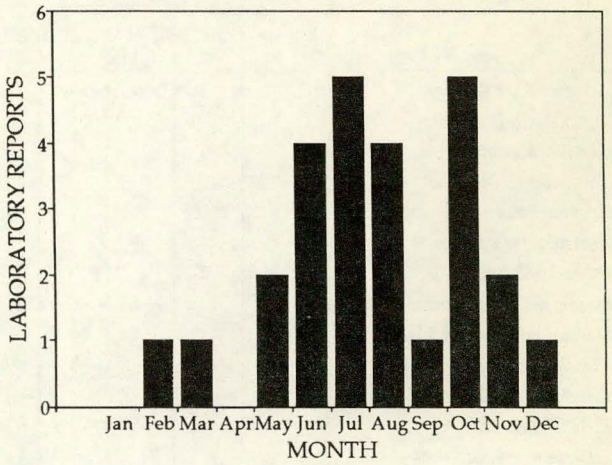


Figure 7. ***Streptococcus pneumoniae*** **meningitis reports, 1992, by age group**

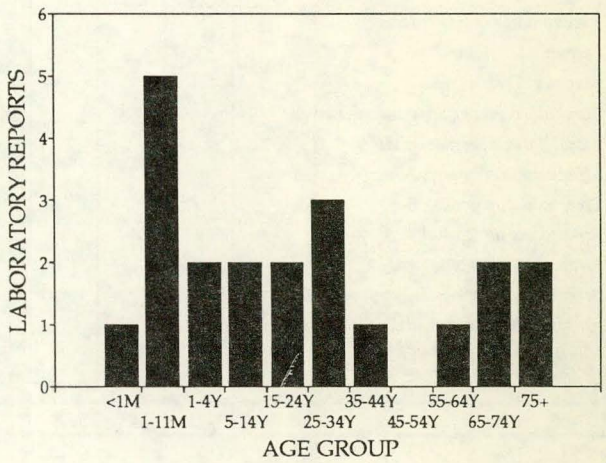


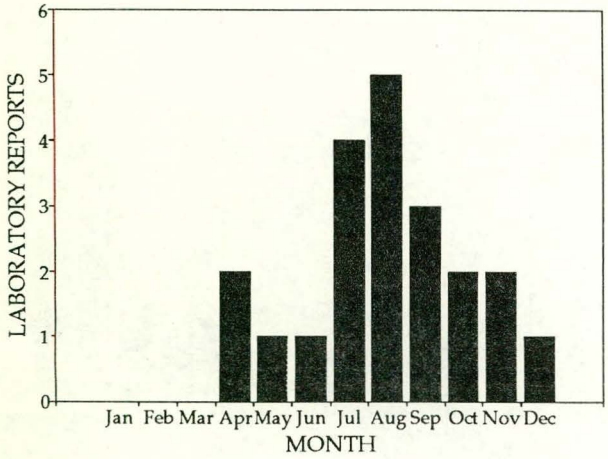
Table 2. ***Haemophilus influenzae*** **meningitis reports, 1992, by serogroup and age group**

	Age					
	Months	Years				
	1-11	1-4	25-34	55-64	Unknown	Total
Serogroup b	4	14	2	0	4	24
No group	2	4	1	1	4	12
Total	6	18	3	1	8	36

Table 3. ***Neisseria meningitidis*** **meningitis reports, 1992, by serogroup and age group**

	Age					
	Months		Years			
	<1	1-11	15-24	25-34	Unknown	Total
Serogroup B	1	1	4	0	0	6
Serogroup C	0	2	0	1	0	3
Polyvalent ACYW135	0	0	1	0	0	1
Not Provided	4	7	3	0	2	16
Total	5	10	8	1	2	26

Figure 8. *Streptococcus pneumoniae* meningitis reports, 1992, by month of specimen collection



Biovariant information was provided for ten reports; nine were *Cryptococcus neoformans* var. *neoformans* and one was *Cryptococcus neoformans* var. *gattii*.

Meningitis Reports by Risk Factor

In addition to the clinical diagnosis information, risk factor information was provided for some reports. In 35 reports of meningitis, a risk factor of surgery was reported (Table 4), and in 24 cases, immunodeficiency was reported (Table 5).

Other Reports for *Haemophilus influenzae*, *Neisseria meningitidis* and *Streptococcus pneumoniae*

There were 79 reports of isolates of *Haemophilus influenzae* bacteraemia without meningitis. Forty reports were *Haemophilus influenzae* type b, 3 were reported as not type b, 2 were not typable, and in 34 reports no group was provided. Sex was provided for 78 reports;

Table 4. Meningitis reports with a risk factor of surgery reported, 1992, by organism and surgery type

Organism	Risk Factor			
	Surgery	Neurosurgery	Vascular surgery	Total
Acinetobacter species		2		2
Corynebacterium species		3		3
Escherichia coli		1		1
Haemophilus parainfluenzae		1		1
Klebsiella oxytoca		1		1
Klebsiella pneumoniae		1		1
Morganella species		1		1
Propionibacterium acnes		1		1
Staphylococus aureus		3		3
Staphylococcus epidermidis		13	1	14
Streptococcus "milleri"	1			1
Streptococcus sanguis		2		2
Streptococcus "viridans"		3		3
Xanthomonas maltophilia		1		1
Total	1	33	1	35

Table 5. Meningitis reports with a risk factor of immunodeficiency reported, 1992, by organism and immunodeficiency type

Organism	Risk Factor						
	HIV Infection	Neutro-paenia	Diabetes	Renal Failure	Other	Malig-nancy	Total
Cryptococcus neoformans	12	2			1		15
Haemophilus influenzae					1		1
Listeria monocytogenes						1	1
Neisseria meningitidis					1		1
Pseudomonas aeruginosa			1				1
Staphylococcus coagulase negative				1			1
Streptococcus pneumoniae					3	1	4
Total	12	2	1	1	6	2	24

49 of these (62%) were male. There were more reports in the age group less than 4 years than in older age groups. In the 5 to 14 year age group there were 10 reports, 8 infections with serogroup b (Figure 9), however nine of these reports were in children aged 5 and 6 years. Cases of infection with *Haemophilus influenzae* type b are more common in children under 6 years of age.

The clinical information recorded for the reports of *Haemophilus influenzae* reflects the common spectrum of disease due to this organism. Of the 79 reports there were 10 cases of epiglottitis (5 aged 1 to 4 years, 3 aged 5 to 14 years, 2 no age provided). There were sixteen cases of lower respiratory tract infection, thirteen cases of 'deep skin' infection and 3 cases of osteomyelitis.

There were 192 reports of *Streptococcus pneumoniae* bacteraemia without meningitis. The cases were distributed equally between the sexes, and were more common in the young and elderly (Figure 10). Clinical diagnosis was provided for 126 cases; lower respiratory tract infection was reported in 118 cases, deep skin infection in 4 cases, gastrointestinal disease in 3 cases and there was one case of native valve endocarditis. Risk factors were provided for 20 cases: 17 immunocompromised, 2 preterm neonates and 1 trauma patient.

The 1992 LabDOSS data contains 15 reports of *Neisseria meningitidis* bacteraemia without meningitis. There were more reports in males (10 males to 4 females) and in younger age groups (Figure 11). Serotype data were provided for 11 of the meningoccoccal reports; 7 group C, 3 group B, one not typable. This contrasts with the reports of meningococcal meningitis where serogroup B was more frequently reported than group C.

Figure 9. *Hemophilus influenzae* reports of bacteraemia without meningitis, 1992, by age group and serotype

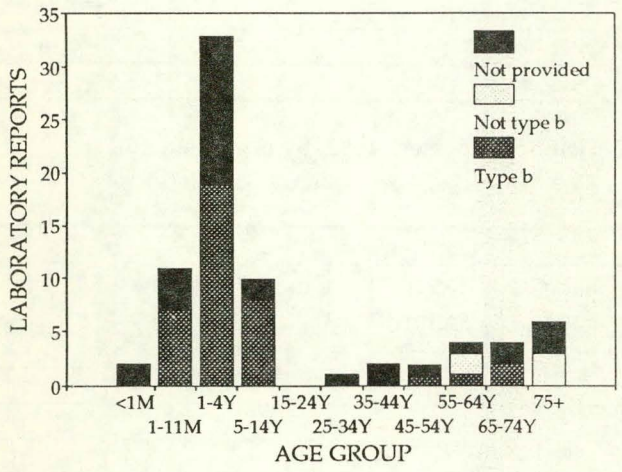


Figure 10. *Streptococcus pneumoniae* reports of bacteraemia without meningitis, 1992, by age group

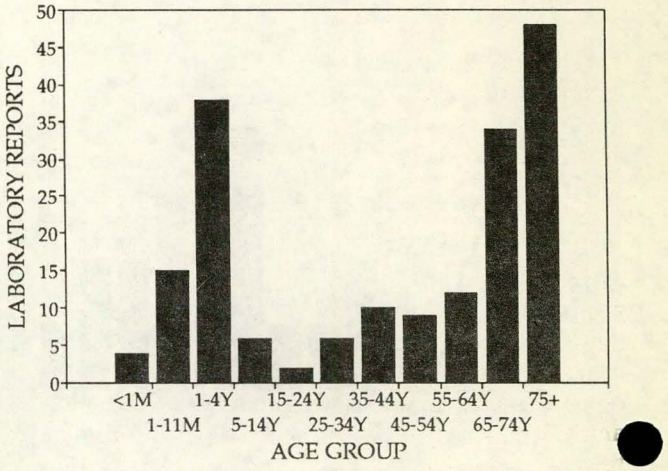
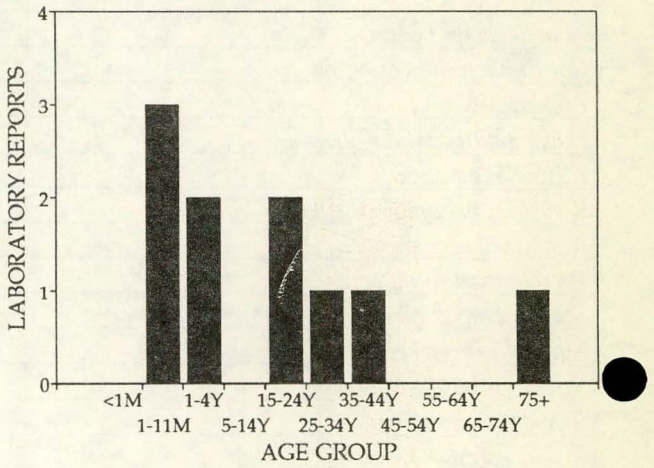


Figure 11. *Neisseria meningitidis* reports of bacteraemia without meningitis, 1992, by age group



Comments

The LabDOSS meningitis database for 1992 is small, and there are no new trends suggested from these records. Despite the limited number of records, the data do support our current understanding of organisms implicated in meningitis. The database provides more information than notifiable disease registers, as clinical information and risk factors are included in the reports, and the timing of onset of illness can be more accurate.

The importance of collecting the serogroup information is reinforced by this data. The lack of this information means that these data cannot be easily used for strategic planning or for interventions such as vaccination. Efforts will be made in 1993 to improve the number of serogroup reports in the LabDOSS data.

DISTRIBUTION OF BLOOD CULTURE ISOLATES FROM THREE LARGE SPECIALISED METROPOLITAN HOSPITALS, 1991-1992

(Joan Faoagali, Infection Control Unit, Royal Brisbane Hospital)

This report summarises the data on blood cultures received from patients treated at the Royal Women's Hospital, Brisbane, Royal Children's Hospital, Brisbane, and Royal Brisbane Hospital for 1991 and the first six months of 1992.

The Bactec 660 system was used to process all samples using a five day processing protocol. The 6A and 7A (trypticase soy broth and thioglycollate) media taking 5 mLs of blood were used for routine blood cultures. High blood volume (10 mLs) bottles with resins and charcoal were used in the intensive care unit and oncology areas and were available on request for patients on antibiotic treatment in other areas. Peds bottles (with resins, low blood volume 1-3 mLs) were used in the paediatric hospital (Royal Brisbane Hospital) and neonatal intensive care unit (Royal Women's Hospital). SPS free bottles were available on request when *Mycoplasma* or other fastidious or SPS-sensitive isolates were suspected.

Over 14,000 bottles were tested in 1991, and over 7,000 in 1992 (Figure 1). Nine hundred and seventy-four patients were found to be positive in 1991, and 495 for the period January to June 1992. There were no seasonal trends in the number of tests or positives. The highest frequency of positive isolates was obtained from the acute admission area, oncology and the intensive care units of each hospital (Table 1).

The majority of the isolates were Gram positive in both 1991 and 1992. Staphylococci were the most commonly identified group in both years, 42.3% of isolates in 1991 and 41.9% in 1992 (Figure 2).

There were 713 *Staphylococcus* isolates in 1991 and 393 in the first six months of 1992 (Table 2). Eighty-four and 60, respectively, were MRSA. There were 118 streptococcal bacteraemias in 1991, and 83 in the first six months of 1992. *E. coli* were the most common Gram negative isolates, followed by *Klebsiella pneumoniae*.

Figure 1. Blood culture 'sets' and patients, tested and positive, 1991 and January to June 1992

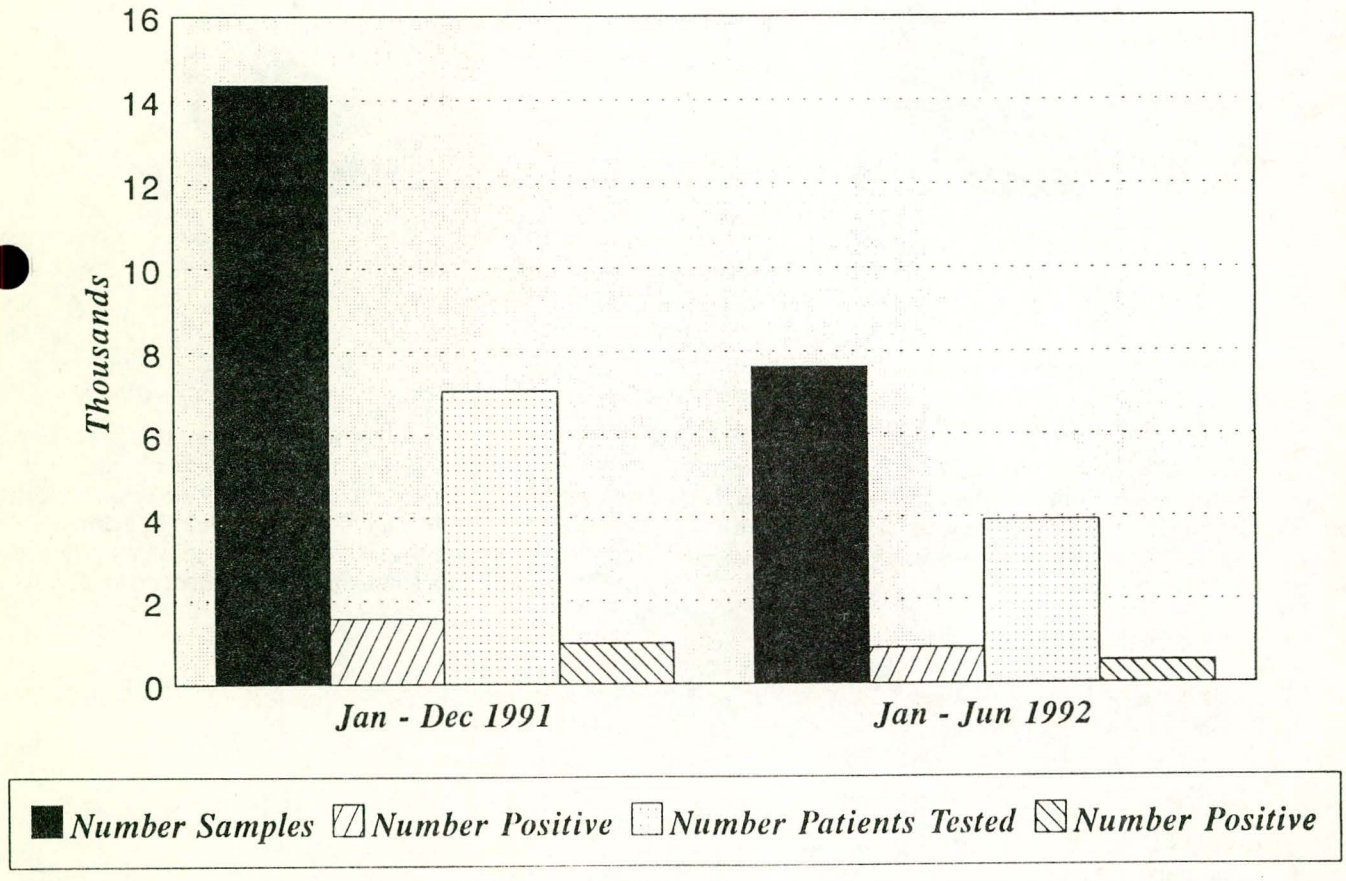
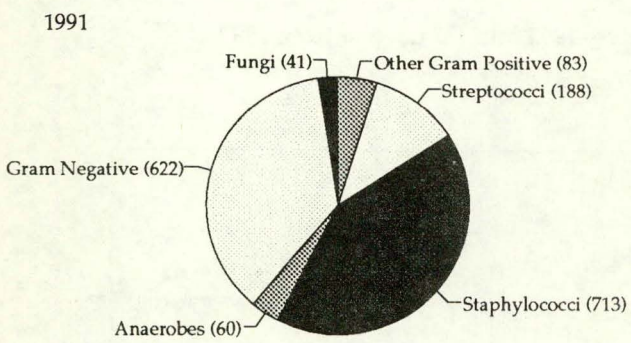


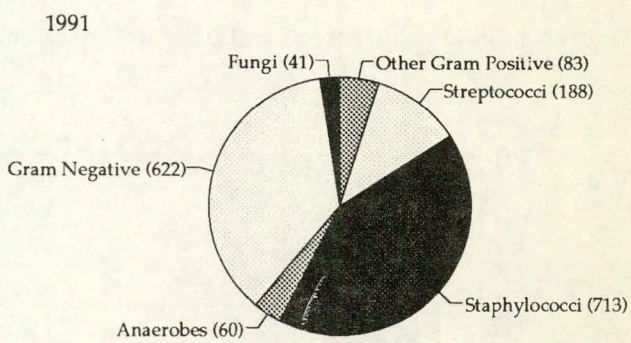
Table 1. Patients tested, patients positive and rates of positivity, 1991 and January to June 1992, by hospital and source

	Accident and Emergency		Medical		Surgical		Intensive Care Unit		Oncology	
	1991	1992[1]	1991	1992[1]	1991	1992[1]	1991	1992[1]	1991	1992[1]
Royal Brisbane Hospital										
Patients tested	1774	868	1349	621	1214	685	147	142	196	142
Patients positive	200	93	223	101	191	103	31	36	72	36
Rate (%)	11.3	10.7	16.5	16.3	15.7	15.0	21.2	25.4	36.7	25.4
Royal Children's Hospital										
Paitents tested	661	408	787	415	218	91	139	77	149	115
Patients positive	40	14	79	45	21	11	32	14	36	16
Rate (%)	6.1	3.4	10.0	10.8	9.6	12.1	23.0	18.2	24.2	13.9
Royal Women's Hospital										
Patients tested	0	4	109	87	63	63	378	223	-	-
Patients positive	0	0	14	5	5	7	30	14	-	-
Rate (%)	0	0	12.8	5.8	7.9	11.1	7.9	6.3	-	-

1. January to June only.

Figure 2. Blood culture isolates, 1991 and January to June 1992, by type





Contaminants comprised about 1.5% of the total positive cultures. These were defined as single isolates of skin flora with no risk factors determined.

Polymicrobial bacteraemia was detected with two organisms 164 times, with three organisms 21 times, and with four organisms on eight occasions. These polymicrobial bacteraemias were increasingly related to iatrogenic interventions including intravascular lines, or surgery, breaches of the intestinal mucosa or its integrity due to hypotension, mucositis or diarrhoea.

All positive blood cultures were reported to the treating doctors by telephone, and information on clinical diagnosis, antibiotic therapy, clinical status and risk factors were determined for each patient. Date of admission was also determined so it could be assessed whether or not the isolates were community- or nosocomially-acquired.

Table 2. Staphylococci, streptococci and Gram negative isolates, 1991 and January to June 1992

ORGANISM	1991	1992[1]
Staphylococci		
MRSA	84	60
S. aureus	185	81
S. epidermidis	89	80
Coagulase negative	309	135
Other	46	37
Total	713	393
Streptococci		
S. pneumoniae	19	52
S. mitis	10	32
S. sanguis	11	20
Enterococcus faecium	1	7
Enterococcus faecalis	10	21
ß-haemolytic group	15	36
Other	17	20
Total	188	82
Gram negative		
E. coli	230	
Klebsiella pneumoniae	81	
Pseudomonas aeruginosa	44	
Acinetobacter species	38	
Other	229	
Total	622	

1. January to June only.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization and the Department of Foreign Affairs and Trade.

Meningococcal Meningitis in Guinea

An epidemic has been reported in Kerouane and Kissidougou Prefectures since the beginning of January, and 524 cases and 80 deaths were recorded to 12 February. Vaccination of the local population is being carried out. Serogroup information has not been supplied.

Cholera Update

The cholera outbreak in Zimbabwe is continuing, with 5,690 cases and 259 deaths recorded between December and 19 February. Most cases have been from the northern and eastern parts of the country, and most have been traced back to refugee camps where the water and sanitation situations were inadequate. Mashonaland West and Midlands Provinces are newly infected.

Other newly infected areas are Chiuta District, Tete Province in Mozambique and Minas Gerais State in Brazil.

Cases have been reported for January and February from Argentina, Belize, Bolivia, Brazil, Chile, El Salvador, Guatemala, Malawi, Mexico, Mozambique, Nicaragua, Panama, Zambia and Zimbabwe.

Influenza in the Northern Hemisphere

Influenza activity has increased in many countries of Europe since the beginning of February. Influenza B has been the predominant type, although influenza A (H_3N_2) has been the most common type in Bulgaria. In North America, influenza B continues to predominate, but in the USA, the proportion of influenza A (H_3N_2) has increased gradually since early January.

CDI NOTICE TO READERS

Aedes aegypti in Queensland - Correction

A correction is required for the article 'The distribution of *Aedes aegypti* in Queensland, 1990 to 30 June 1992' published in *CDI* 1992;16:400-403.

There were two additional townships positive for *Aedes aegypti*: Dirribandi and Childers. This means that the only 'major' difference from the most recently published distribution map for the mosquito was that it was recorded 110 kilometres further west of Cloncurry, at Mt Isa.

The following townships were negative for *Aedes aegypti* during the above survey period: Yarrabah, Hopevale, Wujal Wujal, Lockhart River, Arakun, Doomadgee, Ganuna, Dingo, Blackwater, Dysart, The Caves, Keppel Sands, Emu Park, Yeppoon, Atherton, Kowanyama, Pormpuraaw, Bamaga, Boigu Island, Laura, Coen, Cooktown, Glenden, Tieri, Bucasia, Slade Point, Weipa, Inglewood, Warwick, St George, Stanthorpe, Bundaberg, Hervey Bay, Quilpie, Cunnamulla and Gin Gin.

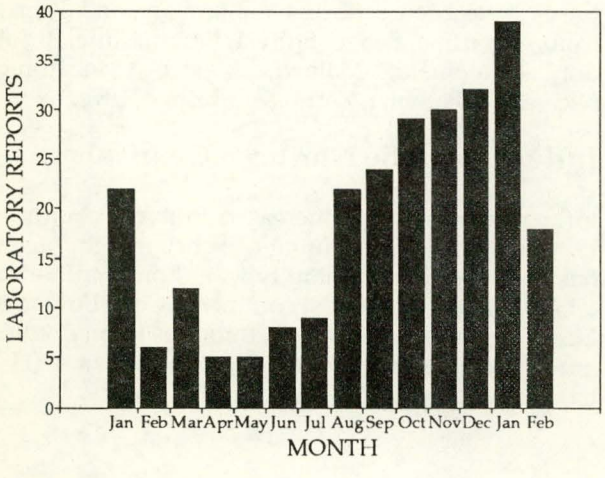
COMMUNICABLE DISEASES SURVEILLANCE

Laboratory Reporting Schemes

There were 1,487 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 8, 9 and 10), and 51 reports of isolates from normally sterile sites (LabDOSS, Table 4).

- **Measles** was reported for 25 patients. The number of reports has been at a constant level since October, higher than at any period since spring 1991 (Figure 1). Reports have recently increased from laboratories in New South Wales, Queensland and Victoria.
- There were 39 **rubella** reports this fortnight. Rubella reports peaked in October-November last year, but are still being received at a greater rate than usual for this time of year. Included this fortnight were 6 reports in females in the age group 15 to 44 years, including a 32 year old who was pregnant.

Figure 1. Measles laboratory reports, January 1992 to February 1993, by month of specimen collection



- Forty-seven reports of **hepatitis A** were received. Included was a 2 year old female who was a contact of a child care centre experiencing a hepatitis A outbreak. Also included were 7 patients who were associated with an outbreak in a hospital for the developmentally disabled. Their ages ranged from 8 to 16 years.
- A total of 133 reports of **hepatitis C** was received. Included were 9 patients with a history of injecting drug use (one whose girlfriend was hepatitis C positive), one neonate (mother positive), and a female patient being investigated for long-standing infertility.
- **Ross River virus** infection was reported for 64 patients. Two were four-fold changes (Western Australia) and the remainder were IgM (presumptive cases). Locations reported were in Queensland, New South Wales, Western Australia and Tasmania. Specimen collection dates were a in January and February this year.
- Three reports of **untyped flavivirus** were received. Two patients were described as returned travellers (one Thailand, four-fold change; one Indonesia, IgM). Overseas travel was also the reported risk for the case of **untyped dengue** reported (IgM). The 17 year old male patient had recently been the Malaysia.
- **Adenovirus type 4** was reported for 8 patients. Reports of this virus causing eye disease have now been received from South Australia, Victoria and New South Wales in recent months (Figure 2).
- **Coxsackievirus B1** continues to be reported at a greater rate than usual (Figure 3); there were 9 reports this fortnight. Most of the reports of this virus in recent months have been from New South Wales and Victoria, but there have also been reports from Queensland, South Australia and Tasmania. Included this fortnight was a CSF isolate from a 5 day old female.

Figure 2. Adenovirus type 4 laboratory reports, January 1992 to February 1993, by month of specimen collection

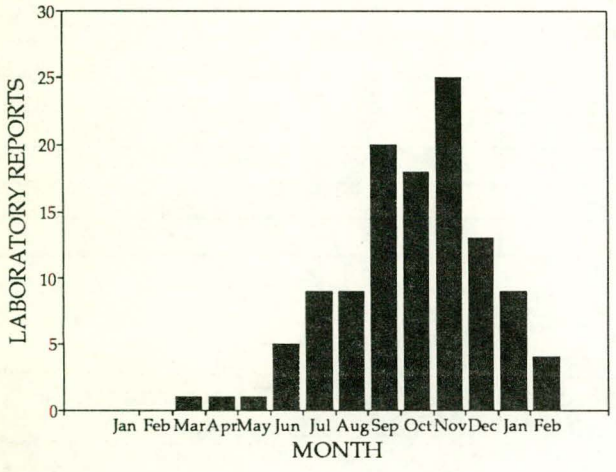


Figure 3. Coxsackievirus B1 laboratory reports, January 1992 to January 1993, by month of specimen collection

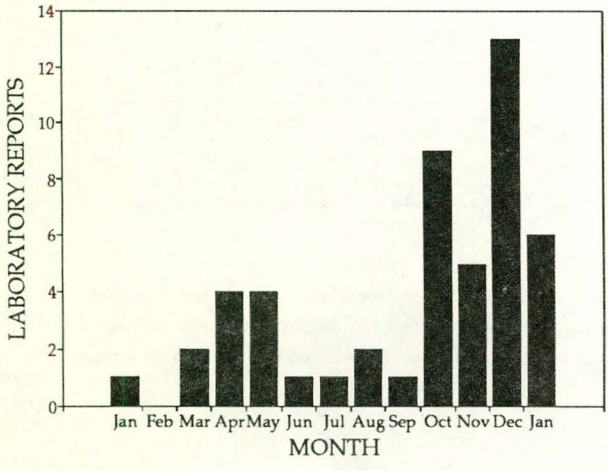


Figure 4. Echovirus type 7 laboratory reports, January 1992 to January 1993, by month of specimen collection

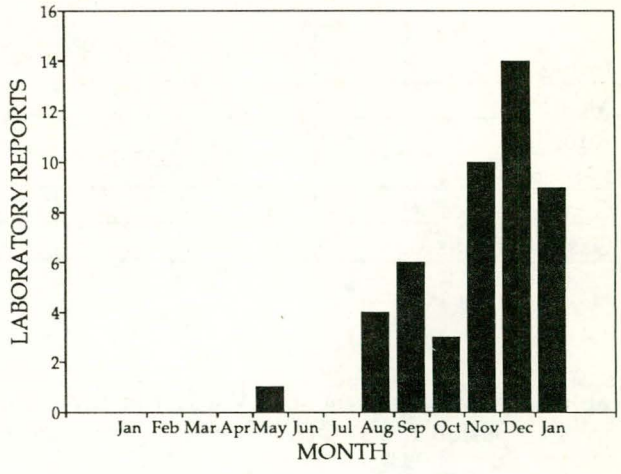
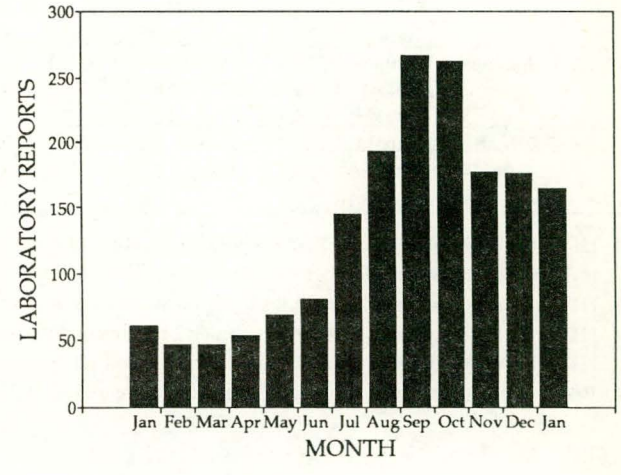


Figure 5. *Mycoplasma pneumoniae* laboratory reports, January 1992 to January 1993, by month of specimen collection



- **Echovirus type 7** is also being reported at a greater rate than is usual, from New South Wales, Queensland and Victoria (Figure 4). Twelve reports were received this fortnight.
- **Ctyomegalovirus** infection was reported for 38 patients. Included were 3 transplant patients, 1 pregnant female, 3 patients who were HIV positive, a 5 month old male with encephalitis (nasopharyngeal isolate), a six month old female, and a four month old male (postmortem isolations, from lung tissue, and lung and lymph node, respectively), a 48 year old female who died and a one year old female who was deaf.
- There was a single report of untyped **influenza A** (isolate from a female aged one year) from a South Australian laboratory, and one of **influenza B** (single high titre) from New South Wales.
- ***Mycoplasma pneumoniae*** infection was reported for 109 patients, bringing the total for 1992 to 1,578 reports, and for January to 165 reports. The number of reports received peaked in September-October, and is still much higher than at this time last year (Figure 5). Increased numbers of reports are still being received from New South Wales, Queensland, South Australia and Victoria.
- ***Bordetella pertussis*** infection was reported for 9 patients. Included were 3 aged one month, a 3 month old, a 5 month old and 2 aged one year. ***Bordetella* species** infection was reported for 17 patients. Their ages ranged between 2 and 70 years. Reports of these organisms have been peaking over summer, as expected.
- There were 10 reports of **Q fever**, all in males in the age range 19 to 55 years. Animal exposure was the

Table 1. Australian Sentinel Practice Research Network, Weeks 8 and 9, 1993

Condition	Week 8, to 21 February 1993		Week 9, to 28 February 1993	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	18	2.9	30	5.0
Measles	0	0	0	0
Rubella	5	0.8	1	0.2
Pertussis	1	0.2	0	0
Genital herpes	8	1.3	1	0.2
Gastroenteritis	60	9.6	66	10.9

Table 2. New diagnoses of HIV infection, new diagnoses of AIDS and deaths from AIDS occurring in the period 1 to 31 October 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	1	1	0	1	1	0	3	2	9	1	78	62
	Male	0	40	0	7	5	0	20	4	76	100	940	1061
	Total	1	42[1]	0	8	6	0	23	6	86[2]	121[3]	1039[4]	1204[5]
AIDS Diagnoses	Female	0	1	0	1	0	0	1	0	3	0	19	8
	Male	0	24	1	3	1	0	10	1	40	39	502	378
	Total[6]	0	25	1	4	1	0	11	1	43	39	522	388
AIDS Deaths	Female	0	1	0	0	0	0	0	0	1	0	11	9
	Male	0	9	0	3	1	0	13	1	27	37	404	398
	Total[6]	0	10	0	3	1	0	13	1	28	37	418	407

1. HIV total for NSW includes 1 person whose sex was not reported.
2. HIV total for October 1992 includes 1 person whose sex was not reported.
3. HIV total for October 1991 includes 1 person whose sex was reported as transsexual and 19 persons whose sex was not reported.
4. HIV total for the year to date 1992 includes 2 persons whose sex was reported as transsexual and 19 persons whose sex was not reported.
5. HIV total for the year to date 1991 includes 1 person whose sex was reported as transsexual and 80 persons whose sex was not reported.
6. Persons whose sex was reported as transsexual are included in the totals.

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

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	AUSTRALIA
HIV Diagnoses	Female	8	446	6	59	35	3	115	37	709
	Male	133	8627	62	1108	476	64	2724	590	13784
	Total	141	11104[1]	68	1170[2]	511	67	2910[3]	628[4]	16599[5]
AIDS Diagnoses	Female	2	73	0	13	8	2	16	8	122
	Male	43	2195	14	331	144	22	790	172	3711
	Total[6]	45	2272	14	345	152	24	808	180	3840
AIDS Deaths	Female	1	43	0	8	2	1	9	3	67
	Male	32	1389	6	204	83	13	538	108	2373
	Total[6]	33	1434	6	213	85	14	548	111	2444

1. HIV total for NSW includes 5 persons whose sex was reported as transsexual and 2026 persons whose sex was not reported.
2. HIV total for QLD includes 3 persons whose sex was reported as transsexual.
3. HIV total for VIC includes 7 persons whose sex was reported as transsexual and 64 persons whose sex was not reported.
4. HIV total for WA includes 1 person whose sex was reported as transsexual.
5. HIV total for Australia includes 16 persons whose sex was reported as transsexual and 2090 persons whose sex was not reported.
6. Persons whose sex was reported as transsexual are included in the totals.

reported risk factor for 2 patients, including an abattoir worker.

- There were 2 reports of ***Mycobacterium intracellulare*** infection reported. For an 18 month old female, the organism was isolated from a lymph node biopsy. The other patient was a 61 year old male whose sputum was positive.

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network collected data from 6,243 patient encounters in Week 8 and from 6,040 patient encounters in Week 9 (Table 1). The last few weeks has seen an increase in the rate at which influenza has been reported.

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 reports for October 1992 have been repeated in this issue of *CDI* (Tables 2 and 3); AIDS diagnoses and deaths are as reported to 31 January 1993. These data will be updated in *CDI* monthly initially, and fortnightly in the near future.

Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by four laboratories. Royal Brisbane Hospital also provided 95 reports for November 1992 which have been included in the 1992 data.

A total of 51 reports have been included for this edition (27 Liverpool Hospital, 4 T.B. Lynch Pathologists, Rockhampton, 5 Central Queensland Pathology Service, 15 Toowoomba General Hospital).

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

Gram positive: 3 *Streptococcus* Group G, 2 *Streptococcus pneumoniae*, 1 *Streptococcus mitis*, 1 *Enterococcus faecalis*, 1 *Staphylococcus epidermidis*, 1 *Bacillus* species.

Gram negative: 2 *Acinetobacter sp* (1 *A. calcoaceticus* var. *lwoffi*), 2 *Klebsiella pneumoniae*, 1 *Enterobacter cloacae*, 2 *Serratia* species, 1 *Pseudomonas fluorescens*, 1 *Pseudomonas aeruginosa*, 2 *Proteus mirabilis*, 1 *Proteus vulgaris*, 1 *Flavobacterium indologenes* (67 year old male with a central IV line).

There were no CSF isolates or meningitis reports this fortnight.

Isolates from Sites other than Blood or CSF

Peritoneal dialysate: 1 *Staphylococcus epidermidis.*

Joint fluid: 1 *Escherichia hermanii* (77 year old female), 2 *Staphylococcus aureus* (46 year old female and 22 year old male), 1 *Enterobacter cloacae* (22 year old male).

Pleural Fluid: 1 *Streptococcus pneumoniae.*

National Notifiable Diseases Surveillance System, 7 February to 20 February 1993

A total of 1149 reports were received for this period (Figure 6, Tables 5, 6 and 7). Queensland data were not available.

- There were 184 reports received of notifications of **Ross River virus infection**, 91 males and 93 females. Ages ranged from the 0-4 years to the 95-99 years age groups. Onset dates were recorded as February in 134, January in 49 and September in 1. Notifications were received for Statistical Divisions in coastal and rural New South Wales, including the Murray and Murrumbidgee areas, rural and metropolitan Victoria, the Murray area and Adelaide in South Australia and the Kimberley, Perth and southern Western Australia.

Table 4. LabDOSS reports of blood isolates for the reporting period 18 February to 3 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	10[2]	2					3		1		1[3]	
Escherichia coli	13				1	7		3	3		1	

1. Only organisms with 5 or more reports are included in this table.
2. 2 MRSA.
3. Intrauterine death.

- **Gonococcal infection** was notified for 80 cases, of which 54 were male and 25 female. Sex was not reported in one case. Ages ranged from the 10-14 years to the 65-69 years age groups.
- Eleven reports of ***Haemophilus influenzae* type b infection** were received, 6 males and 3 females. Sex was not recorded in 2 cases. There were 9 in the 0-4 years age group, with 3 of these under one year of age. There was one case in the 5-9 years age group and one case where age was not recorded. There was an apparent cluster of 2 cases in the same postcode area with the same date of onset.
- There were 38 reports of **hepatitis A**, 19 in males and 19 in females. Ages ranged from the 0-4 to the 60-64 years age groups. Twenty cases were under 15 years of age. The peak age specific incidence of notifications was in the 5-9 years age group with 10 cases.
- Five reports of **legionellosis** were received. Two were males in the 55-59 years age group and three were female, with ages ranging from the 40-44 years to the 80-84 years age groups.
- There were 7 notifications of **leptospirosis** received. Six were males with ages ranging from the 20-24 years to the 45-49 years age groups. Age was not recorded in one case. The seventh case was a female in the 25-29 years age group. Cases were reported from locations in rural and metropolitan Victoria and metropolitan South Australia.
- A single case of **listeriosis** was reported in a female in the 25-29 years age group.
- Fifty-four cases of **measles** were notified, 31 males and 23 females. Ages ranged from the 0-4 years to the 40-44 years age groups. In one case age was not recorded. For 3 cases, age was recorded as less than one year. The mean age was 8.7 years. There were apparent clusters in 6 separate postcode areas, with between 2 and 6 cases each. In one postcode area 6 cases had dates of onset on the same day.
- **Meningococcal infection** was notified for 8 cases. Six were male and 2 female. Six were in the 0-4 years age group, of which 5 were recorded as being under 1 year of age. Two were in the 15-19 years age group. There was an apparent cluster of 2 cases in the same postcode area with dates of onset 1 day apart.
- There were 54 notifications of **pertussis** reported, 22 in males and 31 in females. Sex was not recorded for one case. Nineteen cases were aged under 5 years, of which 4 were less than one year old. There were 8 apparent clusters in separate postcode areas with between 2 and 3 cases each. The interval between onset dates within each apparent cluster varied from the same day to 7 days apart.
- Eleven notifications of **Q fever** were reported, 10 male, 1 female. Ages ranged from the 15-19 years to the 45-49 years age groups. Locations reported were rural Victoria and coastal, rural and metropolitan NSW.
- There were 91 reports of **rubella**, 57 in males and 33 in females. Sex was not recorded in 1 case. One case was recorded as less than one year of age. The mean age of notified cases was 17.4 years. There were 15 reports for females in the 15-44 years age group.
- Thirty-three notifications of **syphilis** were reported, 20 in males and 13 in females. Ages ranged from the 15-19 years to the 50-54 years age groups.
- A single notification of **tetanus** was received. This occurred in a male in the 70-74 years age group.
- Three cases of **typhoid** were notified in this period, 2 males and 1 female. Ages ranged from the 10-14 years age group to the 45-49 years age group. Two were from the same postcode area in the Sydney Statistical Division and one was from northern South Australia.

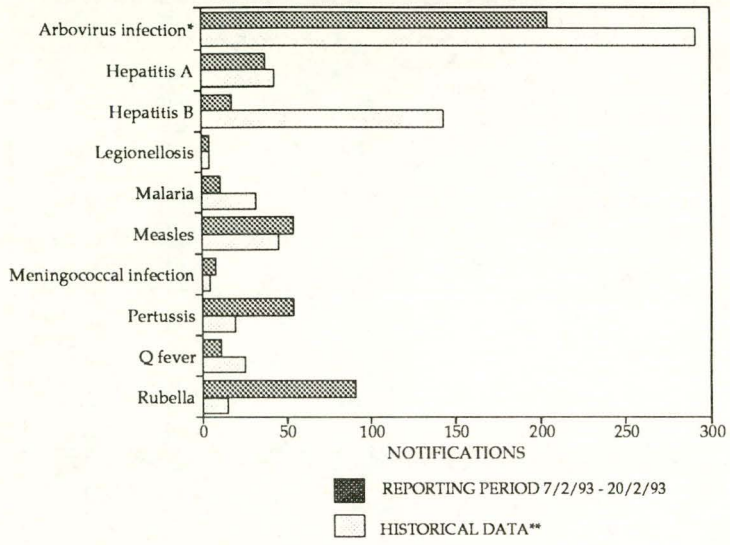
Table 5. Notifiable Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 7 to 20 February 1993

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
Measles	3	25	0		14	0	10	2	54	41	195	145
Mumps	0	0	NN	NN	NN	NN	0	NN	0	0	0	3
Pertussis	1	15	0		16	4	11	7	54	20	220	65
Poliomyelitis	0	0	0		0	0	0	0	0	0	0	0
Rubella[2]	19	17	0		16	0	39	0	91	20	613	56
Tetanus	0	1	0	NN	0	0	0	0	1	1	3	2

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.

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 6. Other Notifiable Diseases[1], for the reporting period 7 to 20 February 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	6	1		0	0	14	0	21	10	65	19
Ross River virus infection	0	46	23		84	NN	16	15	184	255	474	467
Dengue	0	-	0		-	NN	0	NN	0	0	7	2
Campylobacteriosis[4]	10	-	23		60	14	46	48	201	329	1130	1200
Chlamydial infection (NEC)	2	NN	20		0	17	34	0	73	261	570	891
Donovanosis	0	NN	0		NN	NN	0	2	2	3	4	7
Gonococcal infection[5]	0	17	17		0	1	12	33	80	71	296	299
Haemophilus influenzae b infection[6]	0	4	NN		3	0	4	NN	11	19	42	59
Hepatitis A	0	20	7		5	0	4	2	38	91	243	255
Hepatitis B	1	3	1		1	2	0	10	18	164	223	571
Hepatitis C	1	0	5		NN	1	44	NN	51	282	422	1057
Hepatitis (NEC)	0	0	0		0	0	1	NN	1	1	8	2
Legionellosis	0	2	0		1	0	1	1	5	10	14	12
Leptospirosis	0	0	0		1	0	6	0	7	6	26	15
Listeriosis	0	0	NN		NN	0	1	0	1	2	7	2
Malaria	2	1	0		2	2	1	3	11	32	69	87
Meningococcal infection	1	2	0		0	1	2	2	8	5	31	20
Ornithosis	0	NN	0		0	0	3	0	3	9	18	11
Q fever	0	8	0		0	0	3	0	11	10	52	40
Salmonellosis (NEC)	6	40	15		22	4	14	30	131	272	715	855
Shigellosis[4]	0	-	4		7	0	1	16	28	24	131	84
Syphilis	0	9	18		0	0	0	6	33	70	203	277
Tuberculosis	3	3	0		8	0	6	0	20	40	90	87
Typhoid[7]	0	2	0		1	0	0	0	3	4	10	12
Yersiniosis (NEC)[4]	0	-	0		0	0	1	0	1	29	59	97

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 7. Rarely Notified Diseases[1] for the reporting period 7 to 20 February 1993

DISEASES	Total This Period	Reporting States or Territories	Year to Date 1993
Botulism	0		0
Brucellosis	0		4
Chancroid	0		0
Cholera	0		1
Hydatid infection	0		1
Leprosy	0		1
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 11 to 24 February 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
	NSW	Qld	SA	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA									
Measles virus	9		11		5		25	6.2	108
Mumps virus	1						1	2.7	12
Rubella virus	7	25	5		2		39	4.2	364
HEPATITIS VIRUSES									
Hepatitis A virus	17	17	7		2	4	47	13.2	145
Hepatitis B virus	28	18	8		15	30	99	83.0	488
Hepatitis C virus		30	56			47	133	41.7	658
ARBOVIRUSES									
Ross River virus	6	12	36	1		9	64	36.0	196
Barmah Forest virus		7				1	8	.8	33
Dengue not typed	1						1	.5	7
Flavivirus (unspecified)					3		3	.8	23
ADENOVIRUSES									
Adenovirus type 1	5		1				6	3.8	26
Adenovirus type 2	4		2				6	3.7	20
Adenovirus type 3			2		1		3	1.5	29
Adenovirus type 4	2		4		2		8	1.5	44
Adenovirus type 5	1		2				3	.5	10
Adenovirus type 6			1				1	.5	3
Adenovirus type 8			1				1	.3	5
Adenovirus type 11	1						1	.7	3
Adenovirus not typed/pending	12	2	5		11	9	39	23.0	248
HERPES VIRUSES									
Herpes simplex virus type 1	28	35	30	2	62	34	191	121.2	901
Herpes simplex virus type 2	35	54	15		33	55	192	119.2	1,039
Herpes simplex not typed/pending	46					1	47	26.0	139
Cytomegalovirus	5	14	1		13	5	38	57.5	325
Varicella-zoster virus	8	6	1		6	11	32	19.0	223
Epstein-Barr virus	14	27	21		7	17	86	45.2	470

Table 8. Laboratory reports by State or Territory of reporting laboratory for the reporting period 11 to 24 February 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
	NSW	Qld	SA	Tas	Vic	WA			
OTHER DNA VIRUSES									
Papovavirus group					1		1	.2	3
Parvovirus					2		2	2.3	41
PICORNA VIRUS FAMILY									
Coxsackievirus A9	6						6	1.5	12
Coxsackievirus B1	7		1		1		9	.2	28
Coxsackievirus B5	6						6	1.2	27
Echovirus type 6						1	1	.2	1
Echovirus type 7	10				2		12	.2	37
Echovirus type 9	6		1		1	1	9	.5	21
Echovirus type 11					3		3	.8	6
Echovirus type 25	3						3	.0	10
Poliovirus type 1 (uncharacterised)	7						7	1.0	16
Poliovirus type 2 (uncharacterised)	1						1	.7	9
Poliovirus type 3 (uncharacterised)	3						3	.5	6
Rhinovirus (all types)	3				14		17	10.5	149
Enterovirus not typed/pending	7				2	6	15	24.0	166
ORTHO/PARAMYXOVIRUSES									
Influenza A virus			1				1	2.3	28
Influenza B virus	1						1	2.5	6
Parainfluenza virus type 1	1						1	5.5	3
Parainfluenza virus type 3	8				5		13	10.2	124
Parainfluenza virus typing pending					1		1	.7	4
Respiratory syncytial virus	3				1		4	9.0	36
OTHER RNA VIRUSES									
HIV-1						2	2	1.7	16
Rotavirus	15	3	1		1	7	27	13.0	230
Coronavirus	2						2	.8	5
Small virus (like) particle	1						1	1.3	10
OTHER									
Chlamydia trachomatis not typed	4	36	16	1	5	32	94	81.2	558
Chlamydia psittaci		1			1		2	5.2	24
Chlamydia species						1	1	.0	3
Mycoplasma pneumoniae	28	18	10	2	43	8	109	19.3	487
Coxiella burnetti (Q fever)	6	2			2		10	9.0	75
Streptococcus group A		19					19	.0	66
Bordetella pertussis	1	1			7		9	.0	25
Bordetella species		17					17	.0	76
Treponema pallidum		2					2	.0	129
Toxoplasma gondii		2					2	.0	12
TOTAL	359	348	239	6	254	281	1,487	817.8	7,968

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 11 to 24 February 1993

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus					1			15				9	25
Mumps virus												1	1
Rubella virus								10				29	39
HEPATITIS VIRUSES													
Hepatitis A virus						2	24					21	47
Hepatitis B virus							14					85	99
Hepatitis C virus						1	27					105	133
ARBOVIRUSES													
Ross River virus								6		20		38	64
Barmah Forest virus										2		6	8
Dengue not typed												1	1
Flavivirus (unspecified)						1				1		1	3
ADENOVIRUSES													
Adenovirus type 1						3		1	1			1	6
Adenovirus type 2					4	2							6
Adenovirus type 3					1			1	1				3
Adenovirus type 4						1			7				8
Adenovirus type 5					2	1							3
Adenovirus type 6					1								1
Adenovirus type 8									1				1
Adenovirus type 11						1							1
Adenovirus not typed/pending		1			10	19			4			5	39
HERPES VIRUSES													
Herpes simplex virus type 1					11			103	8		51	18	191
Herpes simplex virus type 2								76			97	19	192
Herpes simplex not typed/pending	1							36	1		1	8	47
Cytomegalovirus	1		2		5	2		1				27	38
Varicella-zoster virus								24				8	32
Epstein-Barr virus					6		2	5		1		72	86
OTHER DNA VIRUSES													
Papovavirus group												1	1
Parvovirus								1				1	2
PICORNA VIRUS FAMILY													
Coxsackievirus A9		2										4	6
Coxsackievirus B1		1				3						5	9
Coxsackievirus B5					1	1						4	6
Echovirus type 6	1												1
Echovirus type 7		5				1			1			5	12
Echovirus type 9		2			1							6	9
Echovirus type 11		1						1				1	3
Echovirus type 25					1							2	3
Poliovirus type 1 (uncharacterised)					2	2						3	7
Poliovirus type 2 (uncharacterised)												1	1

Table 9. Laboratory reports by clinical information for the reporting period 11 to 24 February 1993, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
Poliovirus type 3 (uncharacterised)												3	3
Rhinovirus (all types)					14							3	17
Enterovirus not typed/pending	1	3			3	4						4	15
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					1								1
Influenza B virus												1	1
Parainfluenza virus type 1								1					1
Parainfluenza virus type 3					11			1				1	13
Parainfluenza virus typing pending												1	1
Respiratory syncytial virus					4								4
OTHER RNA VIRUSES													
HIV-1												2	2
Rotavirus						25						2	27
Coronavirus						1						1	2
Small virus (like) particle						1							1
OTHER													
Chlamydia trachomatis not typed					1	1			3		66	23	94
Chlamydia psittaci												2	2
Chlamydia species					1								1
Mycoplasma pneumoniae					82			1				26	109
Coxiella burnetti (Q fever)												10	10
Streptococcus group A					4			1		1		13	19
Bordetella pertussis					7							2	9
Bordetella species					4							13	17
Treponema pallidum											2		2
Toxoplasma gondii						1						1	2
TOTAL	4	17	2		178	73	67	284	27	25	217	593	1487

Table 10. Laboratory reports by contributing laboratories for the reporting period 11 to 24 February 1993

STATE OR TERRITORY	LABORATORY	REPORTS
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	296
	Royal Alexandra Hospital for Children, Camperdown	30
	South West Area Pathology Service, Liverpool	19
	Tamworth Laboratory, New England Pathology	14
Queensland	Dr TB Lynch, Pathologist, Rockhampton	65
	Queensland Medical Laboratory, West End	278
	State Health Laboratory, Brisbane	5
South Australia	Institute of Medical & Veterinary Science, Adelaide	239
Tasmania	Northern Tasmanian Pathology Service, Launceston General Hospital	6
Victoria	Fairfield Hospital, Melbourne	192
	Microbiological Diagnostic Unit, University of Melbourne	4
	Royal Children's Hospital, Melbourne	58
Western Australia	Princess Margaret Hospital, Perth	10
	State Health Laboratory Services, Perth	271
TOTAL		1487