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CONTENTS

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

NOSOCOMIAL WHOOPING COUGH

(Reproduced from Monthly Infectious Diseases Report, No 36, October 1992, Editor D Isaacs)

Case History

A 5 week old fully breast-fed boy, SG, an only child, was admitted to a country hospital for investigation of failure to thrive. He remained in hospital for a week and began to gain weight after being changed to bottle-feeding. Two days before he was discharged, a 6 month old infant with suspected whooping cough was admitted to the cot opposite.

At home, SG was well for 5 days. Seven days after his whooping cough contact he began to develop a frequent cough, without prior rhinitis. After 3 or 4 days he was vomiting mucus with the cough, going blue or purple with paroxysms of coughing, and was not breathing during the attacks. He had no whoop.

Both parents developed a ticklish, intermittent cough. The mother's cough was waking her at night, causing retrosternal pain and vomiting of phlegm and was associated with a loud whoop. The father had a sore throat, mild cough but no whoop. Pernasal swabs from both infants grew *Bordetella pertussis*.

SG was readmitted to the country hospital. He had a clear nasal discharge and paroxysmal cough without whoop but with apnoea and cyanosis. His peripheral white blood cell count was 14.1 x 10^9/L with 77% lymphocytes. The paroxysms became increasingly frequent and were associated with arterial oxygen desaturation to 85%. Transport was requested, and SG was transferred by ambulance to intensive care at the Royal Alexandra Hospital for Children. He appeared well, vigorous and afebrile between coughing paroxysms, had a respiratory rate of 40 per minute and his chest was clear. Chest X-ray was normal. Initially he was maintained in head-box oxygen but was having paroxysms of cough with apnoea and cyanosis every 1 to 2 minutes. He was, therefore, muscle relaxed, intubated, and ventilated. SG and both parents were given a 14 day course of oral erythromycin.

Attempts to wean SG from the ventilator were frustrated by recurrence of bradycardia and desaturation when the ventilator rate was reduced. He was extubated after 14 days. His neurological status was felt to be normal for age. His recuperation was complicated by discoordinate swallowing, vomiting, poor weight gain and a *Streptococcus faecalis* urinary tract infection. He was found to have left grade II vesicoureteric reflux. His vomiting continued, became projectile, and on day 24 of his admission (aged 11 weeks) a pyloric tumour was palpated and pyloromyotomy performed.

A nurse at the referring hospital had meanwhile developed coryza followed by a paroxysmal cough, and was eventually recognised as having pertussis. She had continued working in the newborn nursery. As maternal antibody is non-protective it was decided to offer erythromycin prophylaxis to all 52 infants with whom she had been in contact from 6 days after her exposure.

Discussion

This case illustrates a number of important points.

1. Nosocomial infections

Hospitals are dangerous places. Whooping cough is one of the less contagious of the childhood infectious diseases in hospital and nosocomial pertussis is rare. SG was unlucky to catch pertussis in hospital, particularly from a 6 month old with a relatively inefficient cough. However, isolation of children and adults with whooping cough is advised until erythromycin has been taken for five days.

2. Adult infections

SG's parents and the nurse from the referring hospital all developed symptoms of pertussis which were at first unrecognised as such, despite the mother and the nurse, at least, having classical paroxysms with whoop. Their immunisation status is unknown. The role of adults in introducing whooping cough into the family or perpetuating an outbreak is being recognised increasingly[1, 2]. It is important to ask about parental symptoms because the history is often classical but the diagnosis has not been considered. On the other hand asymptomatic infections in adults are well recognised[1,2]. Adults may develop pertussis because they have never been immunised or because vaccine-induced immunity wanes with time[3].

3. Erythromycin prophylaxis

Infants under 2 months old are at high risk for severe whooping cough because they have not been immunised and because maternal antibody is poorly protective. The usual worrying situation regarding pertussis in very young infants is when either a sibling or the mother has pertussis around the time of delivery. The newborn infant is then at high risk of contracting pertussis. In an uncontrolled but fairly convincing study, Granstrom *et al* showed that none of 28 newborns of mothers with pertussis who were given prophylactic erythromycin developed pertussis[4]. For this reason the infant contacts of the infected nurse were given oral erythromycin for 14 days. The incubation period of pertussis is 6 to 20 days, so infants cared for by the nurse from 6 days after her first contact were treated.

4. Two diagnoses (or three)

We are taught always to look for a unifying diagnosis. However, children do not play fair and insist on having more than one disease at once. The clinical acumen of the staff was put to the test by an infant with proven whooping cough and a proven urinary tract infection

who continued to vomit. Luckily they were not found wanting, and made the diagnosis of pyloric stenosis.

5. Infants with pertussis

Infants under 2 months with pertussis may present with apnoea and colour change, occurring intermittently, There may be a bout of coughing leading into the apnoea, but often not, and whoop virtually never occurs. Initially the infant's colour changes to a deep red as it struggles for breath during a paroxysm, later in the illness it may be more obviously blue. Between paroxysms the infant usually looks deceptively well. In Australia pertussis occurs more commonly in the summer months, although it can occur throughout the year.

6. Immunisation

Pertussis is a vaccine-preventable disease. If levels of pertussis immunisation fall, then outbreaks will occur, and infants under 6 months of age will die or suffer brain damage[5].

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POLIO-LIKE SYNDROME: A CASE CAUSED BY ECHOVIRUS TYPE 11

(David McIntosh; reproduced from Monthly Infections Diseases Report, No 36, October 1992, Editor D Isaacs)

A previously well 11 month old boy had a sudden onset of fever, irritability and vomiting following a minor fall. Over the next two days he developed increasing vomiting and he was pulling the hair at the back of his neck. Over a period of 12 hours the parents pointed out that he was no longer moving his left lower limb; radiographs of the limb showed no abnormality. Four days later there was no improvement in the limb and he was transferred to the Royal Alexandra Hospital for Children with a possible diagnosis of poliomyelitis. He had only ever had one polio vaccine (Sabin at 8 months). He had four siblings the youngest of whom was also not up-to-date with immunisation. Although the sewage pipe in the neighbour's garden was faulty and sewage tended to seep into the garden, there was no definite history of the patient having been in contact with this material.

On examination he was afebrile, not distressed and had a heart rate of 104 per minute. The left lower limb was hypotonic, paralysed and areflexic with normal sensation and a down-going plantar response. Examination was otherwise normal.

It was felt that the most likely diagnosis was a polio-like syndrome caused by infection with a different enterovirus, either a coxsackievirus or an echovirus. Other possibilities were vaccine-associated polio, or poliomyelitis due to wild-type polio virus.

A thoraco-lumbar spine radiograph suggested dysraphism. Nerve conduction studies were consistent with an anterior spinal horn cell defect. Electromyography showed polyphasic complexes and a reduced pattern on effort, consistent with denervation. Serology for enterovirus and *Mycoplasma pneumoniae* was negative. Viral cultures of stool grew an echovirus type 11, and of throat grew an untyped enterovirus. This confirmed a diagnosis of a polio-like syndrome due to echovirus type 11.

At discharge 26 days after the onset of the illness there had been a slight return of movement and tone in the affected limb.

Discussion

As soon as tissue-culture methods began to be applied to the isolation of viruses, it became obvious that viruses other than poliomyelitis and the coxsackieviruses existed in the human enteric tract. These agents could be isolated from normal children as well as from patients with aseptic meningitis, and multiple antigenic types existed. They were called ECHO viruses (enteric cytopathogenic human orphan), orphan as initially they had no disease. As for coxsackieviruses, the major clinical manifestation of echoviruses is aseptic meningitis, although they may cause respiratory, gastrointestinal and other manifestations. Echoviruses, along with conditions such as injury, envenomation, chemical poisoning, Guillain-Barré syndrome and other viruses can cause a polio-like paralytic syndrome[1]. These other viruses include rabies, herpes viruses, mumps and other enteroviruses such as coxsackieviruses.

Sabin himself has highlighted the recently discovered high incidence of acute flaccid paralytic disease not

caused by polioviruses in Latin America[2]. Of stool specimens from 1,059 patients, no virus was isolated in 824 (78%), nonpolio enteroviruses in 164 (15%), vaccine-like polioviruses in 53 (5%) and 'wild' polioviruses in 11 (1%). Sabin pointed out that this type of information had been reported by Ramos Alvarez in 1969 but largely ignored[3] and went on to cite 86 autopsies on children with acute-onset flaccid paralysis of which 40 cases (46.5%) were histologically not poliomyelitis. Of the 40 that were not poliomyelitis, 45% were Guillian-Barré syndrome, 30% were nuclear neuronopathy and 22.5% were cytoplasmic neuronopathy.

Ramos Alvarez reported that clinical follow-up on some of the patients with non polio paralytic diseases showed in most instances a complete clinical recovery three months to a year after discharge from the hospital although in some cases there were severe or slight sequelae two years later on[3]. Thus the '2 month or longer rule' for persistence of paralysis should not be used as a criterion for reporting cases of poliomyelitis caused by polioviruses.

Sabin goes on to say that it is not unreasonable to assume that about 98% to 99% of the thousands of cases of acute-onset flaccid paralysis, at least in Latin America, previously reported as poliomyelitis are not poliomyelitis[2]. From an extensive study of 1,620 cases of acute, flaccid paralysis in Brazil in 1987-88, it emerged that no single practical case definition could be made on clinical, laboratory and epidemiological data combining both high sensitivity and high specificity[4]. Furthermore, the isolation in stools of nonpolio enteroviruses and the vaccine-like polioviruses may represent concurrent infections of widely disseminated viruses without any aetiologic relationship to the paralytic disease[2].

In a country such as Australia where such nonpolio enterovirus may not be so widespread, it must be concluded that the cause of the flaccid paralysis in the case described was the echovirus.

Could it have been vaccine associated paralytic poliomyelitis (VAPP)? From 1980 to 1989 in the United States there were no indigenous cases of wild virus disease, 80 cases of VAPP and 5 cases of imported disease reported, with about one cases of VAPP occurring per 2.5 million doses of oral polio virus vaccine (OPV)[5]. In the European region of WHO there were 16 VAPP cases (mostly from Poland and Hungary)[2]. VAPP is seen in two groups, recipients of the vaccine and their contacts[6]. Recipient cases occur predominantly in children less than 4 years of age, approximately 15% of whom have some form of immune deficiency. Most recipient cases occur 7-21 days after oral administration of vaccine. In contrast, disease in contacts occurs mostly in young adults, with onset usually 20-29 days after vaccine administration. More than 80 per cent of both recipient and contact cases are associated with the first dose. With regards to the case described it is highly unlikely that this was VAPP, since Sabin OPV was given 3 months earlier and could not be cultured from the stools.

Vaccination has had an outstanding impact on poliomyelitis, especially in countries such as Brazil where national vaccination days have been held twice yearly in the form of a carnival public holiday[7]. However, occasional outbreaks continue to occur in both developing[8,9] and developed countries[10,11], and both in countries where live (Sabin) or killed (Salk) vaccines are routinely used. Holland, a country where the killed vaccine is used, is in the midst of an epidemic of poliomyelitis amongst members of the Dutch Orthodox Reformed Church who decline immunisation on religious grounds[12].

Whilst such outbreaks occur and whilst poliomyelitis remains endemic in some countries, only vigilance and vaccination will lead to the control and ultimate eradication of the disease.

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CDI Editorial Comment

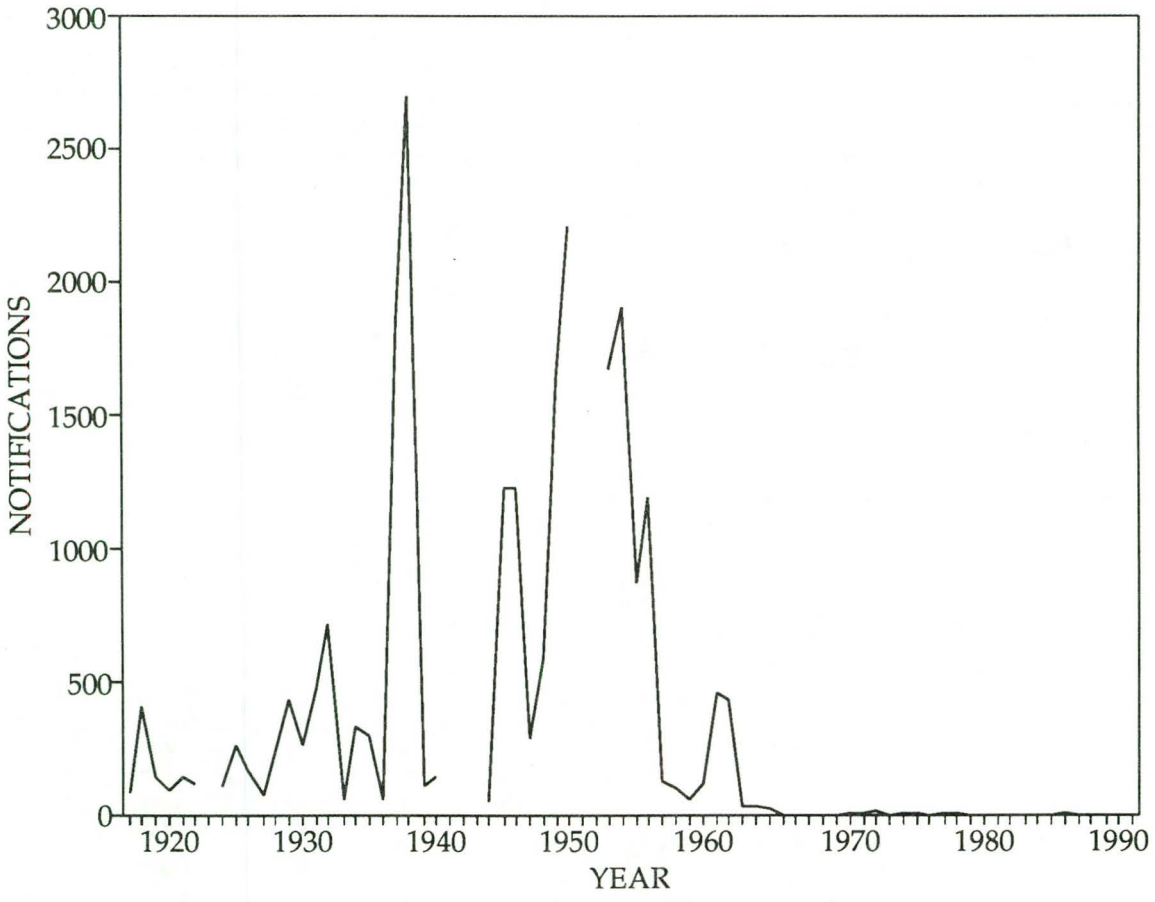
Paralysis has been recorded as the clinical diagnosis for 160 reports made to the *CDI* Laboratory Reporting Schemes since 1982; for most of these, no further information was provided, so it is unknown whether the virus was thought to have caused the paralysis, or whether the viral identification was an incidental finding.

The virus most commonly reported in this group has been cytomegalovirus (35 reports), followed by varicella-zoster virus (15 reports), herpes simplex type 1 (14 reports), type 2 (5 reports) and untyped (12 reports), and untyped enteroviruses (7 reports). Paralysis has also been reported for 4 patients with coxsackievirus infection, and for 4 patients with echovirus infection, including the patient in the above case report.

Only a few reports of echovirus type 11 have been received in the *CDI* Laboratory Reporting Scheme in most years, however, there were periods of increased reporting over the summers of 1982-83 (725 reports from July 1982 to June 1983), 1986-87 (369 reports from July 1986 to June 1987) and 1989-90 (66 reports between July 1989 and June 1990). Meningitis has been the most commonly reported symptom (47.6% of the total 1,380 reports), gastrointestinal symptoms were reported for 11.4% of cases, respiratory tract disease for 12.4%, general malaise or fever for 14.0% and meningitis and other CNS symptoms for 4.6% and meingitis and other CNS symptoms for 4.6%. Most reports have been for children aged less than 5 years (75.7%), and 40.2% have been for infants under the age of 12 months.

Poliomyelitis is a notifiable disease in every State and Territory of Australia. In the pre-vaccine era, hundreds or thousands of cases of paralytic disease were notified each year (Figure), for example, 2,698 cases in 1938, and 2,206 cases in 1950. Since 1980, there has been only one case notified, in 1986.

Figure. Poliomyelitis notifications, 1917-91, by year



GONOCOCCAL CONJUNCTIVITIS OUTBREAK IN A NORTHERN TERRITORY ABORIGINAL COMMUNITY

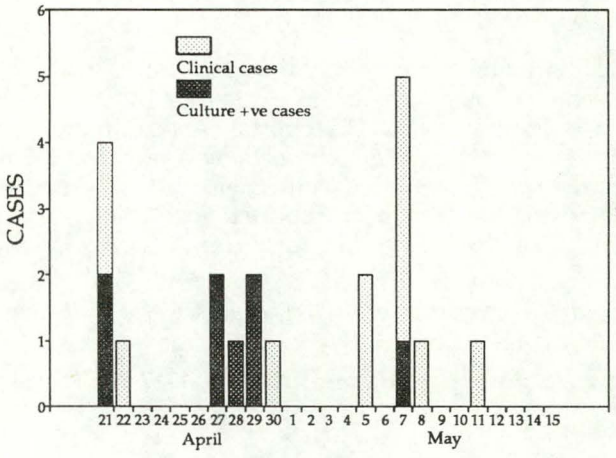
(Kate Monger and Rosie Brennan; reproduced from The Northern Territory Communicable Diseases Bulletin, Vol 1, No 5. July 1992, Editor A Merianos)

Twenty cases of clinical gonococcal conjunctivitis occurred in a central Australian Aboriginal community from 21 April to 11 May this year. Active surveillance commenced in the community; all cases had a swab and smear taken and were treated with procaine penicillin or oral amoxycillin according to the Central Australian Rural Practitioners Association protocol for gonococcal conjunctivitis, and with tetracycline ointment.

Eighteen cases were in children, with an age range of 6 months to 9 years. At least 50 per cent of cases occurred in children aged 0-4 years. There was no gender-related difference in case numbers. Eight cases were culture-confirmed *Neisseria gonorrhoeae*, with one bacteriologically proven reinfection after treatment. The 'clinical cases' included cases for which culture yielded another organism which may or may not have caused the conjunctivitis.

Early implementation of control measures prevented further cases after 11 May.

Figure. Epidemic curve for gonococcal conjunctivitis cases, central Australia, 21 April to 15 May 1992



The Northern Territory Communicable Diseases Bulletin Editorial Comment

Measures for control of gonococcal conjunctivitis include screening of affected families, especially children; comprehensive contact tracing including history of travel to other communities, community gatherings and significant social events; hygiene education and possible use of insect repellents and fly screens. Treatment of household contacts with an appropriate antibiotic is effective in localised outbreaks.

Clinic staff should collect a conjunctival smear and swab for culture from all patients presenting with purulent conjunctivitis[1,2]. STD screening of adults should also be considered especially if cases are sporadic.

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Note: the numbers of clinical and culture positive cases previously presented in *The Northern Territory Communicable Diseases* Bulletin have been revised for this article.

A CLUSTER OF NON-SEXUALLY TRANSMITTED GONOCOCCAL CONJUNCTIVITIS IN THE PILBARA, WESTERN AUSTRALIA

(PG Van Buynder, SA Bailey, J Adams, J Talbot, H Sullivan, A Waddingham and J Dickson. Reproduced from Western Australian Notifiable Diseases Bulletin, Volume 2, Number 6, 11 September 1992, Editors R Condon, M Ashwell and I Rouse)

Summary

We report a cluster of cases of non-sexually transmitted gonococcal conjunctivitis in the Western Desert area of the Pilbara, Western Australia, in June and July of this year. Nineteen culture positive cases were identified and a further 23 probable cases were identified during control measure implementation; these latter cases had negative cultures, as did two further subjects with redness but no discharge. It is probable that other cases existed as Royal Flying Doctor Service staff visiting communities for aeromedical evacuations reported

consultations for purulent conjunctivitis at this time. Only one person, a 'probable case' was positive on throat culture for *Neisseria gonorrhoeae*. In the following month, only one case, a repeat positive, was diagnosed.

Subjects and Methods

The people of the Western Desert of Western Australia are a single language group people living in a number of communities and associated outstations. A lack of health hardware and diseases associated with poor personal hygiene have previously been described[1]. The people are very mobile over a large area; this area is contiguous with that involved in a recent gonococcal conjunctivitis epidemic[2,3].

In order to avoid overestimating the size of the cluster we defined cases as subjects with purulent conjunctivitis or positive microscopy alone and, 'possible cases' as subjects with redness and pain but no discharge. Gonococcal conjunctivitis has been reported in the absence of clear inflammatory response[4].

Conjunctival swabs and air dried slides were collected from all persons with a red eye or discharge, household contacts or persons with discharge. Swabs were inoculated directly on to Martin-Lewis media pre-gassed with CO_2. Pharyngeal swabs were also collected. All swabs were transported to the laboratory on the day of collection.

Results

Three sporadic cases occurred in the Pilbara in late April and mid-May, two in siblings. In mid-June four cases were identified at an established community and active case detection began.

All probable cases were detected during active case finding in the week ending 3 July. Two probable cases had gram negative intracellular diplococci on microscopy at this time but no growth on culture; one probable case had a positive result only on throat swab. Only one case was subsequently detected and this was in a child previously diagnosed as culture positive. Further investigations did not demonstrate a source for reinfection and this may have represented a case of treatment failure. Of the proven cases, no marked difference was seen in the gender of the children (10 females, 9 males).

The number of cases peaked in the 5 to 9 year age group, with a trend for culture negative, possible cases to be older (Figure 2). The age of one child was not recorded. In six affected households multiple cases occurred.

Control Measures

The vast majority of cases occurred in the established community and in a separate developing community; family relationships in early cases suggest that the developing community was the initial focus. Control measures focussed on these two communities. At the time of case detection, education about the role of personal hygiene was given, and single dose treatment administered using either procaine penicillin or amoxycillin. Probenecid was added for children aged over two years. No treatment failures occurred in either community.

Comment

Clusters of gonococcal conjunctivitis may still occur despite the apparent end to the Central Australian epidemic, and a high index of suspicion must be maintained by practitioners in these areas. The resolution of questions involving transmission will continue to the hampered by the occurrence of the outbreaks in isolated regions thereby producing difficulties with transport to laboratories.

Figure 1. Epidemic curve for culture positive cases of gonococcal conjunctivitis in the Western Desert communities, Pilbara Region, 18 April to 14 August 1992

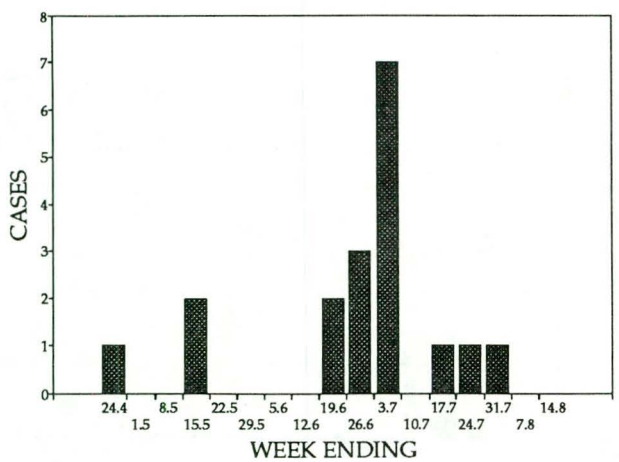
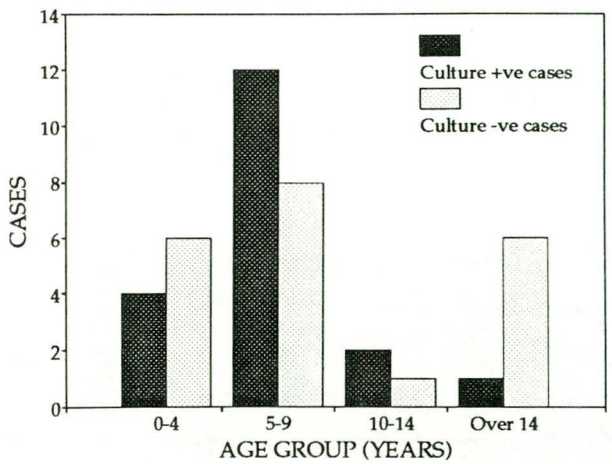


Figure 2. Gonococcal conjunctivitis cases, by age group and culture results



The sexually transmitted form of gonorrhoea is endemic in the areas where outbreaks of gonococcal conjunctivitis occur. The epidemic interval of around five years and the peak incidence (less than 5 years age group) described elsewhere[2], suggest that a degree of herd immunity may exist after outbreaks.

It may be that only some serotypes are capable of producing conjunctivitis outbreaks, and that some immunity to all these serotypes exists after attacks. This situation parallels outbreaks of nephritogenic streptococci in similar communities.

The relative importance of flies[5] and personal hygiene in transmission has not been clarified. It is our view that messages emphasising fly control in these situations are impractical and should be relegated behind those stressing personal hygiene and altered sexual practices. Flow on reductions in the prevalence of trachoma, impetigo, diarrhoeal disease and other sexually transmitted diseases could then be seen.

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MRSA SURVEILLANCE IN A MAJOR METROPOLITAN HOSPITAL: AN UPDATE

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

Methicillin-resistant *Staphylococcus aureus* (MRSA) were first recognised in this tertiary referral adult hospital in 1979 and have been endemic since 1982. In spite of routine screening for asymptomatic carriage of MRSA, cohorting of all patients found to be positive for MRSA, routine use of antiseptic (Chlorhexidine) handwash and the increasing use of vancomycin for prophylaxis pre-operation, this organism has not been contained.

Because of this endemicity, screening swabs were decreased in 1990 to include only patients from areas where MRSA detection resulted in removal of the patient from the ward, for example, orthopaedic wards and the burns unit (Table 1). Screening swabs were collected from nose and groin with lesion swabs collected if present. Swabs were plated onto methicillin (4mg/L) mannitol-salt agar (Oxoid) and incubated at 35°C for 48 hours before examination for the typical yellow colonies which are then checked for coagulase production. Further antibbiotic sensitivities were performed if the organism was found to be coagulase positive.

All new MRSA isolates were reviewed by the Infection Control Nurse to determine their source (referred, previous admission or community acquired), whether they were associated with infection or colonisation, and

Table 1. Screening swabs for MRSA, 1984 to 1991, by year

Year	Number of 'Screening' Swabs Processed[1]	Screening Swabs Positive for 'new' MRSA	
		Number	Per Cent
1984	31056	595	1.9
1985	35026	596	1.7
1986	37737	602	1.6
1987	41915	811	1.9
1988	34263	711	2.1
1989	34989	525 (299[2])	1.5
1990	30509	313 (166[2])	1.0
1991	21404	311 (167[2])	1.5

1. Includes areas outside Royal Brisbane Hospital, unable to be differentiated.
2. Positive Royal Brisbane Hospital screening swabs.

Table 2. New MRSA isolates, 1989 to 1991, by speciality and year

	1989			1990			1991		
	New Isolates	Dischcharges	Frequency (%)	New Isolates	Discharges	Frequency (%)	New Isolates	Discharges	Frequency (%)
General medicine	110	5058	2.2	62	3985	1.6	90	4712	1.9
Infectious Diseases	33	346	9.5	25	301	8.3	34	346	9.8
Oncology/Dialysis	78	4612	1.7	58	3930	1.9	57	4532	1.2
Accident and Emergency	7	14852	0.05	5	15102	0.03	14	13412	0.1
Surgery	193	5746	3.3	127	5799	2.2	205	5870	3.4
Burns/Plastics	132	2050	6.4	81	1702	4.9	90	1530	5.7
Orthopaedics	28	2364	1.2	23	2414	0.9	35	2522	1.4
Neurosurgery	49	1170	4.2	36	1183	3.0	72	1190	6.1
Intensive Care Unit	147	340	43.2	69	374	18.4	59	384	15.4
TOTAL	777	36,538	2.2	486	34,790	1.3	656	34,498	1.8

the site and ward from which they were isolated. Infection was determined by the Infection Control Nurse in consultation with the clinical staff. He/she visited the ward and discussed the significance of the isolate with the clinical (medical) staff and viewed the isolation site to determine the presence or absence and amount of pus, inflammation and systemic or local symptoms.

There was a total of 1,919 new MRSA isolates in the three year period 1989 to 1991 (Table 2). There was a consistently high frequency of new isolates in the intensive care areas and specialist wards. Screens, wounds,

Figure 1. New MRSA isolates, 1989 to 1991, by site of isolation and year

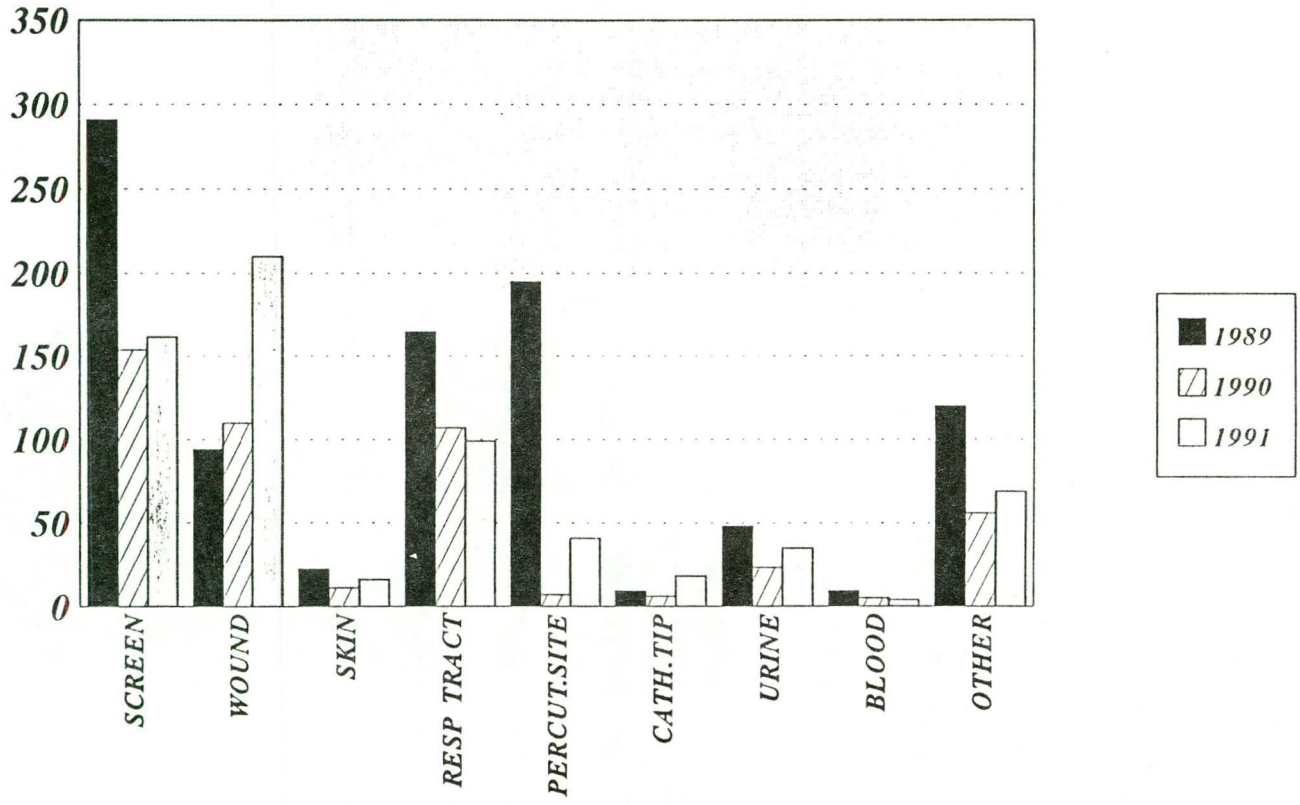


Figure 2. New MRSA isolates, 1989 to 1991, by type

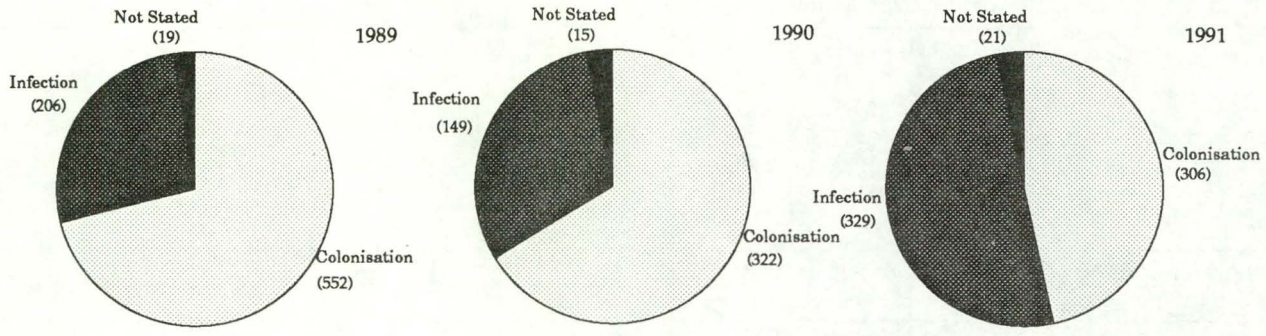


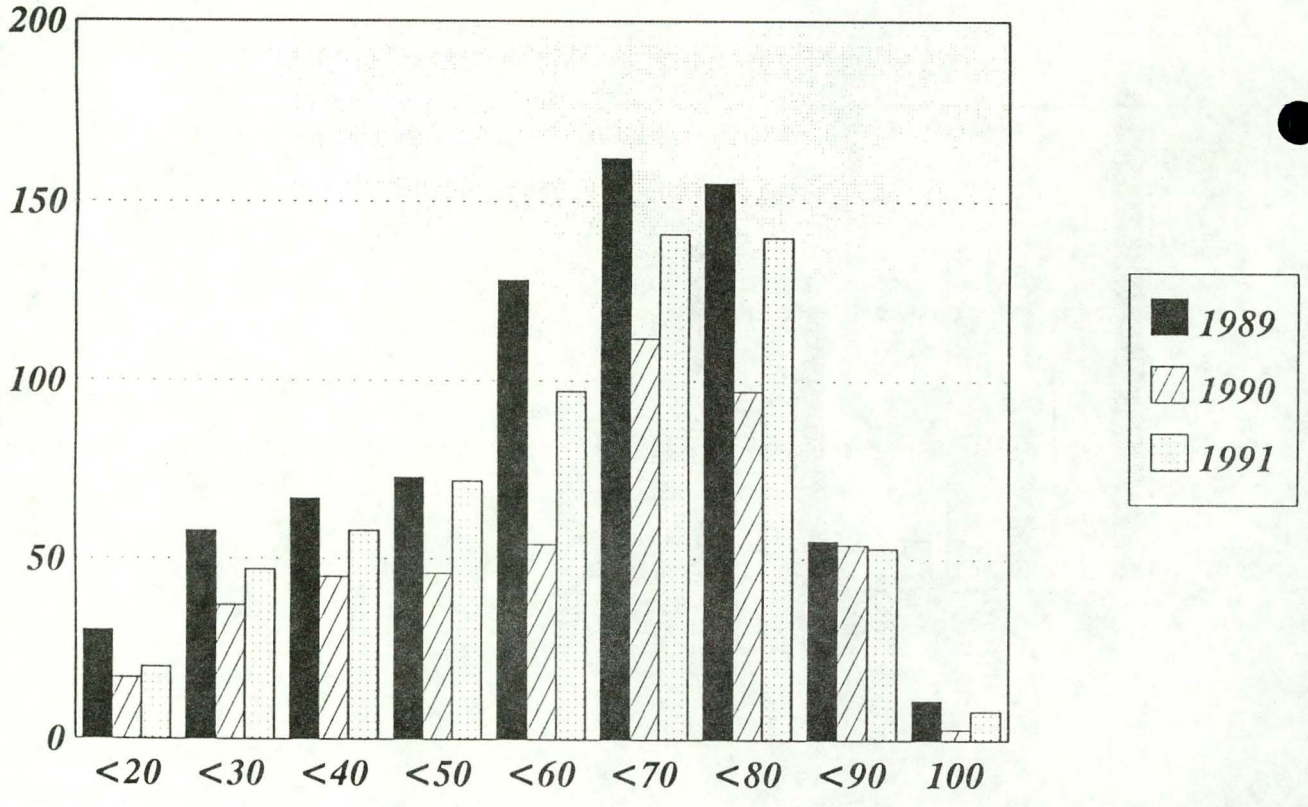
Table 3. New MRSA isolates, 1989 to 1991, by clinical or screening source and year

	1989	1990	1991
Screening swabs positive for new MRSA	299	166	167
Clinical swabs positive for new MRSA	478	320	489
Frequency screening swabs amongst total new MRSA (%)	38.3	33.9	25.4
TOTAL	777	486	656

Table 4. Sensitivity patterns of new MRSA isolates, 1989 to 1991, by year

	Per Cent Sensitive		
Antibiotic	1989 (n = 777)	1990 (n = 486)	1991 (n = 656)
Penicillin	0	0	0
Cloxacillin (Methicillin)	0	0	0
Erythromycin	0	3	1
Chloramphenicol	82.4	79.6	80.0
Gentamicin	64.0	N/A	5.6
Vancomycin	100	100	100
Rifampicin	72.6	47.7	34.0
Fusidic acid	77.4	96.4	96.6

Figure 3. New MRSA isolates, 1989 to 1991, by patient age (years) and year



and the respiratory tract were the most common sites of isolation, overall (Figure 1).

The proportion of 'clinical' isolates causing infection has increased as the number of screening swabs has decreased (Figure 2, Table 3).

New patients found positive for MRSA were more often in the age groups between 50 and 80 years (Figure 3). About 70 per cent of new patients identified with MRSA each year were males (1989:70.3%; 1990:69.8%; 1991:70.7%).

The new isolates were tested for their sensitivities to eight antibiotics. All tests were performed using the Vitek® Staphylococcal card or an NCCLS disc method. There has been an increasing resistance to rifampicin and a decreasing resistance to fusidic acid during this period (Table 4). All isolates were sensitive to vancomycin.

During this three year period patients determined to be infectious, that is, drainage of pus unable to be contained by a dressing, uncontrolled coughing, with MRSA in sputum were transferred from their parent ward to an isolation ward, as were patients found to be carrying, or known to be colonised with MRSA prior to admission to burns or orthopaedic wards.

Emphasis on handwashing using 4 per cent Chlorhexidine for all staff before and after handling patients and on entry and departure from all wards has continued throughout this period.

In spite of decreasing swabs and the reduction of cohorting of MRSA positive patients, the total number of new isolates has not increased over this three year period, probably because the decrease in screening swabs has resulted in a decreased detection of new asymptomatic carriers of MRSA.

The numbers of new MRSA detected peaked in 1987 and has subsequently gradually decreased, probably associated with the decrease in the collection of routine screening swabs since 1990.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization and the Institut Pasteur in Paris.

Cholera Update

Cases have been reported for October and November from Belize, Bolivia, Brazil, Costa Rica, Cote d'Ivoire, El Salvador, Guatemala, Guyana, Honduras, Iraq, Iran, Mexico, Nicaragua, Panama, Peru, Venezuela and Zambia.

Influenza in the Northern Hemisphere

So far in this northern winter, influenza B has been detected in Czechoslovakia, Japan, France, the USA, Portugal and Thailand. Influenza A (H_1N_1) has been detected in the Netherlands, and influenza A (H_3N_2) in Sweden and France. Influenza activity has been sporadic in Europe thus far, with no evidence of epidemics. Influenza B has caused some outbreaks in Japan.

CDI NOTICES TO READERS

NHMRC Recommendations

At its meeting on 4 and 5 November 1992, the National Health and Medical Research Council issued several statements concerning control of communicable diseases in Australia. The subjects of the statements were:

- HTLV-1 screening of blood donations
- Adult immunisation
- Two dose measles-mumps-rubella immunisation schedule
- Headlouse infestations
- Poliomyelitis vaccine options.

Copies of these statements can be obtained from the NHMRC Publications Officer, ph 06 289 7646, or fax 06 289 6957.

Publication of *CDI*

This is the last issue of *CDI* for 1992, as, as is our custom, there will be no issue published between Christmas and New Year. The first issue for 1993 will be published on 11 January, and will include the index for 1992.

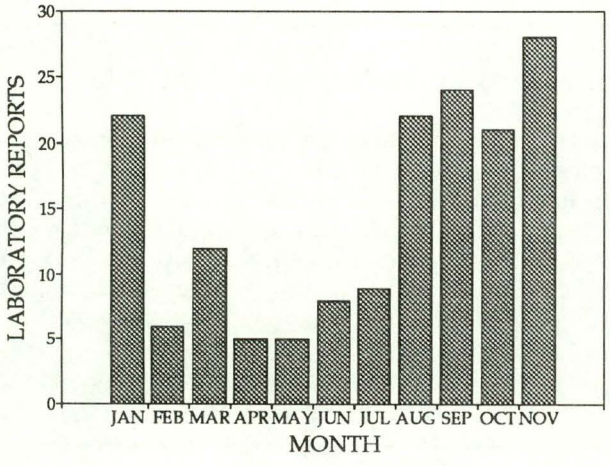
COMMUNICABLE DISEASES SURVEILLANCE

Laboratory Reporting Schemes

There were 1,662 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 6,7 and 8), and 171 reports of isolates from normally sterile sites (LabDOSS, Table 2).

- There were 11 reports of **measles** this fortnight, bringing the total for the year to 154 (Figure 1). Included was a 13 year old male with SSPE. He had IgM and a high titre of IgG in CSF, and a high CSF to serum IgG ratio. Clinically, he had had a 3.5 year history of epilepsy with progressive deterioration, and early dementia.

Figure 1. Measles laboratory reports, 1992, by month of specimen collection



- The number of **rubella** reports continues to be higher than is usual. This fortnight, there were 102 reports, including 20 in females of reproductive age. Included was a 30 year old female whose baby was stillborn in July and had myocarditis on post-mortem examination. The mother had IgM demonstrated in a serum sample taken in August. Also included was a 10 year old female who had encephalitis. IgM was demonstrated in a serum sample.
- **Ross River virus** infection was reported for 16 patients this fortnight (all IgM). One of these had a specimen collection dates in August, 6 in October and 9 in November. Fifteen were from Queensland and one was from Broome in Western Australia.
- There were 4 reports of **Barmah Forest virus** infection. Two were from Queensland (October and November) and 2 were from Darwin (September and October).
- There were 141 reports of **hepatitis C**. A history of injecting drug use was reported for 9 patients (one who had been an IDU over 10 years previously, one with history of blood transfusion too), one was a haemophiliac and one was the wife of a hepatitis C positive male.
- A further 17 reports of **adenovirus type 4** were received this fortnight, 12 from South Australia, 3 from New South Wales and 2 from Victoria. Eye disease was reported for 9 of the patients, and respiratory symptoms for the other 8. There has now been a total of 71 reports of this virus this year, more than for any year since 1989, when it last caused an outbreak of adult eye disease.
- Reports of several other types of adenovirus have also increased over the last few months, as often occurs in spring. This fortnight there were 12 reports of **adenovirus type 1** (including isolations from throat and other nasopharyngeal specimen from a female infant who had suffered SIDS), 16 reports of **adenovirus type 2** (including isolates from heart, lung and intestine of a 7 month old male SIDS victim) and 9 reports of **adenovirus type 3** (including a meningitis cases in an 81 year old female).
- **Cytomegalovirus** infection was reported for 76 patients. Included were 6 HIV positive patients, 4 patients with a history of transplant (1 heart, 1 bone marrow, 1 renal, 1 heart-lung), 1 premature infant (28 weeks) and 1 isolate from placenta (mother infected at 27 weeks gestation).
- **Parvovirus** infection was reported for 5 patients. Included were 2 pyruvate kinase deficient brothers, aged 2 years and 11 years, who had red cell aplasia. Parvovirus-like particles were detected by electron microscopy in bone marrow samples from both these patients.
- There were 6 reports this fortnight of **echovirus type 14**, including a 20 month old female and her 3 year old brother. The virus was isolated from CSF for both these patients.
- There was a single report of **echovirus type 31**, isolated from faeces of a female patient. This virus is been reported only once previously in the *CDI* Laboratory Reporting Schemes, in April 1991.
- Only 12 reports of **influenza** were received this fortnight. Eleven were untyped **influenza A** (3 IgM, 8 single high titres), and 1 was **influenza B** (single high titre). The influenza B was in a 67 year old male, for whom meningitis was the reported symptom.
- **Untyped *Chlamydia trachomatis*** infection was reported for 140 patients. Included were an isolate from the peritoneal fluid of a 16 year old female

Figure 2. ***Mycoplasma pneumoniae*** **laboratory reports, 1992, Queensland, New South Wales and Victoria, by month of specimen collection**

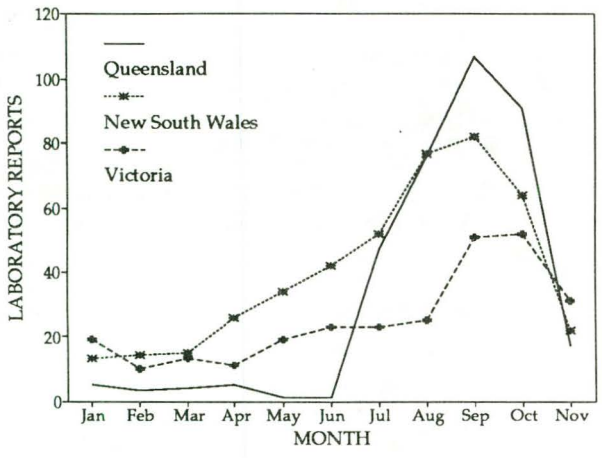
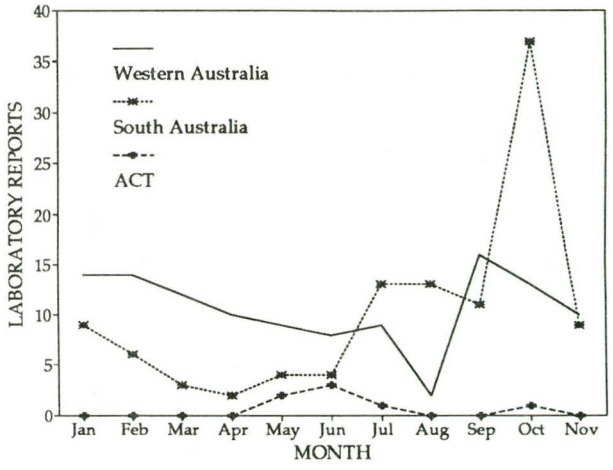


Figure 3. ***Mycoplasma pneumoniae*** **laboratory reports, 1992, Western Australia, South Australia and the ACT, by month of specimen collection**



with PID, and a female aged 26 years, whose 4 week old baby was also infected.

- ***Mycoplasma pneumoniae*** infection was reported for 87 patients this fortnight, bringing the total for the year to 1,310. Included were a male patient for whom encephalitis was the reported symptom, and a 23 year old male who had severe haemolytic anaemia. There have been increased reports from New South Wales, Queensland, South Australia and Victoria over the last few months (Figures 2 and 3). There was increased reporting of this organism from Western Australia in the early part of the year, and another increase this spring. Reports of this organism in Australia overall are both seasonal (peaking in spring) and cyclical (2-year periods of increased activity every 5 years, the last in 1987-88).
- **There were 6 laboratory reports of Q fever** this fortnight. All were males in the age range 17 to 48 years.

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network collected data from 6,171 patient encounters in Week 48 and 4,390 patient encounters in Week 49 (Table 1). Now that influenza reports have decreased to summer levels, gastroenteritis continues to be the most commonly reported condition. Rubella reports continue at a higher rate than usual, in parallel with recent notifications and laboratory reports of this disease.

Table 1. Australian Sentinel Practice Research Network, Weeks 48 and 49, 1992

Condition	Week 48, to 29 November 1992		Week 49, to 6 December 1992	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	23	3.7	8	1.8
Measles	2	0.3	1	0.2
Mumps	0	0	1	0.2
Rubella	4	0.6	6	1.4
Pertussis	2	0.3	1	0.2
Genital herpes	1	0.2	2	0.5
Gastroenteritis	79	12.8	46	10.5

Sterile Sites Surveillance (LabDOSS)

Data for November have been provided by eight laboratories, with Nambour Hospital and Dr TB Lynch also providing data for October. A total of 171 reports has been included in this report (Royal Prince Alfred hospital 56, Royal North Shore Hospital 37, Liverpool Hospital 31, Toowoomba Hospital 15, Royal Hobart hospital 13, Northern Tasmania Pathology Service 10, Dr TB Lynch 5 and Nambour Hospital 4).

Thirty-two isolates of *Staphylococcus aureus* were reported during this period. Of these, seven were further identified as methicillin resistant (MRSA) by five laboratories.

Organisms reported five or more times from blood are detailed in Table 2. Other blood isolates were:

Gram positive: 3 *Clostridium perfringens*, 1 *Corynebacterium* JK, 1 *Lactobacillus acidophilus*, 1 coagulase negative *Staphylococcus*, 2 Group A *Streptococcus*, 2 Group B *Streptococcus*, 2 Group G *Streptococcus*, 2 *Streptococcus sanguis* and 1 *Streptococcus* species.

Gram negative: 2 *Acinetobacter* species, 1 *Citrobacter* species, 1 *Enterobacter* aerogenes, 1 *Enterobacter cloacae*, 4 *Enterococcus faecalis*, 1 *Enterococcus* species, 1 *Klebsiella* species, 1 *Neisseria meningitidis*, 1 *Proteus mirabilis*, 1 *Pseudomonas paucimobilis*, 1 *Serratia marcescens* and 2 *Xanthomonas maltophila*.

Anaerobes: 1 *Bacteroides thetai*.

Yeasts: 3 *Candida* species and 1 *Candida albicans*.

CSF Isolates and Meningitis Reports

There were 11 reports of meningitis during this period. *Haemophilus influenzae* type b was isolated from 2 of these cases and there was one isolate that was not typable. *Neisseria meningitidis* was isolated from 2 cases. One was a group C organism from a 2 year old female, and the other was a group B organism from a 16 year old female.

Staphylococcus aureus was isolated from a male infant. *Staphylococcus epidermidis* was isolated from 2 males, aged 68 years and 17 years respectively.

Isolates from Sites other than Blood or CSF

Peritoneal dialysate: 1 *Pseudomonas* species, 1 *Pseudomonas aeruginosa*, 1 *Staphylococcus aureus*. *Citrobacter freundii* was isolated from a 74 year old male undergoing chronic ambulatory peritoneal dialysis.

Joint fluid: 4 isolates of *Staphylococcus aureus* were reported, one of which was from a 76 year old female who had had a total knee replacement.

National Notifiable Diseases Surveillance System, 15 to 28 November 1992

A total of 2,154 reports of notifiable diseases were received this period (Tables 3, 4 and 5; Figure 7).

- **Ross River virus infection** was notified for 61 persons this fortnight, bringing the total to date to 5,396 reports. In 49 of the reports onset dates were recorded as November, bringing the November total to 73. Monthly totals have varied between 112 and 147 for the period July to October. Cases were reported from coastal and inland Queensland, coastal Western Australian and the Melbourne statistical divisions. Reported cases were for 25 males, 34 females and sex was not recorded for 2. Ages ranged from the 10-14 to the 75-79 years age groups.
- Reports of 3 notifications of **dengue** were received, for a total of 347 notifications this year. The cases were reported from Townsville and surrounds and comprised a male and a female in the 35-39 years and a female in the 30-34 years age group. Two of

Table 2. LabDOSS reports of blood isolates for November 1992

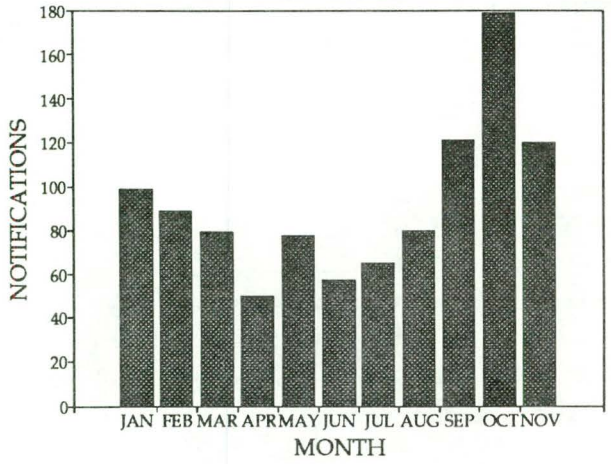
Organism	Total[1]	Clinical Information						Risk Factors					
		Lower respiratory	Endocarditis	Gastrointestinal	Urinary Tract	Bone/Joint	Skin	Surgery	Immunosuppressed	IV line	Perinatal	Neonatal	Nosocomial
Escherichia coli	28			5	11			2	8				
Haemophilus influenzae	6	2							1				
Klebsiella pneumoniae	8			1	2		1	1	2				
Pseudomonas aeruginosa	6			1	2				1			1	
Staphylococcus aureus	32	1				2	9	7	5	4	2	1	1
Staphylococcus epidermidis	12		1					1	3	4		1	

1. Only organisms with 5 or more reports are included in this table.

the cases had onset dates recorded as September, with the other as October.

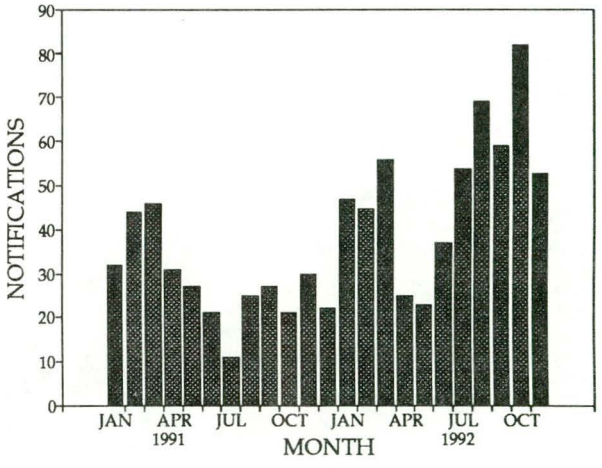
- There were 4 notifications of **brucellosis** reported. Three were in males between the 20-24 and 35-39 years age groups, and in 1 case the sex was not recorded.
- A single report of **diphtheria** was received, for a male in the 30-35 years age group.
- A total of 84 notifications of **gonococcal infection** were reported. They were for 60 males and 24 females. Of cases aged less than 15, 1 was in a male less than 1 year and 1 was in a female aged 14 years.
- Notifications of ***Haemophilus influenzae* type b infection** were received for 14 cases, 13 males and 1 females. Twelve of these cases (11 males) were aged less than 5 years, 1 was in the 5-9 years age group and 1 was in the 55-59 years age group. There was no apparent clustering of cases. There have been 452 notifications of *H. influenzae* type b infection received so far this year.
- There were 74 cases of **hepatitis A** notified. Eighteen cases were reported from capital cities and the remainder were from rural areas of Queensland, New South Wales, South Australia, Victoria and the Northern Territory. The sex was recorded as male in 37, female in 34 and unknown in 3. There was a bimodal age distribution, with 11 cases (5 males, 5 females and 1 unknown sex), in the 5-9 years age group and 10 cases (5 males, 4 females and 1 unknown sex), in the 30-34 years age group.
- This period there were 58 notifications of **measles** received, bringing the total for the year to 1034 (Figure 4). There were 30 males and 28 females. Age was not recorded for 1 case, 4 cases were aged less than 1 year, and the average reported age was 9.9 years. There were 10 apparent clusters of 2 to 7 cases each in 12 different postcode areas, with reported dates of onset separated by intervals of 1 to 13 days.

Figure 4. Measles notifications, 1992, by month of onset



- Two notifications of **legionellosis** were reported, in a male in the 45-49 years age group and in a female in the 75-79 years age group. They were apparently epidemiologically unrelated.
- A single notification of **leprosy** was received in a female in the 30-34 years age group.
- A total of 9 notifications of **leptospirosis** were reported. Six were males in the 15-34 years age group and 3 were in females in the 35-59 years age group. One case was reported from the Outer Adelaide statistical division; the others were from rural statistical divisions in Victoria.
- **Three cases of meningococcal infection** were notified this period. All were females, 1 was aged less than 5 years and the others were both in the 25-29 years age group. There was no apparent clustering.
- There were 48 notifications of **pertussis** this period. Of these cases, 20 were males and 28 were females and 14 were aged less than 5 years. For 3 notifications age was not recorded, 9 were aged less than 1 year and 9 were aged over 15 years. There were 2 apparent clusters of 3 and 4 cases each in 2 different postcode areas, with reported dates of onset on the same day or separated by intervals of 1 to 6 days. There have been 558 notifications received of pertussis to date (Figure 5.).

Figure 5. Pertussis notifications, 1991-1992, by month of onset



- **Q fever** was reported for 24 cases this period; 17 were males and 7 were females. Cases were reported predominantly from rural areas of New South Wales and Queensland and were in the 15-59 years age group.

- The **rubella** epidemic continued. There were 405 notifications received, the highest for any single fortnight. Sex was recorded as unknown in 9, as male in 294 and female in 102 of the reports. The total cases to date this year is now 2,905 (Figure rubel25.eps). Of the female cases, 37 were in the 15-44 years age group; of the males, 40 were in the 10-14 years age group, 111 in the 15-19 years age group and 49 were in the 20-24 years age group. For the sexes combined, age was not recorded in 10 cases, 2 cases were aged less than 1 year, and the mean age was 18.4 years. There were 76 apparent clusters in separate postcode areas with 2 to 18 cases in each cluster.
- A total of 86 **syphilis** notifications was received; 48 were for males, 36 were for females and sex was not recorded for 2. Eight cases were recorded as being aged less than 15 years; 1 was aged less than 1 year.
- A single case of **typhoid** was notified this period, in a female in the 45-49 years age group from rural Queensland.

Figure 6. Rubella notifications, 1992, by month of onset

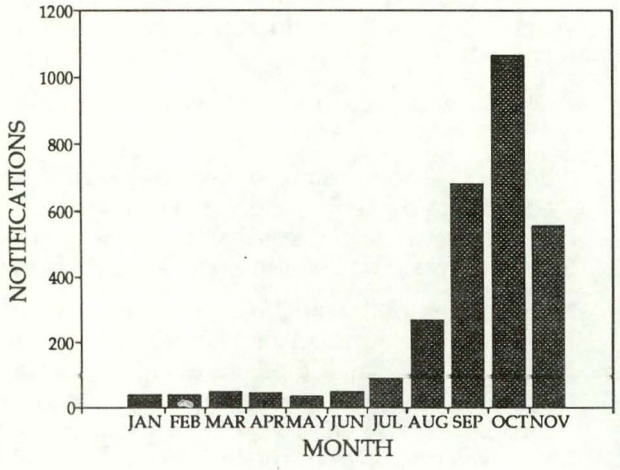
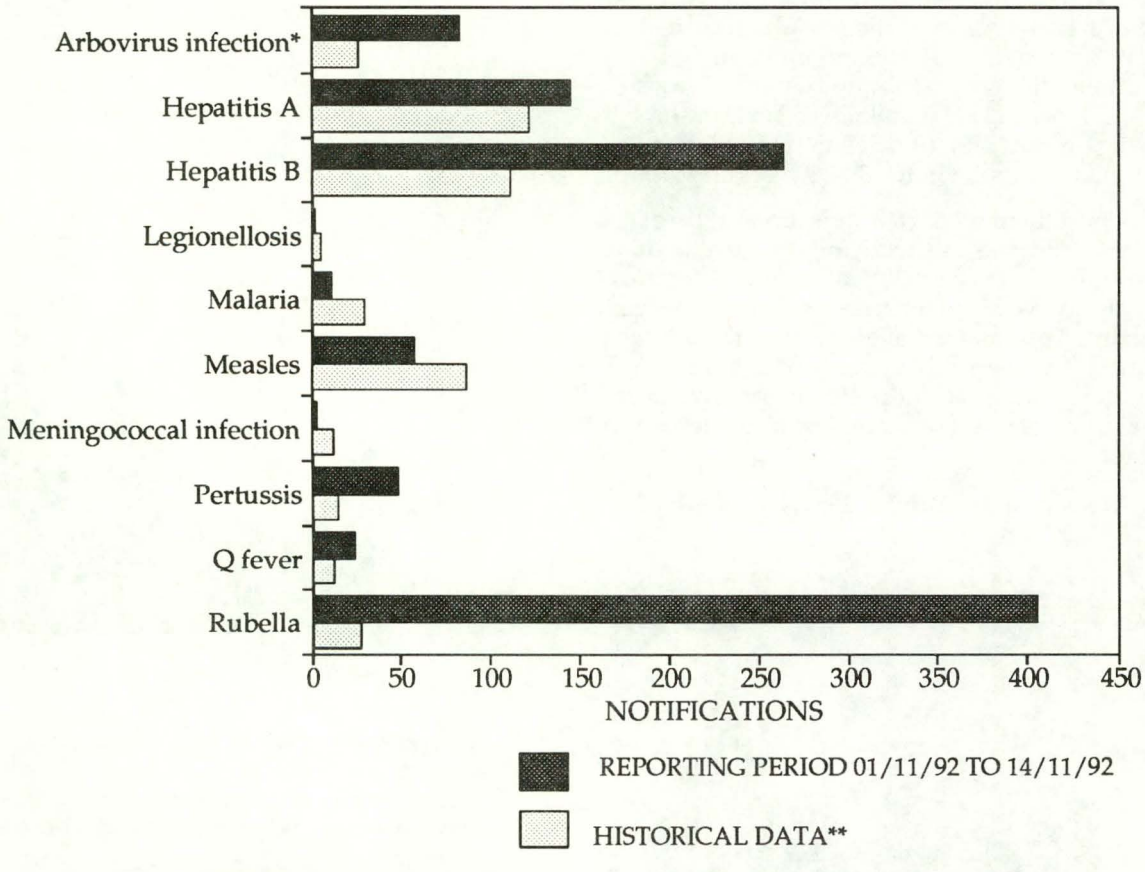


Figure 7. Selected National Notifiable Diseases Reports, and historical data **



* Includes Ross River virus and Dengue

** The Historical data are the averages of the number of notifications in 3 previous 2-week reporting periods: the corresponding period of the last year and the periods immediately preceding and following it.

Table 3. Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 15 November to 28 November 1992

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1] This Period 1992	This Period 1991	Year to Date 1992	Year to Date 1991
Diphtheria	0	0	0	0	0	0	0	1	1	0	14	8
Measles	4	25	0	4	12	0	12	1	58	95	1034	1206
Mumps	0	0	NN	NN	NN	NN	0	NN	0	NN	21	NN
Pertussis	0	3	0	14	11	4	10	6	48	10	558	311
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella[2]	66	22	0	93	22	0	202	0	405	26	2905	553
Tetanus	0	0	0	NN	0	0	0	0	0	0	14	6

1. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision, so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.
2. NT, Tas, WA: CRS only; ACT, NSW, Qld: rubella only; SA, Vic: rubella and CRS.

NN Not Notifiable.

Table 4. Other Notifiable Diseases[1], for the reporting period 15 November to 28 November 1992

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2] This Period 1992	This Period 1991	Year to Date 1992	Year to Date 1991
Arbovirus infection (NEC)[3]	0	2	3	6	4	0	4	0	19	3	332	191
Ross River virus infection	0	-	15	36	-	NN	1	9	61	25	5396	3463
Dengue	0	-	0	3	-	NN	0	NN	3	0	347	45
Campylobacteriosis[4]	8	-	20	104	125	19	114	47	437	417	8058	7834
Chlamydial infection (NEC)	0	NN	23	91	0	10	43	0	167	189	5032	3677
Donovanosis	0	NN	0	1	NN	NN	0	2	3	7	71	69
Gonococcal infection[5]	1	14	8	20	0	0	5	36	84	139	2621	2311
Haemophilus influenzae type b[6]	0	3	1	3	3	1	3	NN	14	19	452	512
Hepatitis A	0	15	12	33	6	0	7	1	74	127	1853	1965
Hepatitis B	9	49	2	71	1	1	1	11	145	100	4742	3391
Hepatitis C	3	87	3	118	NN	17	36	NN	264	144	7957	3552
Hepatitis (NEC)	0	0	0	3	0	0	1	NN	4	33	60	286
HIV infection[7]	0	9	0	0	1	0	0	0	10	1	245	50
Legionellosis	0	0	0	2	0	0	0	0	2	6	159	99
Leptospirosis	0	0	0	0	1	0	8	0	9	7	122	152
Listeriosis	0	0	NN	0	NN	0	0	0	0	0	35	41
Malaria	0	0	0	2	1	0	6	2	11	20	649	739
Meningococcal infection	0	0	1	1	0	1	0	0	3	13	263	266
Ornithosis	0	NN	0	0	0	0	4	0	4	15	87	123
Q fever	0	1	0	22	0	0	1	0	24	10	472	558
Salmonellosis (NEC)	2	12	15	39	11	7	19	17	122	190	4293	5047
Shigellosis[4]	0	-	12	5	3	0	0	12	32	36	616	857
Syphilis	0	14	27	33	0	0	1	11	86	96	2436	1868
Tuberculosis	0	8	0	6	3	0	16	6	39	43	862	528
Typhoid[8]	0	0	0	1	0	0	0	0	1	8	43	77
Yersiniosis (NEC)[4]	0	-	0	5	7	0	5	2	19	16	523	482

1. For rarely notified diseases, see Table 5.
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. NSW, 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. More complete data on new diagnoses of HIV infections are presented in the monthly *Australian HIV Surveillance Report*.
8. NSW and Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

\- Elsewhere Classified.

Table 5. Rarely Notified Diseases[1] for the reporting period 15 November to 28 November 1992

DISEASES	Total this period	Reporting States or Territories	Year to date 1992
Botulism			0
Brucellosis	4	3 Qld, 1 Vic	25
Cholera			2
Chancroid			5
Hydatid infection			36
Leprosy	1	Vic	15
Lymphogranuloma venereum			3
Plague			0
Rabies			0
Yellow fever			0
Other viral haemorrhagic fevers			0

1. Fewer than 50 cases of each of these diseases were notified each year during the period 1986 to 1991.

Table 6. Laboratory reports by State or Territory of reporting laboratory for the reporting period 18 November to 1 December 1992, 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		4	3	3			1	11	14.8	184
Rubella virus	1		56	4		14	27	102	23.8	554
HEPATITIS VIRUSES										
Hepatitis A virus	1	1	8	7				17	17.8	348
Hepatitis B virus	5	22	50	1		11	13	102	120.3	2,261
Hepatitis C virus	4		30	55	4		48	141	47.7	2,394
Hepatitis D virus			3				1	4	.3	45
ARBOVIRUSES										
Ross River virus			14	1			1	16	14.0	1,268
Barmah Forest virus			2				2	4	1.3	232
Dengue not typed							3	3	.7	72
ADENOVIRUSES										
Adenovirus type 1		4		8				12	5.2	108
Adenovirus type 2		10		3	1	2		16	7.0	132
Adenovirus type 3		6		3				9	4.5	76
Adenovirus type 4		3		12		2		17	1.3	73
Adenovirus type 5		2		1				3	1.8	35
Adenovirus type 7				1				1	.3	6
Adenovirus type 8						2		2	3.8	36
Adenovirus type 19						1		1	.7	21
Adenovirus not typed/pending		5	11	19		11	14	60	42.8	1,092
HERPES VIRUSES										
Herpes simplex virus type 1		7	48	16	1	66	23	161	180.0	3,447
Herpes simplex virus type 2		36	86	20	1	33	34	210	206.2	4,266
Herpes simplex not typed/pending	6	26	3			4	3	42	35.3	855
Cytomegalovirus		10	27		1	25	13	76	102.0	1,772
Varicella-zoster virus	1	5	11			5	1	23	25.3	647
Epstein-Barr virus		2	32			9	14	57	93.2	1,534
Herpes virus group - not typed						2	1	3	11.3	45

Table 6. Laboratory reports by State or Territory of reporting laboratory for the reporting period 18 November to 1 December 1992, 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			
OTHER DNA VIRUSES										
Contagious pustular dermatitis (Orf virus)							1	1	.2	7
Parvovirus		1			1	3		5	2.3	155
PICORNA VIRUS FAMILY										
Coxsackievirus B1		2				1		3	.3	23
Coxsackievirus B2		1						1	2.8	2
Coxsackievirus B5		3					1	4	1.8	51
Echovirus type 7		1						1	.0	12
Echovirus type 9						3	1	4	.0	186
Echovirus type 11		1						1	1.0	12
Echovirus type 14	1	5						6	.0	13
Echovirus type 16		1						1	.3	20
Echovirus type 25		2				1		3	.2	22
Echovirus type 31		1						1	.0	1
Poliovirus type 1 (uncharacterised)		2						2	1.5	67
Poliovirus type 2 (uncharacterised)		2						2	2.7	49
Poliovirus type 3 (uncharacterised)		1						1	1.8	32
Rhinovirus (all types)		9	11	3		22	3	48	31.3	670
Enterovirus type 71 (BCR)						1		1	1.2	21
Enterovirus not typed/pending		5	16			8	5	34	31.5	812
ORTHO/PARAMYXOVIRUSES										
Influenza A virus				6		2	3	11	10.3	1,137
Influenza B virus				1				1	10.8	144
Parainfluenza virus type 1						1		1	1.5	284
Parainfluenza virus type 3	2	9	11	2		10	1	35	28.8	526
Parainfluenza virus typing pending						1		1	2.5	84
Respiratory syncytial virus		4	1	1				6	29.0	3,606
OTHER RNA VIRUSES										
HIV-1			3				1	4	1.3	36
Rotavirus		13	50	15	10	10	12	110	126.7	2,172
Calici virus		1						1	1.5	25
Norwalk agent						3		3	.5	5
Coronavirus		1						1	1.5	31
Small virus (like) particle		1				2		3	3.0	64
OTHER										
Chlamydia trachomatis - A-K			2					2	1.3	12
Chlamydia trachomatis not typed	3	30	53	16	2	2	34	140	142.2	2,584
Chlamydia psittaci	1					3		4	10.2	96
Mycoplasma pneumoniae		20	17	7		31	12	87	25.8	1,384
Coxiella burnetti (Q fever)		2	4					6	11.3	245
Rickettsia - Spotted fever group						10		10	.0	20
Streptococcus group A			3					3	.0	37
Bordetella pertussis			2			1		3	.0	11
Bordetella species			9					9	.0	29
Treponema pallidum		3	3					6	.0	186
Toxoplasma gondii			3					3	.0	28
TOTAL	25	264	572	205	21	302	273	1,662	1,449.0	36,404

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 years and the periods immediately preceding and following those.

Table 7. Laboratory reports by clinical information for the reporting period 18 November to 1 December 1992

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus			1		1			4				5	11
Rubella virus	1				2			44		1		54	102
HEPATITIS VIRUSES													
Hepatitis A virus							9					8	17
Hepatitis B virus							48					54	102
Hepatitis C virus						1	45	1				94	141
Hepatitis D virus							3					1	4
ARBOVIRUSES													
Ross River virus								1		3		12	16
Barmah Forest virus										1		3	4
Dengue not typed												3	3
ADENOVIRUSES													
Adenovirus type 1					4	3			1			4	12
Adenovirus type 2					7	3		1				5	16
Adenovirus type 3		1	1		4	1			1			1	9
Adenovirus type 4					8				9				17
Adenovirus type 5					1	2							3
Adenovirus type 7									1				1
Adenovirus type 8									2				2
Adenovirus type 19									1				1
Adenovirus not typed/pending		2			24	15		1	5			13	60
HERPES VIRUSES													
Herpes simplex virus type 1					7			91	4		42	17	161
Herpes simplex virus type 2			1		1			63	1		129	15	210
Herpes simplex not typed/pending	1					1		28			3	9	42
Cytomegalovirus			1	1	29		2		3			40	76
Varicella-zoster virus					1			19				3	23
Epstein-Barr virus					12	1				2		42	57
Herpes virus group - not typed								3					3
OTHER DNA VIRUSES													
Contagious pustular dermatitis (Orf virus)								1					1
Parvovirus								2		1		2	5
PICORNA VIRUS FAMILY													
Coxsackievirus B1					2							1	3
Coxsackievirus B2												1	1
Coxsackievirus B5					2							2	4
Echovirus type 7												1	1
Echovirus type 9		4											4
Echovirus type 11						1							1
Echovirus type 14		3			1							2	6
Echovirus type 16												1	1
Echovirus type 25		1				1						1	3
Echovirus type 31												1	1
Poliovirus type 1 (uncharacterised)					2								2

Table 7. Laboratory reports by clinical information for the reporting period 18 November to 1 December 1992

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
Poliovirus type 2 (uncharacterised)						1						1	2
Poliovirus type 3 (uncharacterised)												1	1
Rhinovirus (all types)			1		45							2	48
Enterovirus type 71 (BCR)								1					1
Enterovirus not typed/pending		3			16	9						6	34
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					6							5	11
Influenza B virus		1											1
Parainfluenza virus type 1					1								1
Parainfluenza virus type 3					32							3	35
Parainfluenza virus typing pending					1								1
Respiratory syncytial virus					5							1	6
OTHER RNA VIRUSES													
HIV-1												4	4
Rotavirus						85						25	110
Calici virus												1	1
Norwalk agent						3							3
Coronavirus						1							1
Small virus (like) particle						3							3
Chlamydia trachomatis - A-K											1	1	2
Chlamydia trachomatis not typed									4		114	22	140
Chlamydia psittaci					3							1	4
Mycoplasma pneumoniae	1				62			1		1		22	87
Coxiella burnetti (Q fever)					1							5	6
Rickettsia - Spotted fever group								10					10
Streptococcus group A												3	3
Bordetella pertussis					2							1	3
Bordetella species					2							7	9
Treponema pallidum			1								1	4	6
Toxoplasma gondii												3	3
TOTAL	3	15	6	1	284	131	107	271	32	9	290	513	1662

Table 8. Laboratory reports by contributing laboratories for the reporting period 18 November to 1 December 1992

STATE	Laboratory	Reports
Australian Capital Territory	Woden Valley Hospital, Canberra	25
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	188
	Prince Henry/Prince of Wales Hospitals, Sydney	13
	Royal Alexandra Hospital for Children, Camperdown	36
	South West Area Pathology Service, Liverpool	27
Queensland	Dr TB Lynch, Pathologist, Rockhampton	97
	Queensland Medical Laboratory, West End	335
	State Health Laboratory, Brisbane	140
South Australia	Institute of Medical & Veterinary Science, Adelaide	205
Tasmania	Northern Tas Pathology Service, Launceston General Hospital	9
	Royal Hobart Hospital, Hobart	12
Victoria	Fairfield Hospital, Melbourne	227
	Microbiological Diagnostic Unit, University of Melbourne	1
	Royal Children's Hospital, Melbourne	74
Western Australia	Princess Margaret Hospital, Perth	29
	State Health Laboratory Services, Perth	244
TOTAL		1662