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HIGH LEVEL PENCILLIN RESISTANT PNEUMOCOCCUS IN AUSTRALIA: REPORT OF AN ISOLATE

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Introduction

Strains of *Streptococcus pneumoniae* (pneumococcus) with high level resistance to pencillin (penicillin G) are defined as having a minimum inhibitory concentration (MIC) of 2mg/L or greater for penicillin[1]. Such strains occur overseas but have not been reported in Australia to date[2]. We report here the isolation of such a strain from an Australian patient in Queenland.

Methods

The isolate of *S. pneumoniae* was obtained from a urine sample obtained in May 1994 from a 69 year old man terminally ill with carcinoma of the oesophagus. It was identified by its classic microsopic and cultural characteristics, susceptibility to optochin and positive bile solubility. The isolate was screened for penicillin resistance by the oxacillin disc method[3]. The National Committee for Clinical Laboratory Standards (NCCLS) disc method[1] was used for routine susceptibility testing of other antibiotics. The MIC was determined by the E test[4] and NCCLS broth dilution tests[5]. The 'clover leaf' test[6] was used to detect chloramphenicol acetyl transferase (CAT) production.

Results

The urine sample showed pyuria (leucocytes > 10^9/L) and *S. pneumoniae* bacteriuria (>10^8CFU/L). By the disc method the isolate was resistant to oxacillin, cotrimoxazole, tetracycline and chloramphicol and susceptible to cefotaxime, erythromycin, and norfloxacin. As oxacillin resistance indicated possible pencillin resistance, MIC testing was performed. By the E test the MIC for penicillin was 4 mg/L, for chloramphenicol 8 mg/L, and for cefotaxime 0.5 mg/L. By broth microdilution and macrodilution methods the MIC for pencillin was confirmed as 4mg/L.

The isolate was CAT positive.

Comment

We believe this is the first documented isolation of a high level pencillin resistant pneumococcus in Australia and if this is a harbinger of things to come then there are serious therapeutic implications for Australia[2].

Pneumococcal bacteriuria, given the somewhat picturesque term 'pneumococcosuria', is uncommon in adults in whom it is more likely to represent urinary tract infection complicating an underlying genitourinary disorder rather than collateral bacteraemia[7].

Acknowledgements

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REPEATED ISOLATIONS OF *CAMPYLOBACTER JEJUNI* FROM A SYMPTOMATIC PATIENT

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Campylobacter jejuni is the commonest bacterial cause of gastroenteritis in most Australian communities. The usual pattern of illness caused by this organism is an acute self-limited diarrhoeal episode, of abrupt onset, lasting from one to ten days. Relapses may occur but strain-specific immunity develops during infection and persons who are occupationally exposed acquire a broad based immunity without suffering more than one or two attacks of illness[1].

Over the past three years, a previously well 40 year old woman in eastern Victoria presented repeatedly with episodes of diarrhoeal illness. As a result of these episodes, faecal specimens were submitted to the local pathology service for microscopy and culture on 14 occasions since October 1991. Eight specimens were positive for *C. jejuni*. The three most recent strains - isolated in September 1993, and February and July 1994 - were forwarded to the Microbiological Diagnostic Unit for further analysis, the last being non-viable when received.

After the initial episodes, the patient was counselled about potential sources and techniques for avoiding infection. Investigation of household contacts and pets and of the general standard of domestic hygiene revealed no apparent sources or hygiene breaches. Investigations (conducted by Dr James St John, Royal Melbourne Hospital) for immunoglobulins in serum and duodenal aspirate and a small bowel biopsy showed normal levels of IgA (including secretory IgA), IgG and IgM and plentiful T and B cells, respectively. Serum C3 and C4 levels were at the lower end of normal reference range.

The strains were submitted to subtyping techniques to elucidate whether this patient was suffering from repeated independent infections or acute exacerbations of a chronic infection.

The first two isolates were biotyped according to the biotyping shceme developed at the Public Health Laboratory, Preston, England (Table). The different numbers indicate a difference only in the presence or absence of detectable DNAse activity.

Table. Biotyping results

Isolation date	Biotype
September 1993	6152
February 1994	6156
July 1994	Strain not viable

Restriction fragment length polymorphism (RFLP) analysis was then performed with two restriction enzymes, Sma I and Ksp I, and separation of the fragments of chromosomal DNA by pulsed-field gel electrophoresis (PFGE). The profiles after digestion with Sma I showed a difference at one band only. However, digestion with Ksp I, which has previously been shown to encounter more restriction sites in this bacterium, resulted in demonstrable differences at five band positions. Although the third isolate was not viable, the molecular profile with the cutting enzymes differentiate it also from both of the first two isolates according to recently proposed guidelines for evaluating PFGE patterns[2].

When Richardson and co-workers[3] noticed repeated isolations of *Campylobacter* species from asymptomatic rural South African children, typing methods were not available to determine whether these represented reinfections or a chronic carrier status. Sjögren and colleagues[4] were able to use serotyping to confirm the pattern of the acquisition of immunity to symptomatic disease following repeated infections by discrete types in Mexican children who were heavily exposed.

The pattern encountered here of a previously well adult with repeated symptomatic infections, caused by different strains of *Campylobacter jejuni*, is clearly unusual.

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A MEASLES OUTBREAK IN BUNBURY, WESTERN AUSTRALIA BETWEEN FEBRUARY AND MAY 1994

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Introduction

The epidemiology of measles in developed countries is changing. In recent years, for instance, two major types of outbreaks have been recognised in the United States; those among preschool-age children (presumed to be due to failure to vaccinate) and those among older vaccinated school aged children (a high rate of exposure to unvaccinated children postulated as a contributing factor)[1,2]. In Australia outbreaks have been reported in both these groups and recently there have been a number of outbreaks in high schools. In the Northern Territory between February and March 1991 a measles outbreak started in a group of high school students with low immunisation coverage[3]. In an outbreak in Canberra between October and December 1991 the highest attack rate was noted in a local high school[4]. In the current outbreak of measles in Townsville there have been two deaths, in an 18 and 20 year old[5]. Measles outbreaks in Australia are occurring in high school populations and involving persons up to the age of 20 years.

A similar pattern has been recognised in a measles outbreak around Bunbury, a coastal town in Western Australia, 200 km south of Perth. The Bunbury region encompasses the town of Bunbury and neighbouring communities and shires. Its population is approximately 30,000 and the health of the region is similar to metropolitan Perth. In this region, 53 cases of measles were identified, 24 from one high school. The cases occurred between 9 February and 1 May 1994. This report describes the measles outbreak and the response to it. It poses future research questions and outlines plans to address some of these.

Method

Case definition

The case definition in this outbreak was defined by the United States' Centers for Disease Control and used by the Health Department of Western Australia[6]. A case of measles was accepted if it was notified by a general practitioner, school authority or identified through case finding and satisfied the following criteria:

1. a generalised maculopapular rash consistent with measles for over three days;
2. a high fever; and
3. one of the following symptoms: cough, coryza or conjunctivitis.

Case ascertainment

The first notification occurred on Thursday 10 March 1994. The Community Health Centre was alerted the previous day when a mother of four phoned seeking advice regarding her eldest son who had been diagnosed with measles. On Friday 11 March, three notifications were received and by Sunday 13 March, 10 clinical cases had been identified. Principals of high schools and staff of primary schools were alerted. Letters were sent out notifying primary school parents of the outbreak. Letters were also sent out to all parents of years 10, 11 and 12 students of the high schools advising them of the outbreak. All medical practitioners in the area were made aware of the outbreak and they were asked to notify measles cases promptly.

Outbreak investigation

All cases notified to the Community Health Centre, South Bunbury, from February to May 1994 were followed up with a standardised questionnaire given over the telephone. Details obtained included demographic characteristics, clinical data, school attended, and vaccination status. Contacts of reported cases were identified, general practitioners in suburbs where cases occurred were consulted and principals of primary and secondary schools involved were interviewed.

Immunisation program

School nurses and primary school staff began checking immunisation status of the students on Monday 14 March. If the school nurses were unsure of a child's immunisation status the parents were contacted and asked for immunisation details. If their child was not immunised parents were advised to take their child to the immunisation clinic or to their general practitioner. Morning and evening immunisation clinics were conducted for primary school students. They began on 14 March and continued until 1 April.

During this period the Year 8 students in all high schools and colleges were given measles-mumps-rubella (MMR) vaccination according to the National Health and Medical Research Council guidelines. This was the second year the MMR vaccine was given to all Year 8 students, current Year 9 students having had this booster in 1993 when it was introduced.

Year 10, 11 and 12 students were invited to two evening clinics for MMR immunisation. Approximately 800 booster doses of MMR were given between 14 March and 1 April as part of the immunisation campaign conducted by Community Health staff. An unknown further number of vaccinations were given by general practitioners throughout the region.

The data were entered into an Epi Info, version 5, for analysis[7].

Results

The index case is believed to be a 16 year old female who was exposed to measles on a three week school trip to Japan. She returned to her local high school and became ill on 9 February. The next case occurred at the same school eight days later. Of the first ten cases identified all had a connection with the index case. They attended the same school, travelled on the same school bus or attended the same local church gathering. To date 24 cases have been identified from the high school of the index case (Figure 1). Cases occurred in Years 8, 10, 11 and 12; there were no cases in Year 9 students who had received their MMR vaccine the year before. Two of the Year 8 students who received MMR during the outbreak developed measles five to six days after vaccination. They would probably have been infected before the vaccination was given.

Cases were identified from primary schools and other schools but spread was mostly confined to the local area of the school attended by the index case. Cases reported from other schools invariably were in siblings of students at the index high school. Two infants were in crèches at the index high school while their mothers attended a dance group. There were four cases in 20 year olds, three of whom lived in the area of the index high school (one being the sister of the index case and another a mature age student at the index school). The other 20 year old case was a male who lived in a neighbouring town and dated a 16 year old schoolgirl who had measles.

Serological confirmation was available in 21 of the 53 cases (40%).

The cases were stratified according to school attendance; preschool (0-4 years old), primary school (5-11 years old), high school (12-16 years old) and young adults (over 16 years old). Forty-eight per cent of the cases were 12-16 years old and 26% of the cases were aged 5-11 (Figure 2). All age groups had similar proportions of males and females (Figure 3).

Parents of 33 of the 53 cases (62.2%) stated their children had been vaccinated. If the parents were unsure of the vaccination status the child was considered not vaccinated. The proportion of children whose parents said they were vaccinated was 43% in the preschoolers, 78% in the primary school age group, 65% in the high school students and 57% in young adults (Figure 4).

Discussion

In this outbreak the first notification occurred on Thursday 10 March, but the first case had become ill a month previously, on 9 February and there had been 16 cases before the first notification. Control measures were commenced on Monday 14 March, by which time 25 cases of measles had been diagnosed. The next 20 cases commenced within two weeks of the control measures and thus may have been infected before control meas-

Figure 1. Measles cases in the Bunbury region, February to May 1994, by week

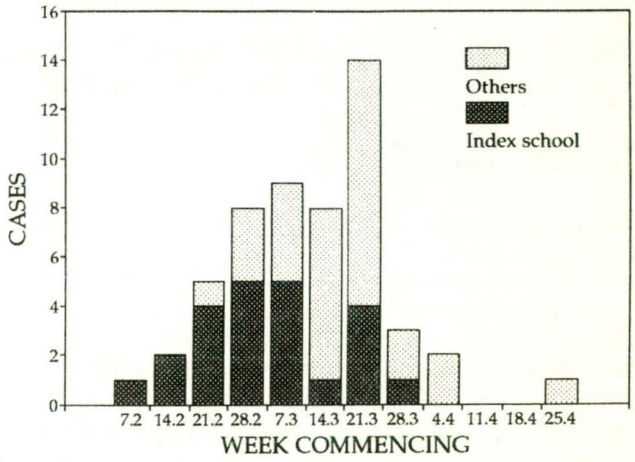


Figure 2. Measles cases in the Bunbury region, February to May 1994, by age group

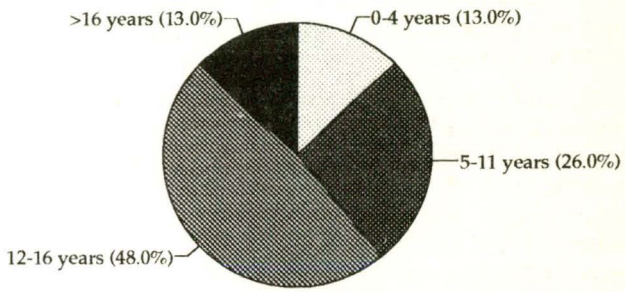


Figure 3. Measles cases in the Bunbury region, February to May 1994, by age group and sex

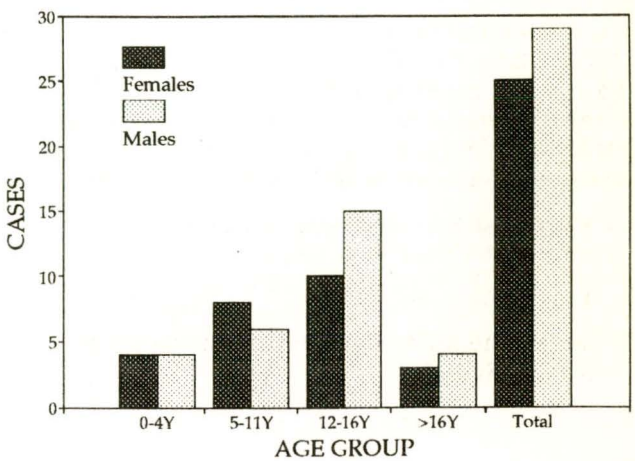
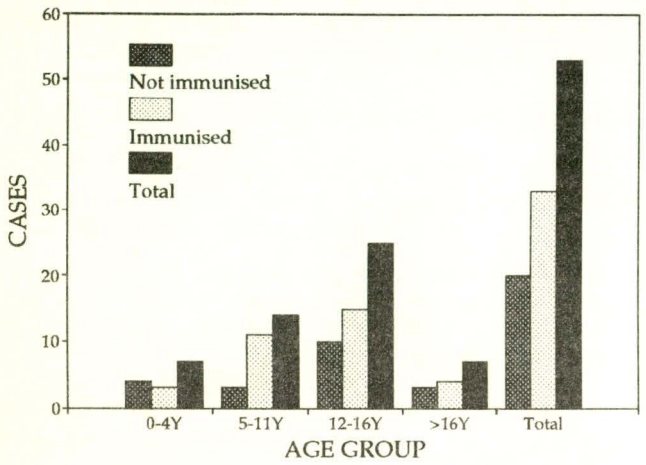


Figure 4. Measles cases in the Bunbury region, February to May 1994, by age group and immunisation status



ures were instigated. Only eight cases (15% of all cases) occurred after control measures had been instigated in persons who had probably not been infected by that time. If the first case had been notified earlier it is very likely that the extent of the outbreak could have been reduced. It is therefore important to notify all cases of measles promptly.

Unvalidated parental history indicates a high proportion of measles cases may have occurred in vaccinated children. A survey of Year 1 children in this health region in 1994 showed that over 90% were vaccinated. As the vaccine coverage in a population increases a higher proportion of cases in an outbreak will be vaccinated. For example if 95% of 1000 children are vaccinated with a vaccine that is 90% effective, 50 children would not be vaccinated and 95 children would be vaccinated but not immune. In an outbreak in this population 65% of cases may therefore be expected to be in vaccinated persons. As is the situation in the Bunbury outbreak, a high proportion of vaccinated cases could therefore occur in a community that had a high level of vaccine coverage.

It is essential that documentation of vaccination is sighted before any conclusions about vaccine efficacy are made from the above results. Once records have been sighted and vaccination data is validated it will be possible to estimate vaccine efficacy[8]. If parental history of vaccination is accurate the estimated vaccine efficacy may be below the general accepted level of 90-95% for measles[9]. A vaccine efficacy study will be undertaken if there is any suspicion of vaccine failure.

Acknowledgments

Dr M Patel from the National Centre for Epidemiology and Population Health provided valuable insights into the investigations of a measles outbreak.

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NON-TOXIGENIC *CORYNEBACTERIUM DIPHTHERIAE* WITHIN A GIPPSLAND COMMUNITY, VICTORIA

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Two cases of septicaemia/endocarditis with a non-toxigenic strain of *Corynebacterium diphtheriae* biovar *gravis* recently occurred amongst the Aboriginal community of East Gippsland, Victoria. Neither of the two patients (an 11 year old female and her great uncle, a 44 year old male) suffered any conditions which would specifically predispose towards endocarditis. Whilst sporadic cases of endocarditis due to non-toxigenic *C. diphtheriae* have been reported in the literature[1-4], there was particular concern about the emergence of an invasive clone following a cluster of infective endocarditis with this organism in Sydney in 1990-

1991[5,6]. Since the inception of the Victorian Hospital Pathogen Surveillance Scheme (VHPSS) in 1988, there had been no reports of septicaemia with *C. diphtheriae* until the two cases from Gippsland. There has since been another case of endocarditis with a non-toxigenic strain of *Corynebacterium diphtheriae* biovar *gravis* from a patient in Swan Hill, who had apparently visited Sale, in Gippsland.

In order to assess carriage rates amongst the Gippsland Aboriginal community and to devise appropriate control strategies, nose and throat swabs were collected from contacts. These were plated directly onto Modified Tinsdale Medium, a selective agar for *C. diphtheriae*. Plates from the first group of persons swabbed were incubated overnight in CO_2 at a local hospital. Whilst *C. diphtheriae* will readily grow in this atmosphere, the agar is detrimentally affected. The literature merely states that the CO_2 will prevent the formation of the characteristic haloes around the *C. diphtheriae*, but we discovered it actually prevents growth. These persons were subsequently reswabbed.

Appropriately processed nose and throat swabs were collected from 359 persons over a three week period. Four persons also had swabs of chronic ulcerating lesions as *C. diphtheriae* is a relatively common isolate from such lesions in other Aboriginal populations, but invasive disease is not evident (Fran Morey, personal communication). Non-toxigenic strains of *Corynebacterium diphtheriae* biovar *gravis* were isolated from throat swabs of five persons (aged 4, 10, 11, 13 and 23 years), giving a carriage rate of 1.4%. A non-toxigenic *Corynebacterium diphtheriae* (*belfanti*) was isolated from both the nose and throat of three persons (aged 23, 43 and 45 years) and from the nose only of three persons (aged 38, 42 and 48 years).

Molecular typing and pathogenicity studies will be carried out on all *C. diphtheriae* strains isolated from patients and contacts. They will be compared with the strains isolated from the cluster of infections in Sydney, as well as isolates from ulcers in Aboriginal populations in central Australia.

Acknowledgments

Sheila Beaton, Priscilla Robinson and Dr Kath Taylor, Health and Community Services, Victoria

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CDI editorial comment

An article detailing the frequent isolation of toxigenic and non-toxigenic *C. diphtheriae* isolates at Alice Springs Hospital was published in *CDI* 1994;**18**:310-311. Forty-two throat isolates were included in the report, 29 from Aboriginal persons and 13 from others.

OVERSEAS BRIEFS

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

Cholera update

Thirteen cases of cholera were reported from Albania in September. These are the first cases in Albania in recent times and have been confirmed as being caused by *Vibrio cholerae* O1. Infected areas have not yet been specified. Sierra Leone has also reported its first cases in recent times, and the Northern Province and Freetown within the Western Province have been declared infected. Maputo City in Mozambique has been removed from the infected areas list.

Cases have been reported for June, July, August and September from Afghanistan, Albania, Azerbaijan, Benin, Bolivia, Brazil, Burundi, Cambodia, Cameroon, China, Cote d'Ivoire, Dagestan, El Salvador, Ghana, Guinea, Hong Kong, India, Kenya, Malawi, Mexico, Moldova, Mozambique, Nepal, Niger, Philippines, Rwanda-Zaire, Sierra Leone, Somalia, Singapore, Tajikstan and Uganda.

Plague in India

There is an outbreak of pneumonic plague in India, originating in the city of Surat in Gujarat State in western India. Plague is a zoonotic disease of rodents and their fleas, caused by *Yersinia pestis*. Fleas may transfer the infection to humans, resulting in lymphadenitis in

those nodes draining the site of the flea bite. This is bubonic plague. The disease may progress to septicaemia with dissemination to many parts of the body, including the lungs, resulting in pneumonia. Aerosolised respiratory droplets from those with pneumonia can result in rapid person to person spread of infection, causing primary pneumonic plague.

The Departments of Human Services and Health and Foreign Affairs and Trade have recommended that only persons with pressing reasons for visiting Gujarat State should do so at this time. Where travel cannot be postponed, travellers are advised to seek medical advice prior to departure. Vaccination is not recommended as it is not effective in an epidemic situation. Prophylaxis with tetracycline hydrochloride 15-30mg/kg/day in four divided doses per day for a week (after last contact) or sulfonamides (for example 160mg trimethoprim and 800mg sulfamethoxazole bd) for a week (after last contact) can be carried and taken, preferably under medical advice, if the traveller has contact with a suspected or proven case of pneumonic plague.

A health alert notice has been issued for persons arriving in Australia who have been in western India in the previous six days. They are advised to seek urgent medical attention if experiencing the following symptoms: fever, general feeling of weakness, chest tightness with or without cough or shortness of breath. A presumptive diagnosis can be made by finding the characteristic bipolar staining organisms on direct microscopy of sputum. Confirmation is by culture and identification of the organism from blood, sputum, CSF or fluid aspirates from a bubo (swollen lymph node) or by a fourfold or greater rise in antibody titre to *Yersinia pestis*.

Suspected cases of plague must be notified to the local Chief Quarantine Medical Officer without delay. Quarantine and health authorities are continuing to monitor the situation.

COMMUNICABLE DISEASES SURVEILLANCE

Virology and Serology Reporting Scheme

There were 1412 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 9, 10 and 11).

- Twenty-one reports of **measles** were received this period, 7 males and 14 females, age range one month to 64 years. Diagnosis was by IgM detection (20) and total antibody (one). A slight increase was seen in the number of reports for the month of August (Figure 1).
- **Rubella** was reported for 13 patients this fortnight, 3 females (one infant, an 8 and a 26 year old) and 10 males. Included was a newborn female with congenital disease. Ten diagnoses were by IgM detection and 3 by fourfold rise in titre. The number of reports has risen in recent months (Figure 2).
- Eleven reports **hepatitis A** were received, 7 males and 4 females, age range one to 64 years. Included was the detection of hepatitis specific IgM in the serum of a 33 year old jaundiced male who had a history of recent overseas travel.
- Positive **hepatitis B** serology was reported for 85 patients this fortnight, 39 males and 45 females (one sex not stated). Fifty-one patients were in the 25 to 44 year age group, and 18 in the 15 to 24 year age group. Included was an 18 year old female and a 22 year old male, both with acute hepatitis, 13 pregnant females and an 83 year old male, the index case in a needlestick injury.
- Positive **hepatitis C** serology was reported for 269 patients this fortnight, 160 males and 100 females (9 sex not stated). One hundred and ninety-eight reports were for the 25 to 44 year age group and 32

Figure 1. Measles laboratory reports, 1992 to 1994, by month of specimen collection

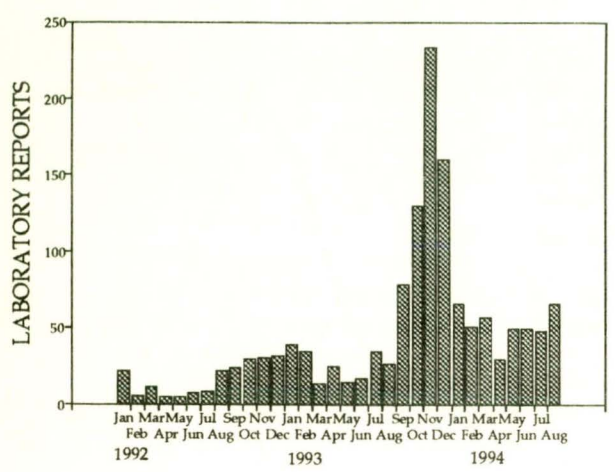
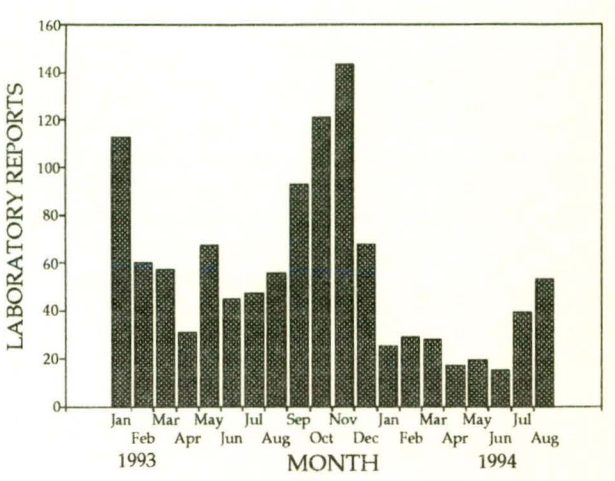


Figure 2. Rubella laboratory reports, 1993 to 1994, by month of specimen collection



for the 15 to 24 year age group. Included were 52 injecting drug users, a 36 year old male who was also reported as being positive for heptitis B, an 8 month old and the index case in a needlestick injury.

- **Hepatitis D** was reported for a 25 year old male.
- Forty-seven reports of **adenovirus** were received this fortnight, 33 virus isolations, 13 antigen detections and one single high titre. Included was **adenovirus type 1** isolated from the nasopharynx of a 16 month old male with a respiratory tract infection who was also positive for influenza A. **Adenovirus type 37** was isolated from the eye of a 32 year old male with eye disease. **Untyped adenovirus** was isolated from the nasopharynx of a 9 month old female who died.
- **Herpes simplex virus type 1** was reported for 145 patients this fortnight, 143 isolations and 2 antigen detections.
- One hundred and sixty-five reports of **herpes simplex virus type 2** were received this fortnight, diagnosed by virus isolation (162) and antigen detection (3).
- There were 38 reports of **cytomegalovirus** this fortnight, 28 virus isolations, one antigen detection and 9 IgM detections. Included was diagnosis by immunofluorescence in a lung specimen from a 31 year old female lung transplant recipient. Also included were 2 other transplant recipients and 5 HIV positive patients.
- Three reports of **parvovirus** were received this fortnight, all diagnosed by IgM detection.
- **Coxsackievirus B3** was isolated from the nasopharynx of a 7 month old male with pneumonia.
- **Coxsackievirus B5** was cultured from the nasopharynx of an 8 month old male with pneumonia who was also positive for respiratory syncytial virus.
- Two reports of **echovirus type 6** were received this period. Included was virus isolation from the CSF of a 6 month old female and from the nasopharynx of a one year old male with pneumonia.
- **Echovirus type 11** was isolated from the CSF of a 78 year old male.
- **Echovirus type 14** was isolated from the CSF of a 9 year old male with meningitis.
- **Untyped enterovirus** was diagnosed by single, high titre for a 4 year old female with Gullain Barré syndrome.
- **Influenza A** was reported for 103 patients this fortnight, 52 males and 50 females (one sex not stated), 37 over the age of 65 years. Diagnosis was by antigen detection (3), virus isolation (12), four-fold rise in titre (9), IgM detection (2) and single high titre (77). Included was isolation from the nasopharynx of a 5 month old male with pneumonia for whom cytomegalovirus was also reported and diagnosis by single high titre for a 13 year old male with parotitis. Reports were received from Victoria (10), Western Australia (66), Queensland (4), New South Wales (15), South Australia (4) and the Northern Territory (15).
- Two reports of **influenza B** were received this period, both diagnosed by single high titre.
- **Parainfluenza virus type 1** was reported for 4 patients this period, 3 under the age of 4 years. Three diagnoses were by virus isolation and one by single high titre.
- Seventeen reports of **parainfluenza virus type 3** were received this fortnight, 15 under the age of 4 years. Diagnosis was by virus isolation (12), antigen detection (3) and single high titre (2). The number of reports has risen through the winter months but remains low for the time of year (Figure 3).
- One hundred and fifty-one reports of **respiratory syncytial virus (RSV)** were received this fortnight, 94 for patients under one year of age and a total of

Figure 3. Parainfluenza virus type 3 laboratory reports, 1989-93 average and 1994, by month of specimen collection

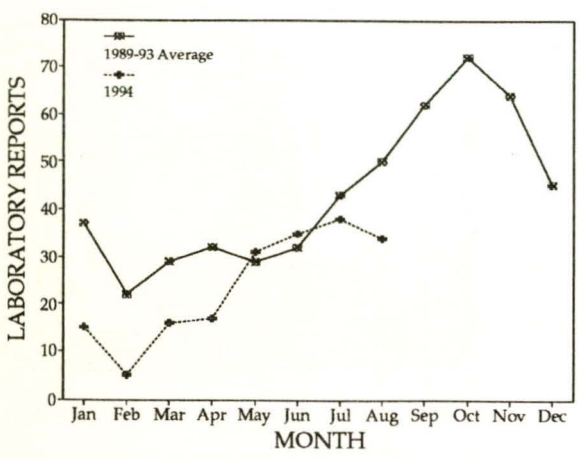
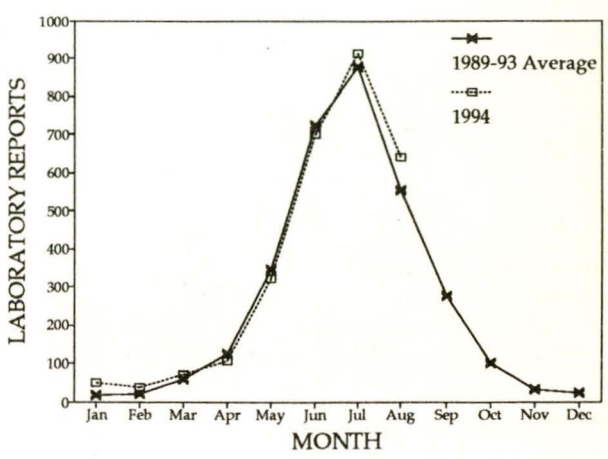


Figure 4. RSV laboratory reports, 1989-93 average and 1994 , by month of specimen collection



137 under the age of 4 years. Diagnosis was by virus isolation (81), antigen detection (61), single high titre (7) and fourfold rise in titre (2). Included was a 7 month old male with pneumonia who also had influenza A. The number of reports received declined in August as is usual for the time of year (Figure 4).

- **Rotavirus** was reported for 104 patients this period, 52 males and 51 females (one sex not stated). Ninety-five patients were less than 4 years of age, 28 being in the under one year age group.
- Fifty reports of ***Chlamydia trachomatis*** were received this fortnight, 23 males and 27 females. Forty-nine patients were in the 15 to 44 year age group. Diagnosis was by culture (33) and antigen detection (17).
- Positive **syphilis** serology was reported for 20 patients this period, 7 males and 12 females (one sex not stated). Included was the baby of a 31 year old female.

Australian Sentinel Practice Research Network

Data for weeks 36 and 37 are included in this issue of *CDI* (Table 1). There were 9356 consultations reported for week 36 and 8717 for week 37. The rate of influenza declined markedly again this fortnight. Rates were lowest in Victoria, Tasmania and Western Australia. Of the 81 reports in week 37, 44 were for persons in the 15 to 44 year age group (23 males and 21 females) and there were 5 reports for persons over the age of 65 years (2 males and 3 females). Gastroenteritis continues to be reported at between 10 and 15 cases per 1000 consultations. Thirty-six of the 99 reports in week 37 were for children under the age of 5 years.

HIV and AIDS Surveillance

Methodological note

National surveillance for HIV disease is coordinated by the National Centre in HIV Epidemiology and Clinical Research (NCHECR), in collaboration with State and Territory health authorities and the Commonwealth of Australia. Cases of HIV infection are notified to the National HIV Database on the first occasion of diagnosis in Australia, by either the diagnosing laboratory (ACT, New South Wales, Tasmania, Victoria) or by a combination of laboratory and doctor sources (Northern Territory, Queensland, South Australia, Western Australia). Cases of AIDS are notified through the State and Territory health authorities to the National AIDS Registry. Diagnoses of both HIV infection and AIDS are notified with the person's date of birth and name code, to minimise duplicate notifications while maintaining confidentiality.

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infec-

Table 1. Australian Sentinel Practice Research Network, weeks 36 and 37 1994

Condition	Week 36, to 11 September 1994		Week 37, to 18 September 1994	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	120	12.8	81	9.3
Measles	3	0.3	3	0.3
Chickenpox	19	2.0	12	1.4
Pertussis	5	0.5	3	0.3
Gastroenteritis	124	13.3	99	11.4

Table 2. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS, occurring in the period 1 to 30 April 1994, by sex and State or Territory of diagnosis

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA			
										This period 1994	This period 1993	Year to date 1994	Year to date 1993
HIV diagnoses	Female	1	2	0	1	1	0	2	1	8	9	28	27
	Male	0	27	1	17	1	0	14	4	64	66	307	323
	Sex not reported	0	0	0	0	0	0	0	0	0	0	5	4
	Total[1]	1	31	1	18	2	0	16	5	74	75	340	356
AIDS diagnoses	Female	0	0	0	0	1	0	1	0	2	4	4	7
	Male	1	17	0	3	2	0	11	0	34	33	171	159
	Total[1]	1	17	0	3	3	0	12	0	36	37	175	166
AIDS deaths	Female	0	4	0	1	0	0	0	0	5	2	12	7
	Male	1	15	0	1	2	1	17	0	37	55	159	173
	Total[1]	1	19	0	2	2	1	17	0	42	57	171	180

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

Table 3. Cumulative diagnoses of HIV infection, AIDS and deaths from AIDS since the introduction of HIV antibody testing to 31 April 1994, by sex and State or Territory

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	AUSTRALIA
HIV diagnoses	Female	11	502	4	77	40	3	143	49	829
	Male	140	9347	72	1362	504	68	3032	669	15194
	Sex not reported	0	2039	0	1	0	0	44	0	2084
	Total[1]	151	11896	76	1444	544	71	3226	719	18127
AIDS diagnoses	Female	2	98	0	21	13	2	31	10	177
	Male	57	2813	20	441	204	25	1030	208	4798
	Total[1]	59	2916	20	464	217	27	1066	218	4987
AIDS deaths	Female	2	64	0	14	9	1	15	3	108
	Male	39	1908	14	308	125	20	774	136	3324
	Total[1]	41	1977	14	323	134	21	792	139	3441

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

tion and AIDS is published in the quarterly *Australian HIV Surveillance Report*, available from the National [redacted]ntre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst NSW 2010. Telephone: (02) 332 4648 Facsimile: (02) 332 1837.

HIV and AIDS diagnoses and AIDS deaths reported for April 1994, and cumulative to 31 April, as reported to 31 July 1994, are included in this issue of *CDI* (Tables 2 and 3).

Australian Encephalitis: Sentinel Chicken Surveillance Programme, serological results, July and August 1994

AK Broom[1], *JS Mackenzie*[1], *L Melville*[2]

Sentinel chicken serology was undertaken for 13 of the 24 flocks in the north of Western Australia in July and August this year.

There were 2 seroconversions to Murray Valley encephalitis virus (MVE) at Kalumburu in July and 2 seroconversions to MVE at Halls Creek, one in July and [redacted]e in August. Eight of the 9 Northern Territory flocks were tested in July and August. There was one seroconversion to MVE at Murganella in July and 4 seroconversions to MVE at Palumpa and one to a flavivirus (probably not MVE or Kunjin) at Smith Point in August.

1. Department of Microbiology, The University of Western Australia
2. Berrimah Agricultural Research Centre, Darwin, Northern Territory

National Influenza Surveillance 1994

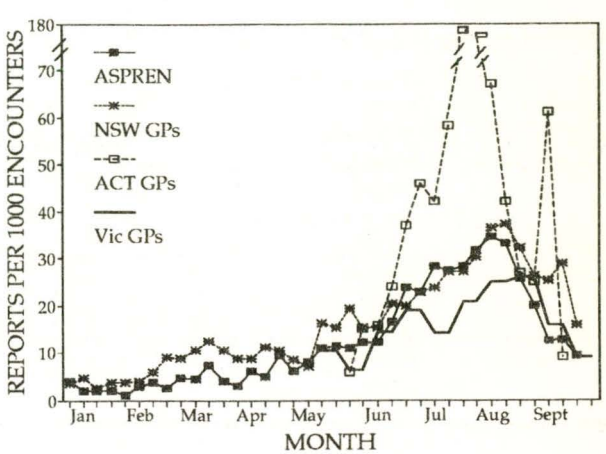
Australian Capital Territory Department of Health; Australian Defence Force; Australian Sentinel Practice Research Network; Communicable Diseases Intelligence Virology and Serology Reporting Scheme Contributing Laboratories; New South Wales Department of Health; Telecom Australia; Victorian Department of Health and Community Services; World Health Organization (WHO) Collaborating Centrefor Influenza Reference and Research, Melbourne

Overall this fortnight, there has been a marked decline in laboratory reports of influenza A and the rate of influenza reporting from sentinel general practitioner surveillance. Absenteeism rates have remained fairly stable.

Sentinel general practitioner surveillance (Figure 5)

- The **Australian Sentinel Practice Research Network** There were 9356 consultations reported for week 36, ending 11 September and 8717 for week 37, ending 18 September. The rate of influenza reporting declined markedly again this fortnight. Rates were lowest in Victoria, Tasmania and Western Australia.
- **New South Wales** sentinel general practitioners reported influenza at rates of 28.7 per 1000 consultations for the week ending 11 September and 15.9 per 1000 consultations for the week ending 18 September. The reporting rates have declined in the last few weeks, in parallel with those of ASPREN.
- The **Victorian Sentinel Practitioner Scheme** reported 41 cases of influenza in the fortnight ending 16 September (9 per 1000 consultations). The rate of reporting decreased markedly in the last fortnight.

Figure 5. Sentinel general practitioner influenza cases per 1000 encounters, by week and scheme



Absenteeism surveillance (Figure 6)

- **Telecom Australia Absenteeism Surveillance** reported sick leave absenteeism rates of 1.0% on 14 September and 0.4% on 21 September. There are reporting delays in the Telecom absenteeism surveillance system such that recent data do not reflect total absenteeism. Data for the period March to August are more complete and indicate no marked increase in sick leave during this influenza season (Figure 6).
- **New South Wales schools absenteeism surveillance** reported absenteeism of 4.6% in the week ending 4 September and 6.0% in the week ending 11 September. The rates reported in this scheme have fluctuated throughout the season.

Laboratory surveillance

- The ***CDI* Virology and Serology Reporting Scheme** has received 838 reports of **influenza A** so far this year, 574 other than single high titres. Sixty-four isolates have been identified as H_3N_2 subtypes (others not subtyped). The number of reports continued to decline in early September (Figure 7). **Influenza A** was reported for 103 patients this fortnight, 52 males and 50 females (one sex not stated) 37 over the age of 65 years. Diagnosis was by antigen detection (3), virus isolation (12), four-fold rise in titre (9), IgM detection (2) and single high titre (77). Included was virus isolation from the nasopharynx of a 5 month old male with pneumonia for whom CMV was also reported and diagnosis by single high titre for a 13 year old male with parotitis. Reports were received from Victoria (10), Western Australia (66), Queensland (4), New South Wales (15), South Australia (4) and the Northern Territory (15).
- There have been 43 reports of **influenza B** so far this year, 21 with diagnoses other than single high titre (Figure 8). Two reports of **influenza B** were received this period, all diagnosed by single high titre.

Other surveillance

- **Victorian total deaths surveillance**: there were 1422 deaths reported in Victoria in the fortnight ending 16 September. This was a rate of 3.1 per 10,000, about the same as the 3.2 per 10,000 reported in the previous fortnight.
- **Victorian hospital admissions**: there were 28 admissions for influenza or pneumonia in the fortnight ending 16 September. This was a rate of 0.7 per 100 patients admitted, lower than the rate reported for the previous fortnight.

Figure 6. Absenteeism rates per 100 employees or students, by week and scheme

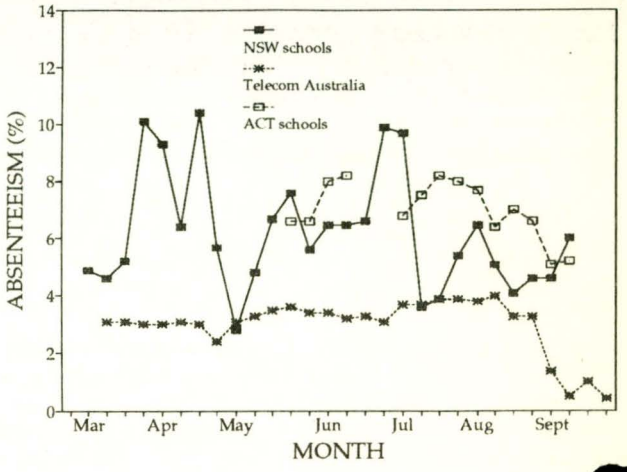


Figure 7. Influenza A laboratory reports, 1994, by method of diagnosis and week of specimen collection

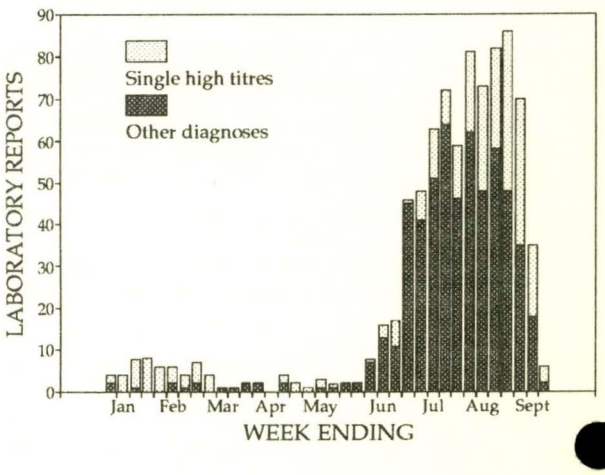
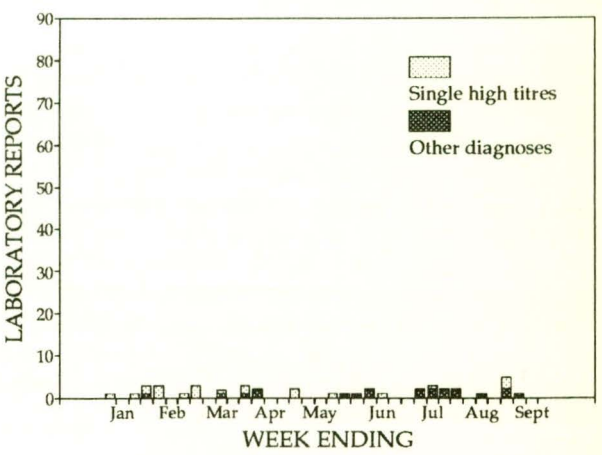


Figure 8. Influenza B laboratory reports, 1994, by method of diagnosis and week of specimen collection



Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by 8 laboratories. There were 192 reports of recent sepsis:

New South Wales: South West Area Pathology Health Service Liverpool 30; Royal North Shore Hospital 45.
Queensland: Toowoomba Pathology Laboratory 18.
Western Australia: Sir Charles Gairdner Hospital 17.
Tasmania: Royal Hobart Hospital 17; Northern Tasmanian Pathology Services 18.
ACT: Woden Valley Hospital 11.

Eight reports of meningococcal sepsis were reported this fortnight; 6 were cases of meningitis. Four meningococcal sepsis reports were from Queensland; serogroup B in an 18 year old male university student, serogroup B in a 21 year old female preschool teacher, an isolate with polyvalent ACWY135 agglutination from a 19 year old female and no serogroup provided in a 17 year old male. There were 3 meningococcal reports from New South Wales. Two were serogroup C, one from a 12 year old male and one from a 14 year old female, and one report had no serogroup provided (6 month old male). One report of meningococcal sepsis was from Tasmania in a five year old male (no serogroup provided).

Organisms reported 5 or more times from blood are detailed in Table 4. There were nine reports of isolates from CSF and/or meningitis (Table 5). Blood isolates not included in Table 4 were:

Gram positive: 4 *Enterococcus faecalis*, 2 group B *Streptococcus*, 1 *Streptococcus mitis*, 1 *Streptococcus salivarius*, 2 *Streptococcus* 'viridans'.

Gram negative: 2 *Neisseria meningitidis*, 3 *Haemophilus influenzae* type b (1 male aged 9 months with epiglotitis, a 5 month old female with septicaemia and a 7 month old male), 2 *Acinetobacter* species, 1 *Agrobacter radiobacter*, 1 *Citrobacter diversus*, 1 *Enterobacter* species, 2 *Enterobacter cloacae*, 1 *Pasteurella multocida*, 4 *Proteus mirabilis*, 1 *Serratia marcescens*, 2 *Xanthomonas maltophilia*.

Anaerobes: 1 *Clostridium paraputrificum*, 1 *Bacteroides bivius*, 1 *Bacteroides fragilis*, 1 *Bacteroides thetaiotaomicron*, 1 *Propionibacterium* species.

Table 4. LabDOSS reports of blood isolates, by organism and clinical information

	Clinical information						Risk factors					
Organism	Bone/Joint	Lower respiratory	Endocarditis	Gastrointestinal	Urinary tract	Skin	Surgery	Immunosuppressed	IV line	Hospital acquired	Neonatal	Total[1]
Staphylococcus aureus	5	2	2		1		4	9	4	1		28[2]
Staphylococcus coagulase negative		2	1					2	4			12[3]
Streptococcus pneumoniae		17	1					2				26
Escherichia coli				4	16			7				23
Klebsiella species				1				3				6[4]
Pseudomonas aeruginosa			1		2		1					5

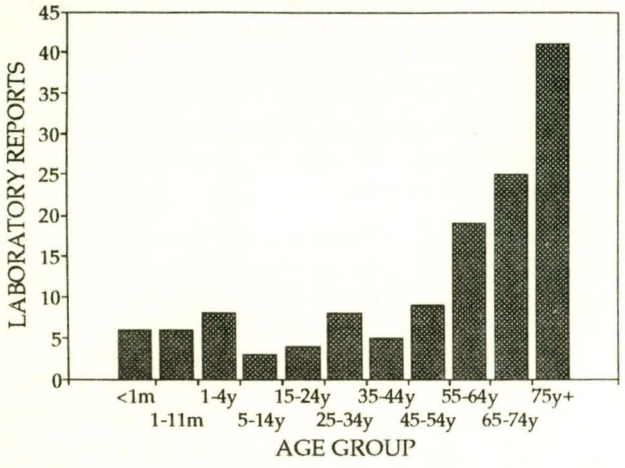
1. Only organisms with 5 or more reports are included in this table.
2. MRSA 1.
3. *Staphylococcus epidermidis* 5, S. *auricularis* 1.
4. *Klebsiella pneumoniae* 4, *K. oxytoca* 1.

Table 5. LabDOSS reports of meningitis and/or CSF isolates, by organism and age group

	1-11 months	5-14 years	15-24 years	25-34 years	35-44 years	55-64 years	75+ years	Total
Neisseria meningitidis	1[1]	1[2]	4[3]					6
Haemophilus influenzae						2		2
Staphylococcus haemolyticus						1		1

1. Serogroup not provided, New South Wales.
2. Serogroup C, New South Wales.
3. 2 serogroup B, 1 serogroup not provided, 1 polyvalent ACWY135, Queensland.

Figure 9. LabDOSS reports of blood isolates, by age group



Most were for patients over the age of 54 years (Figure 9).

Isolates from sites other than blood or CSF

Peritoneal fluid: 1 *Candida albicans.*

Joint fluid: 2 *Staphylococcus aureus.*

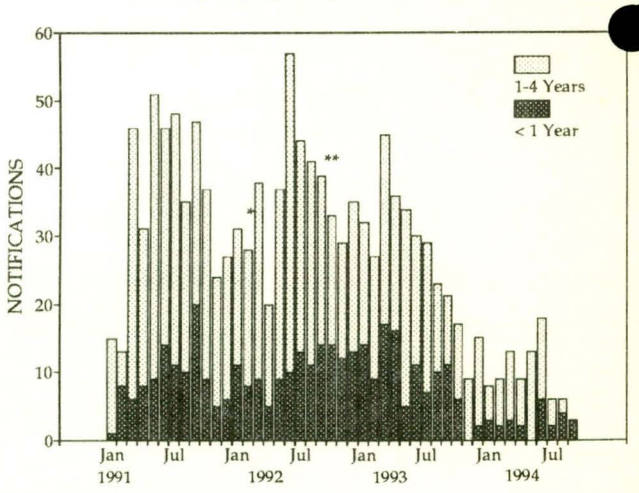
Other: 1 *Escherichia coli*, 2 *Candida albicans*, 1 *Candida* species, 1 *Branhamella* species, 1 *Staphylococcus aureus*, 1 MRSA.

National Notifiable Diseases Surveillance System, 4 September to 19 September 1994

There were 1665 notifications received in the period (Figure 12 and Tables 6,7 and 8).

- Eighteen notifications of **Ross River virus** were received; 7 cases were male and 11 were female. Cases were aged between the 20-24 and the 75-79 years age group. Onset dates were March (one), August (13) and September (4).
- There were two cases of **brucellosis** reported in the period. Both cases were males and they were aged in the 20-24 and the 45-49 years age group respectively.
- Forty-six notifications of **gonococcal infection** were received; 27 cases were male and 19 were female. Recorded ages were between the 0-4 and the 45-49 years age group with a single case aged 3 years.
- Five notifications of ***Haemophilus influenzae* type b infection** were received; 3 cases were male and 2 were female (Figure 10). Cases were aged between the 0-4 and the 70-74 years age group with 2 cases aged less than five years. All onset dates were in September.
- There were 50 cases of **hepatitis A** reported; 23 cases were male, 19 cases were female and the sex of 8 cases was unrecorded. Cases were aged between the 0-4 and the 80-84 years age group with 90% of cases aged less than 40 years.
- Nineteen incident cases of **hepatitis B** were reported; 14 cases were male and 5 were female. Recorded ages were between the 15-19 and the 60-64 years age group.
- A single notification of **hydatid infection** was received for a female in the 50-54 years age group resident in the Statistical Division of Adelaide.
- Six cases of **legionellosis** were reported; three cases were male and three were female. Recorded ages were between the 65-69 and the 80-84 years age group. Onset dates were in July (one), August (2), and September (3). Cases were resident in the Statistical Divisions of Melbourne (4), Sydney (one), and Moreton Queensland (one). There was one apparent cluster of two cases with onset dates 7 days apart who were resident in the same postcode area.
- A single notification of **leptospirosis** was received for a male in the 30-34 years age group who was resident in rural Victoria.
- A single notifications of **listeriosis** was received for a female in the 25-29 years age group who was resident in New South Wales.
- There were 32 cases of **malaria** reported; 25 cases were male and 7 were female. Recorded ages were between the 5-9 and the 60-64 years age group. Three cases were resident in the 'malaria receptive zone'. Onset dates were in February (11), March (3), April (2), June (one), July (2), August (8), and September (4).

Figure 10. *Haemophilus influenzae* type b notifications, January 1992 to September 1994, by age group and month of onset

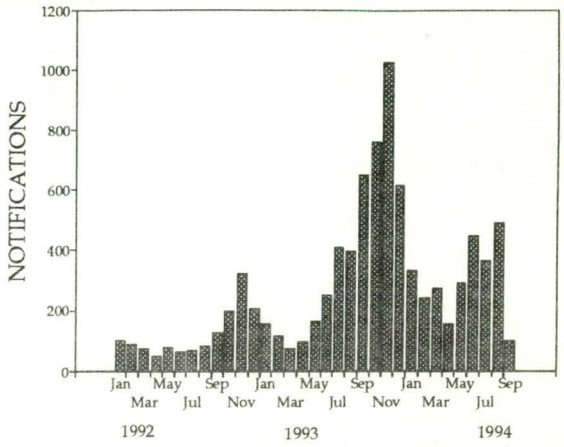


* PRP-D approved in February 1992.

** Infant vaccine approved in September 1992.

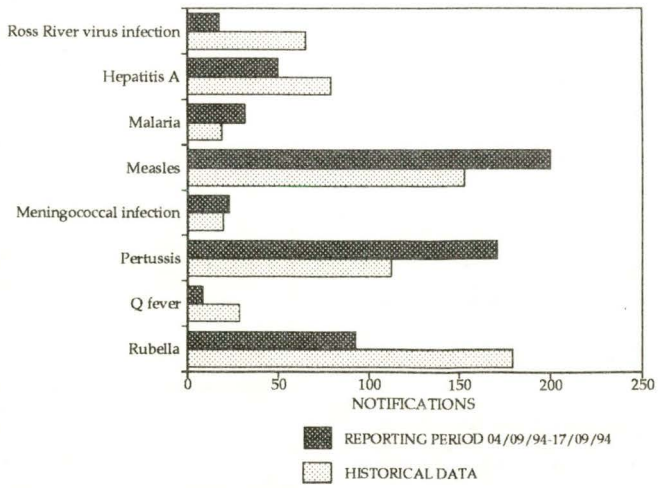
- Two hundred notifications of **measles** were received in the period (Figure 11). Ninety-seven cases were male, 102 were female, and the sex of one case was unrecorded. Cases ranged in age from the 0-4 to the 85-89 years age group with a mean age of 15.8 years. Thirty-five cases were aged less than five years and 19 cases were aged less than one year. There were 21 apparent clusters of between 2 and 13 cases each in the same postcode area. Apparent clusters were in New South Wales (5), Queensland (14), and Western Australia (2). There were 52 cases reported for the Northern Territory.
- Twenty-three cases of **meningococcal infection** were reported; 11 cases were male and 12 were female. Recorded ages were between the 0-4 and the 70-74 years age group with 8 cases in the 0-4 years age group. Onset dates were in July (one), August (11), and September (11). There were two apparent clusters of two cases each in the same postcode area with onset dates of 10 and 15 days apart respectively. The apparent clusters were in Queensland.
- There were 171 cases of **pertussis** reported; 59 cases were male, 111 cases were female and the sex of one case was unrecorded. Cases were aged between the 0-4 and the 80-84 years age group with 22 cases aged less than 5 years.
- Nine cases of **Q fever** were reported; 7 cases were male and 2 cases were female. Recorded ages were between the 0-4 and the 70-74 years age group. Cases were resident in rural New South Wales and Queensland.
- Ninety-three cases of **rubella** were reported; 56 cases were male, 29 were female and sex of 8 cases was unrecorded. Cases were aged between the 0-4 and the 55-59 years age group with a mean age of 20.8 years. Fourteen cases were recorded for females in the 15-44 years age group. There were 18 apparent clusters of between 2 and 5 cases each in the same postcode area. All apparent clusters were in Queensland.

Figure 11. Measles notifications, January 1992 to September 1994, by month of onset



- There were 51 notifications of **syphilis** for the period. Nineteen cases were male, 29 cases were female and the sex of 3 cases was unrecorded. Cases were aged between the 0-4 and the 80-84 years age group with a single case recorded for a female aged less than one year.
- A single case of **tetanus** was reported for a male in the 80-84 years age group resident in rural South Australia.
- Thirty-three cases of **tuberculosis** were reported; 16 cases were male and 17 cases were female. Recorded ages were between the 0-4 and the 90-94 years age group.
- A single case of **typhoid** was reported for a male in the 35-39 years age group resident in New South Wales. The onset date was in August.
- Ten cases of **yersinosis** were reported; 5 cases were male and 5 were female. Recorded ages were between the 0-4 and the 35-39 years age group.

Figure 12. Selected National Notifiable Diseases Surveillance System reports, and historical data[1]



1. 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. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by State and Territory health authorities in the period 4 to 17 September 1994

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1]			
									This period 1994	This period 1993	Year to date 1994	Year to date 1993
Diphtheria	0	0	0	0	0	0	0	0	0	0	23	0
Haemophilus influenzae b infection	0	1	0	2	1	1	0	0	5	12	147	317
Measles	4	20	52	117	1	4	2	0	200	284	2959	1925
Mumps	0	0	NN	NN	0	NN	0	0	0	3	14	9
Pertussis	0	34	0	77	35	0	24	1	171	158	3718	1564
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella[2]	3	0	0	81	2	0	6	1	93	163	1162	2216
Tetanus	0	0	0	NN	1	0	0	0	1	0	13	9

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

NN Not Notifiable.

Table 7. Notifications of other diseases[1] received by State and Territory health authorities in the period 4 to 17 September 1994

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2]			
									This period 1994	This period 1993	Year to date 1994	Year to date 1993
Arbovirus infection												
Ross River virus infection	0	1	0	17	0	NN	0	0	18	58	3724	4968
Dengue	0	-	0	0	-	NN	0	0	0	15	16	630
NEC[3]	0	1	0	5	0	0	0	0	6	14	485	451
Campylobacteriosis[4]	9	-	4	81	104	33	106	3	340	285	6844	5515
Chlamydial infection (NEC)[5]	2	NN	14	75	30	22	0	4	147	262	4623	4809
Donovanosis	0	NN	0	2	NN	NN	0	0	2	3	69	42
Gonococcal infection[6]	0	9	7	25	4	1	0	0	46	80	2024	2063
Hepatitis A	1	14	0	25	3	0	7	0	50	68	1416	1449
Hepatitis B incident[7]	0	2	1	3	1	6	6	0	19	-	289	-
Hepatitis B unspecified[7]										97	112	1648
Hepatitis C incident[7]	-	0	0	-	1	-	-	-	1	-	20	-
Hepatitis C unspecified[7]	9			138		37	115	3	303	337	6547	5111
Hepatitis (NEC)	0	1	0	0	0	0	0	NN	1	4	37	59
Legionellosis	0	1	0	1	0	0	4	0	6	12	155	138
Leptospirosis	0	0	0	0	0	0	1	0	1	1	100	117
Listeriosis	0	1	0	0	0	0	0	0	1	0	22	33
Malaria	2	3	0	26	1	0	0	0	32	10	535	460
Meningococcal infection	1	2	0	13	1	1	4	1	23	26	273	233
Ornithosis	0	NN	0	0	0	0	0	0	0	4	66	62
Q fever	0	2	0	6	0	0	1	0	9	32	479	642
Salmonellosis (NEC)	1	11	5	19	12	8	27	0	83	96	4156	3462
Shigellosis[4]	0	-	1	2	2	0	5	0	10	31	529	558
Syphilis	0	23	0	21	6	0	0	1	51	120	1552	1683
Tuberculosis	0	5	0	7	1	2	18	0	33	40	767	738
Typhoid[8]	0	1	0	0	0	0	0	0	1	2	29	51
Yersiniosis (NEC)[4]	0	-	0	7	3	0	0	0	10	15	309	337

1. For HIV and AIDS, see Tables 2 and 3. For rarely notified diseases, see Table 8.
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.
4. NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.
5. WA: genital only.
6. NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.
7. Comparative totals for 1993 comprise incident and unspecified cases.
8. NSW and Vic includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 8. Notifications of rare[1] diseases received by State and Territory health authorities in the period 4 to 17 September 1994

DISEASES	Total this period	Reporting States or Territories	Year to date 1994
Botulism			0
Brucellosis	2	NSW 1, Qld 1	16
Chancroid			0
Cholera			3
Hydatid infection	1	SA	34
Leprosy			8
Lymphogranuloma venereum			0
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 1988 to 1993.

Table 9. Virology and serology laboratory reports by State or Territory[1] for the reporting period 8 to 21 September 1994, historical data[2], and total reports for the year

	State or Territory[1]								Total this fortnight	Historical data[2]	Total reported this year
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA											
Measles virus					18		1	2	21	16.2	737
Mumps virus							2	1	3	3.0	67
Rubella virus		1						12	13	32.2	400
HEPATITIS VIRUSES											
Hepatitis A virus		1			1		1	8	11	15.8	272
Hepatitis B virus		27		6			11	41	85	96.5	1,816
Hepatitis C virus		46	1		24	12		186	269	175.2	4,410
Hepatitis D virus				2				1	3	1.7	18
ARBOVIRUSES											
[illegible]ngue not typed			1					1	2	3.7	19
ADENOVIRUSES											
Adenovirus type 1							2		2	4.8	49
Adenovirus type 2							1		1	7.5	43
Adenovirus type 3							1		1	7.0	36
Adenovirus type 7							1		1	.3	5
Adenovirus type 8							3		3	2.5	69
Adenovirus type 37							1		1	.2	1
Adenovirus not typed/pending		11		19	1		1	6	38	58.7	939
HERPES VIRUSES											
Herpes simplex virus type 1		13		24	17	2	29	60	145	140.7	3,518
Herpes simplex virus type 2		30		19	17	2	27	70	165	194.0	3,853
Herpes simplex not typed/pending		7					1		8	37.7	497
Cytomegalovirus		3		14	1		19	1	38	70.8	1,267
Varicella-zoster virus		2	1		5		5	4	17	33.3	733
Epstein-Barr virus		4			2		6	16	28	61.2	1,010
OTHER DNA VIRUSES											
Parvovirus							1	2	3	4.3	57

Table 9. Virology and serology laboratory reports by State or Territory[1] for the reporting period 8 to 21 September 1994, historical data[2], and total reports for the year, continued

	State or Territory [1]								Total this fortnight	Historical data [2]	Total reported this year
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA			
PICORNA VIRUS FAMILY											
Coxsackievirus B3							2		2	.7	6
Coxsackievirus B5							1		1	1.7	13
Echovirus type 6							2		2	1.2	51
Echovirus type 11							1		1	3.7	41
Echovirus type 14		1							1	.3	7
Echovirus type 30		2					2	1	5	2.0	258
Poliovirus not typed/pending		1							1	.0	21
Rhinovirus (all types)		4		17			2	6	29	35.7	749
Enterovirus not typed/pending		5		16				15	36	24.2	1,003
ORTHO/PARAMYXOVIRUSES											
Influenza A virus		6	15	2	4		10	66	103	67.7	854
Influenza B virus								2	2	44.5	112
Influenza virus - typing pending								1	1	.3	5
Parainfluenza virus type 1		1			1			2	4	2.5	531
Parainfluenza virus type 3				8	4		2	3	17	33.3	245
Respiratory syncytial virus		18		27	37	15	31	23	151	165.3	3,014
OTHER RNA VIRUSES											
HIV-1								1	1	1.5	66
Rotavirus		71		4	17	5	1	6	104	192.5	1,448
Reovirus (unspecified)								1	1	1.0	2
Small virus (like) particle		5							5	1.7	21
OTHER											
Chlamydia trachomatis not typed		3			3	4	6	34	50	110.0	1,840
Chlamydia psittaci							1	1	2	2.8	59
Chlamydia species					2				2	.7	10
Mycoplasma pneumoniae		1	1		2		1	2	7	104.5	715
Coxiella burnetii (Q fever)		1						2	3	22.7	219
Bordetella pertussis		2					1		3	12.7	430
Treponema pallidum		20							20	20.5	310
TOTAL		286	19	158	156	40	176	577	1,412	1,820.7	31,846

1. State or Territory of postcode, if reported, otherwise State or Territory of reporting laboratory.
2. 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 10. Virology and serology laboratory reports by clinical information for the reporting period 8 to 21 September 1994

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus								16				5	21
Mumps virus												3	3
Rubella virus				2				4		1		6	13
HEPATITIS VIRUSES													
Hepatitis A virus						1	6					4	11
Hepatitis B virus							17					68	85
Hepatitis C virus							23					246	269
[illegible]patitis D virus							3						3
ARBOVIRUSES													
Dengue not typed												2	2
ADENOVIRUSES													
Adenovirus type 1					2								2
Adenovirus type 2					1								1
Adenovirus type 3												1	1
Adenovirus type 7									1				1
Adenovirus type 8									3				3
Adenovirus type 37									1				1
Adenovirus not typed/pending					19	14			2			3	38
HERPES VIRUSES													
Herpes simplex virus type 1					4			76	5		38	22	145
Herpes simplex virus type 2					1			55			76	33	165
Herpes simplex not typed/pending								2			3	3	8
Cytomegalovirus					11	1		1			1	24	38
Varicella-zoster virus					1			13				3	17
[illegible]stein-Barr virus					1		1					26	28
[illegible]THER DNA VIRUSES													
Parvovirus								2				1	3
PICORNA VIRUS FAMILY													
Coxsackievirus B3					2								2
Coxsackievirus B5					1								1
Echovirus type 6					1							1	2
Echovirus type 11												1	1
Echovirus type 14		1											1
Echovirus type 30		2										3	5
Poliovirus not typed/pending												1	1
Rhinovirus (all types)					23							6	29
Enterovirus not typed/pending		1	3		20	6			1			5	36

Table 10. Virology and serology laboratory reports by clinical information for the reporting period 8 to 21 September 1994, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					58					1		44	103
Influenza B virus					2								2
Influenza virus - typing pending					1								1
Parainfluenza virus type 1					2							2	4
Parainfluenza virus type 3					15							2	17
Respiratory syncytial virus			1		131							19	151
HIV-1												1	1
Rotavirus						103						1	10
Reovirus (unspecified)						1							1
Small virus (like) particle						3						2	5
OTHER													
Chlamydia trachomatis not typed									1		45	4	50
Chlamydia psittaci					2								2
Chlamydia species					2								2
Mycoplasma pneumoniae					3							4	7
Coxiella burnetii (Q fever)												3	3
Bordetella pertussis					1							2	3
Treponema pallidum												20	20
TOTAL		4	4	2	304	129	50	169	14	2	163	571	1412

Table 11. Virology and serology laboratory reports by contributing laboratories for the reporting period 8 to 21 September 1994

STATE OR TERRITORY	LABORATORY	REPORTS
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	24
	Prince Henry / Prince of Wales Hospitals, Sydney	108
	Royal Alexandra Hospital for Children, Camperdown	42
	Royal Prince Alfred Hospital, Camperdown	10
	South West Area Pathology Service, Liverpool	102
Queensland	Nambour Hospital	8
	State Health Laboratory, Brisbane	150
South Australia	Institute of Medical and Veterinary Science, Adelaide	154
Tasmania	Northern Tasmanian Pathology Service, Launceston	9
	Royal Hobart Hospital, Hobart	31
Victoria	Microbiological Diagnostic Unit, University of Melbourne	6
	Victorian Infectious Diseases Reference Laboratory, Fairfield Hospital	170
Western Australia	Princess Margaret Hospital, Perth	18
	State Health Laboratory Services, Perth	580
TOTAL		1412