COMMUNICABLE DISEASES INTELLIGENCE

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CONTENTS

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AN OUTBREAK OF SEVERE GASTROENTERITIS CAUSED BY ROTAVIRUS IN THE SOLOMON ISLANDS

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Abstract

An outbreak of severe acute rotavirus gastroenteritis affected children and adults on Gaudalcanal Island in the Solomon Islands during the two months from 2 September to 5 November 1995. A total of 858 patients presented to the Outpatient Department of Honiara Central Hospital, resulting in 169 admissions, predominantly of children under five years of age, two of whom died. The abrupt onset and cessation of this epidemic may prove to be characteristic of rotavirus epidemiology in small island populations.

Introduction

Rotavirus is the single-most important cause of severe gastroenteritis in young children between six and 24 months of age worldwide[1,2]. There are only a limited number of published reports on rotavirus outbreaks occurring in isolated communities. The pathogen is clearly present in tropical island communities in the Pacific Ocean, but its epidemiology is not well understood. Reports include those from Papua New Guinea in 1979[3], Truk in 1980[4] and New Caledonia in 1994[5]. The epidemic in islands comprising the Truk District during 1964 was particularly severe, involving 3,439 cases. That epidemic occurred from February to April 1964, involved residents on 14 islands, with attack rates ranging from 5.8 to 25 / 100 persons / island. At the time, the aetiological agent was not identified. Retrospective studies done fifteen years later demonstrated that the outbreak was caused by rotavirus[4]. In Papua New Guinea, 54 of 66 children studied with severe gastroenteritis were found by electron microscopy to be infected with rotavirus[3]. A survey carried out in New Caledonia involving 2,088 diarrhoea patients however showed that rotavirus was not a common enteric pathogen during the period of the survey[5].

The Solomon Islands comprise several hundred islands located in the south-western Pacific Ocean scattered over 249,000 square nautical miles between Papua New Guinea to the north-west and Vanuatu to the south-east. The capital, Honiara, is located on Guadalcanal Island. The majority of the Solomon Islands population (370,000 in 1993) live on the narrow coastal plains. The climate is equatorial with a mean year-round temperature of 27^{o}C, humidity 60-90%, and maximum (monsoonal) rainfall from November to April.

Diarrhoea is the third-most common cause of morbidity among children in the Solomon Islands, exceeded only by acute respiratory infections and malaria. The attack rate for all forms of diarrhoea in 1992 was 3.5 attacks per child per year, with mortality estimated to be 14%, equivalent to 1.7 deaths per 1,000 children per year[6]. The frequency of gastroenteritis cases presenting to the Outpatient Department of Honiara Central Hospital, the national referral hospital, routinely fluctuates between two and six per day. The number of admissions to the Children's Ward ranges from three to 24 per month. There appears to be no clear seasonal pattern, in common with epidemiological observations in other tropical countries[7]. In the past ten years there have been outbreaks of gastroenteritis, including one due to *Shigella* species in 1988. The presence of rotavirus had not been documented in the Solomon Islands prior to this outbreak, primarily because there are no laboratory facilities for the isolation and identification of viruses. Outbreaks of viral origin may have taken place, but the aetiological agents were never identified.

The epidemic described in this report began in the middle of September 1995, when there was a noted increase in the number of severe gastroenteritis cases presenting to the Outpatient Department of Honiara Central Hospital. The number of cases continued to rise during October, severely stretching the ability of existing facilities to manage the number of patients. When the unusual nature of the epidemic was realised, together with the inability of the hospital laboratory to identify an aetiologic agent, faecal specimens collected during the latter part of the epidemic were flown on ice to Melbourne for viral analysis.

Methods

All patients (adults and children) presenting to the Outpatient Department of Honiara Central Hospital with symptoms of acute gastroenteritis were registered. Data were collected and tabulated by date of presentation, age and gender. A case was defined as a person (usually a child) presenting with fever, vomiting and profuse watery diarrhoea. Data on patients admitted to the ward were collected and compiled from admission records and case notes.

Stool specimens obtained within 48 hours of admission to hospital were routinely examined for bacterial enteropathogens (including *Salmonella* species, *Shigella* species, Campylobacter species and *V. cholerae*) by the Honiara Central Hospital Clinical Laboratory. Stool speci-

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2. World Health Organization Collaborating Centre for Research on Human Rotaviruses, Melbourne, Victoria

mens collected from thirty-two young children after admission to hospital with severe diarrhoea between 12 and 19 October 1995 were sent to the Gastroenterology and Clinical Nutrition Department of the Royal Children's Hospital in Melbourne, Australia where they were examined for rotavirus using an enzyme immunoassay developed to detect and serotype human rotavirus strains[8]. The genetic patterns (electropherotypes) of rotavirus strains were identified by gel electrophoresis of dsRNA extracted from faecal specimens.

Results

An increase in gastroenteritis cases presenting to the Outpatient Department of Honiara Central Hospital was observed during early September 1995, rising to a peak for numbers of patients admitted during the first two weeks of October. The numbers admitted declined thereafter, returning to normal levels by early November (Figure).

During the period covering the two months of the outbreak, from 2 September to 5 November 1995, 858 patients presenting with severe gastroenteritis were recorded by the Outpatient Department. Seventy per cent were children under three years of age with a mean age of 18 months, and ten per cent were aged from three to five years. Adults, and children over five years of age, accounted for 20 per cent of the cases. No gender bias was observed among the patients. The overall attack rates for children younger than three years of age presenting to the Outpatient Department and admitted to hospital were 100 per 1,000, and 28 per 1,000 respectively (calculated on the basis of a total population at risk of approximately 6,000 children up to three years old).

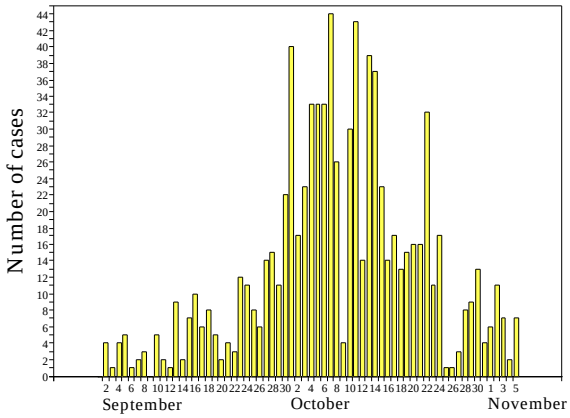
There were 169 admissions for severe gastroenteritis recorded during October. All were children under five years of age, with the majority between one and three years of age. All were moderately to severely dehydrated (10%-15%) on admission and required intravenous rehydration. The average length of intravenous therapy was two days, with an average length of stay of three days. The patients were discharged as soon as they were well hydrated and able to retain orally administered fluids. Follow-up of ten patients showed that the illness lasted an average of seven days. There were two known deaths: one died within six hours of admission and the other died before arrival at hospital.

Cultures sent to the Central Hospital Clinical Laboratory were all negative for bacterial enteropathogens. All thirty-two specimens from gastroenteritis patients tested at the Royal Children's Hospital in Melbourne were positive for rotavirus. A serotype could be assigned to 14 / 32 rotavirus positive specimens. All fourteen typeable specimens were G1 serotype. Genetic patterns (electropherotypes) of specimens tested were identical.

Discussion

This was a major epidemic for a small country like the Solomon Islands, involving symptomatic illness in both adults and children. Rotavirus was identified for the first time as the causative agent of severe gastroenteritis in the Solomon Islands. No other outbreaks of gastroenteritis of the same magnitude and severity have been recorded, even though diarrhoeal disease is the third-most common cause of morbidity in these islands.

Figure. Patients presenting to the outpatients department of Honiara Central Hospital with severe acute diarrhoea between 2 September and 5 November 1995



The epidemic began and ceased abruptly and was of short duration, lasting approximately six weeks, with a high attack rate in children aged less than three years of age. The pattern of the epidemic suggests a faecal-oral route of transmission since no patients presented with respiratory symptoms. It is unlikely that transmission involved the public water supply system on Honiara, since cases also occurred in rural villages on Gaudalcanal Island with seperate water supplies. Detailed epidemiological investigations were not carried out.

Aside from the clinical aspects of this epidemic, the patient load that it created placed a heavy burden on the limited treatment resources available. The already short-staffed and overcrowded Honiara Central Hospital had to move patients to create a new ward at the height of the epidemic. Resources for the management of those patients, such as intravenous sets and drip stands, were also stretched to the limit.

The long-term effects of this gastroenteritis epidemic have not been assessed, but it is worth noting that rotavirus has been associated with post-enteritis weight loss in instances where there is a high rate of malnutrition[9]. In Honiara Central Hospital, 35% of patients admitted to the Children's Ward are less than 80% weight for age at discharge (Rodgers, unpublished observation). As a result of the epidemic, that percentage may increase.

The epidemiology of rotavirus transmission in Pacific island countries is still not well understood. A few reports published in the literature, together with observations of this epidemic, suggest that rotavirus infection may not be

endemic and that transmission may not be sustained in these small isolated communities. Instead of endemic year-round infection characteristic of tropical countries, there may be a pattern of periodic epidemics (involving adults and children) when rotavirus strains are reintroduced from time to time. The G1 rotavirus serotype involved in this epidemic has been shown to be the most common serotype causing diarrhoea in young children throughout the world[1,2]. The source of the strain responsible for this epidemic has not been identified, but could have been external to the Solomon Islands. Preliminary results indicate that it is genetically similar to a rotavirus strain causing severe diarrhoea on the Australian mainland during the same period (unpublished observations). It is unrealistic to expect that public health measures could prevent introduction of rotavirus strains into island communities from time to time, particularly via asymptomatic travellers. It is important to monitor rotavirus infection in the Solomon Islands on a continuing basis to understand the epidemiology of this important enteric pathogen. Eventually, control of rotavirus disease may be achieved by oral vaccines to prevent disease in young children[10].

Acknowledgments

We are grateful for the technical assistance of A. Darcy, Honiara Central Hospital Laboratory, and for the participation of the Office of the World Health Organization Country Liaison Officer for the Solomon Islands.

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NOTICE TO READERS

Review of *CDI* mailing list

Following the readership survey conducted last year, and a recent review of *CDI* by the *Medical Journal of Australia*, we are reviewing our mailing list to ensure that we are effectively reaching our target audience.

The flyer that you received with this issue of *Communicable Diseases Intelligence* has an important notice printed on it.

If you wish to continue receiving *CDI*, you must complete this flyer and return it to us by Monday, 16 September 1996. Subscribers who have not notified this office by that date will be removed from the mailing list.

Would you also please check that your name and address are correct, and mark any changes needed to help us bring our records up to date. Please return the flyer to Surveillance and Epidemiology Section, Department of Health and Family Services, MDP 15, GPO Box 9848 Canberra ACT 2601, or fax it to (06) 289 7791 before 16 September 1996. You can fold the flyer, staple it along the edges and post it to the address shown

OVERSEAS BRIEFS

Source: World Health Organization (WHO)

Enterohaemorrhagic *E. coli* infection: Japan

The Ministry of Health and Welfare has reported an outbreak of enterohaemorrhagic *Escherichia coli* (EHEC) infection among schoolchildren in Sakai City (population ca.800,000), in the region of Osaka. Most of the reported cases are children aged 6 to 12 years from 62 public elementary schools in the municipality.

Patients began to report abdominal cramps and diarrhoea (including bloody diarrhoea) in the evening of 12 July and the number of cases increased over the following days. As of 26 July, 6,260 schoolchildren had been affected; 92 patients developed haemolytic uraemic syndrome. An additional 92 cases have been reported among teachers and other school staff. EHEC serotype O157 has been detected from 287 out of 542 patient stool samples. School lunch, which was prepared in individual schools from the foods delivered by a central supply station, is the suspected cause of this outbreak; the responsible food is yet unknown.

Sakai City has 92 public elementary schools, with a total of 48,000 schoolchildren and 2,288 teachers. The Ministry of Health and Welfare, the municipality of Sakai and the prefectural government of Osaka have set up a joint investigation group and, in collaboration with the Ministry of Education, put in place measures to prevent secondary infections and other outbreaks.

Cholera update

Nigeria: As of 4 July a total of 12,374 cases with 1,193 deaths had been reported since the beginning of the outbreak. Two more states, Taraba and Yobe, have now reported cases.

Other countries in Africa reporting cholera in the last week were Chad, Niger, and United Republic of Tanzania.

Diphtheria: Laos & Thailand

An outbreak of diphtheria has occurred in Laos and neighbouring regions of Thailand. A total of 72 cases have been reported from Sayabouri province in Laos. Twenty cases have been reported in Thailand so far and the outbreak appears to be spreading, the WHO has assisted the countries in outbreak investigations, provision of antitoxin for treatment of cases and with planning of mass campaigns to contain the epidemic in both countries.

Cerebrospinal meningitis: Angola

Cases of meningitis have been reported in the provinces of Moxico, Lunda Norte and Cuanza Norte. The reporting system is not sufficiently well established to permit an evaluation of the true extent of the outbreak but at least 26 cases have been registered in the province of Moxico since the beginning of July. About ten cases per day with a very high case fatality rate (90%) have been reported in Cuanza Norte. A confirmed case has also been reported in Luanda and unconfirmed cases in the provinces of Huila, Lubango and Namibie. UNICEF together with Médecins sans Frontières have administered 20,000 doses of vaccine in Lumege and surrounding areas and the campaign is continuing.

During 1994, more than 3,300 cases were registered in the provinces of Cuene, Huila and Lunda Sud. During 1995, 1,007 cases were notified in seven provinces.

Lassa fever: Sierra Leone

From 1 January to 21 July 1996, 246 cases of Lassa fever were reported. Of these 73 (30%) were fatal. The outbreak, which was first reported in early May, seems to be declining; about nine new cases occurred weekly in July compared with a weekly average of about 16 cases in June. Only two deaths were reported in the four week period ending 21 July.

COMMUNICABLE DISEASES SURVEILLANCE

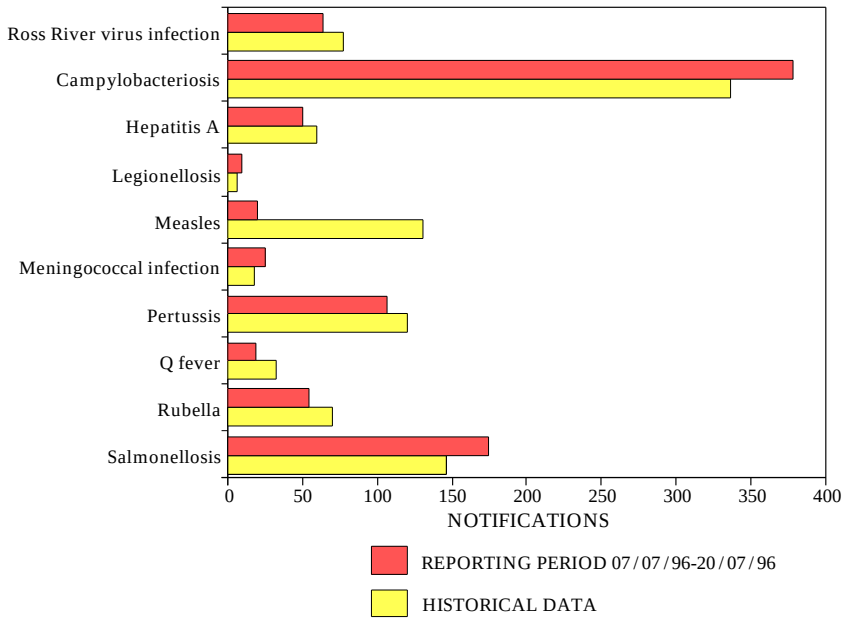
National Notifiable Diseases Surveillance System

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia-New Zealand. The system coordinates the national surveillance of 41 communicable diseases or disease groups endorsed by the National Health and Medical Research Council (NHMRC). Notifications of these diseases are made to State and Territory health authorities under the provisions of their respective public health legislation. De-identified core unit data are supplied fortnightly for collation, analysis and dissemination. For further information, see CDI 1996;20:9-10.

Reporting period 7 to 20 July 1996

There were 1,800 notifications received for this two-week period (Tables 1, 2 and 3). The numbers of reports for selected diseases have been compared with average data for this period in the previous three years (Figure 1).

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



1. The historical data are the averages of the number of notifications in 9 previous 2-week reporting periods: the corresponding periods of the last 3 years and the periods immediately preceding and following those.

Table 1. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by State and Territory health authorities in the period 7 to 20 July 1996

DISEASE[2]	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1]			
									This period 1996	This period 1995	This period 1996	This period 1995
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae B infection	0	0	0	0	0	0	1	0	1	1	37	45
Measles	0	3	0	15	0	0	0	2	20	29	263	909
Mumps	1	1	0	NN	0	0	3	0	5	9	62	83
Pertussis	3	32	0	30	10	3	24	5	107	120	1689	2341
Rubella	1	1	0	26	7	0	18	1	54	65	1471	1300
Tetanus	0	0	0	0	0	0	0	0	0	0	1	3

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. No notifications of poliomyelitis have been reported since 1986.

NN Not Notifiable.

Table 2. Notifications of other diseases[1] received by State and Territory health authorities in the period 7 to 20 July 1996

DISEASE	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2]			
									This period 1996	This period 1995	This period 1996	This period 1995
Arbovirus Infection (NEC)[3,4]	0	0	0	4	0	0	1	0	3	14	128	369
Barmah Forest virus infection	0	4	-	9	0	0	-	-	13	16	585	300
Ross River virus infection	0	10	2	45	0	-	0	7	64	43	7221	2164
Dengue	0	0	0	0	0	-	0	1	1	1	24	15
Campylobacteriosis[5]	7	-	11	150	135	14	7	54	378	357	6271	5679
Chlamydial infection (NEC)[6]	5	NN	24	136	0	13	58	45	281	154	4080	3501
Donovanosis	0	NN	3	0	NN	0	0	1	4	0	30	48
Gonococcal infection[7]	0	13	20	26	0	0	16	33	108	75	2077	1699
Hepatitis A	1	27	2	14	1	0	3	2	50	43	1396	918
Hepatitis B incident	0	3	0	0	0	1	1	0	5	13	129	215
Hepatitis B unspecified	8	0	0	36	0	2	0	26	72	60	856	958
Hepatitis C incident	0	0	0	-	0	-	-	-	0	2	14	57
Hepatitis C unspecified	10	NN	6	190	NN	13	8	25	252	431	4625	5013
Hepatitis (NEC)	0	0	0	0	0	0	1	NN	1	1	12	17
Legionellosis	1	0	0	1	2	0	2	3	9	5	105	119
Leptospirosis	0	1	0	4	0	0	0	0	5	9	135	69
Listeriosis	0	0	0	0	0	0	0	0	0	2	31	40
Malaria	2	5	3	0	2	0	2	2	16	26	479	381
Meningococcal infection	1	10	0	3	4	4	2	1	25	14	175	190
Ornithosis	0	NN	0	0	0	0	0	0	0	6	55	78
Q fever	0	12	0	7	0	0	0	0	19	20	300	252
Salmonellosis (NEC)	3	17	15	59	15	2	43	20	174	166	3706	4030
Shigellosis[5]	1	-	2	10	2	0	5	3	23	27	384	483
Syphilis	1	36	2	16	0	2	0	1	58	66	823	1116
Tuberculosis	1	11	2	1	3	1	9	1	29	49	626	631
Typhoid[8]	0	2	0	0	1	0	1	1	5	1	51	39
Yersiniosis (NEC)[5]	0	-	0	7	4	0	1	0	12	8	152	209

1. For HIV and AIDS, see Tables 4 and 5. For rarely notified diseases, see Table 3 .
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. Tas: includes Ross River virus and dengue.
4. NT, Vic and WA: includes Barmah Forest virus.
5. NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.
6. WA: genital only.
7. NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.
8. NSW, Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

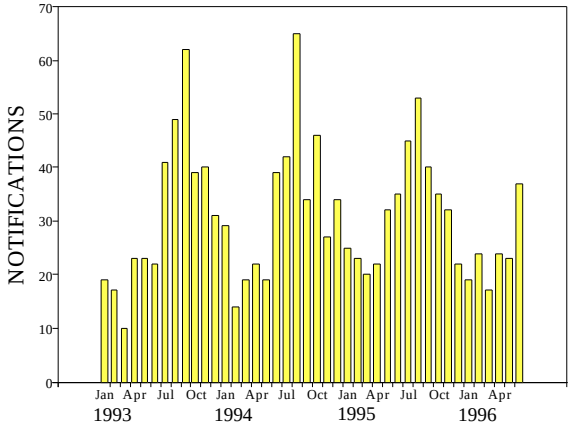
- Elsewhere Classified.

Table 3. Notifications of rare[1] diseases received by State and Territory health authorities in the period 7 to 20 July 1996

DISEASES[2]	Total this period	Reporting States or Territories	Year to date 1996
Brucellosis	4	Qld 2, Vic 1, WA 1	23
Chancroid	0		1
Cholera	0		4
Hydatid infection	2	Qld 1, Vic 1	25
Leprosy	0		7

1. Fewer than 60 cases of each of these diseases were notified each year during the period 1988 to 1995.
2. No notifications have been received during 1996 for the following rare diseases: botulism; lymphogranuloma venereum; plague; rabies; yellow fever; or other viral haemorrhagic fevers.

Figure 2. Meningococcal infection, notifications 1993 to 1996, by month of onset



There were 19 notifications of **meningococcal infection** received for the current fortnight. The recent increase in notifications (Figure 2) is in keeping with the seasonal distribution which has remained consistent over the last few years. The annual number of notifications has also remained stable at 380 to 400 reports.

In this period 174 notifications of **salmonellosis** were received. This year there were higher than usual numbers of notifications of cases with onset dates in March, April and May (Figure 3). The expected seasonal distribution has been accompanied over the last 4 years by an upward trend. The average annual notification rate since 1991 has been 30 per 100,000 population, but there are marked regional differences with the Northern Territory, Queensland and Western Australia having the highest rates. The distribution of cases by sex and age shows similar numbers of males and females in all age groups (Figure 4); 45% of reported cases are in children under 5 years.

HIV and AIDS Surveillance

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.

Figure 3. Salmonellosis notifications 1993 to 1996, by month of onset

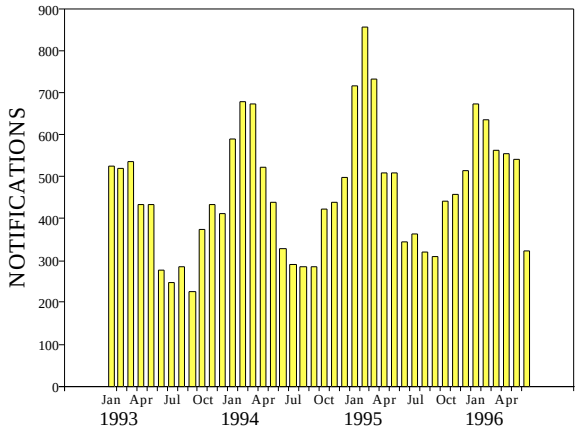
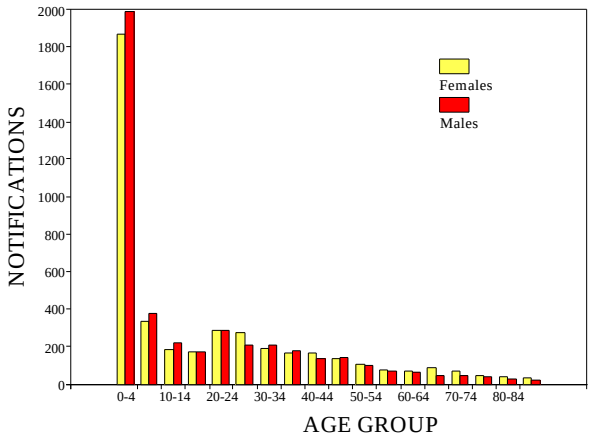


Figure 4. Salmonellosis notifications 1995 and 1996, by sex and age group



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 infection and AIDS is published in the quarterly Australian HIV Surveillance Report, available from the National Centre 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 deaths following AIDS reported for January 1996, as reported to 30 April 1996, are included in this issue of *CDI* (Tables 4 and 5).

Table 4. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 to 31 January 1996, by sex and State or Territory of diagnosis

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA			
										This period 1996	This period 1995	Year to date 1996	Year to date 1995
HIV diagnoses	Female	0	3	0	0	0	0	1	1	5	11	5	11
	Male	0	29	0	10	5	0	16	2	62	66	62	66
	Sex not reported	0	2	0	0	0	0	0	0	2	3	2	3
	Total[1]	0	34	0	10	5	0	17	3	69	81	69	81
AIDS diagnoses	Female	0	0	0	0	0	0	0	0	0	3	0	3
	Male	0	20	0	5	0	0	5	0	30	59	30	59
	Total[1]	0	20	0	5	0	0	5	0	30	62	30	62
AIDS deaths	Female	0	0	0	0	0	0	1	1	2	2	2	2
	Male	0	9	0	7	1	0	5	2	24	55	24	55
	Total[1]	0	9	0	7	1	0	6	3	26	57	26	57

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

Table 5. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 31 January 1996, by sex and State or Territory

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	AUSTRALIA
HIV diagnoses	Female	15	550	4	94	44	4	158	70	939
	Male	167	9933	80	1563	562	70	3339	749	16463
	Sex not reported	0	2049	0	0	0	0	42	0	2091
	Total[1]	182	12539	84	1662	606	74	3548	821	19516
AIDS diagnoses	Female	5	130	0	28	18	2	47	18	248
	Male	71	3738	25	635	266	32	1314	272	6353
	Total[1]	76	3878	25	665	284	34	1368	292	6622
AIDS deaths	Female	2	99	0	21	13	2	33	11	181
	Male	50	2645	20	441	181	21	1029	201	4588
	Total[1]	52	2750	20	464	194	23	1068	213	4784

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

National Influenza Surveillance

Australian Sentinel Practice Research Network; Communicable Diseases Intelligence Virology and Serology Reporting Scheme Contributing Laboratories, New South Wales Department of Health; Victorian Department of Health; World Health Organisation Collaborating Centre for Influenza Reference and Research.

National Influenza Surveillance is conducted from May to September each year. Data are combined from a number of sources to provide an indication of influenza activity. Included are sentinel general practitioner surveillance, absenteeism data from a national employer, and laboratory data from LabVISE and the World Health Organization Collaborating Centre for Influenza Reference and Research. For further information, see CDI 1996;20:9-12.

The consultation rate for influenza-like illness recorded by ASPREN has continued to fluctuate this fortnight with revised data for New South Wales showing a similar pattern over corresponding weeks (Figure 5). The absenteeism rate for Australia Post has dropped.

Figure 5. Sentinel general practitioner influenza consultation rates per 1,000 encounters, 1996, by week

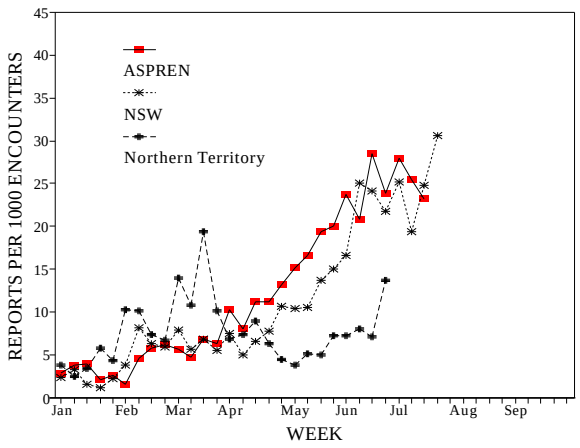


Figure 6. Influenza A laboratory reports, 1995 and 1996, by week of specimen collection

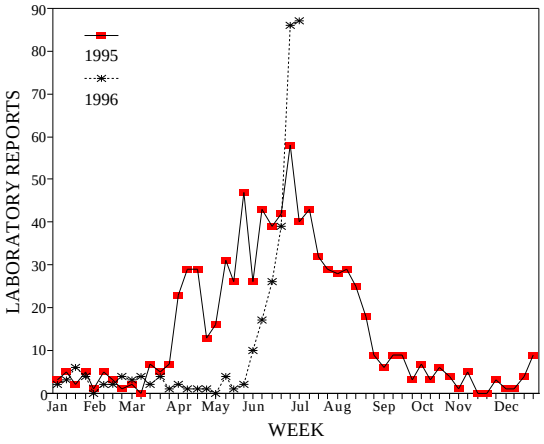
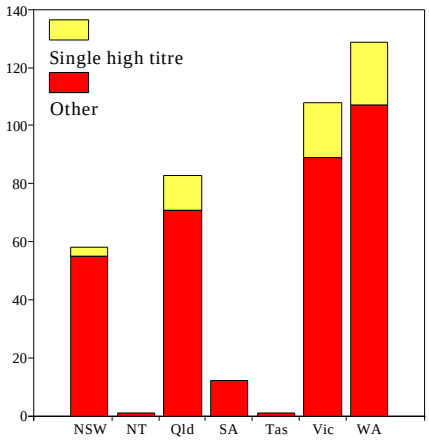


Figure 7. Influenza A laboratory reports, 1996 by method of diagnosis and State or Territory



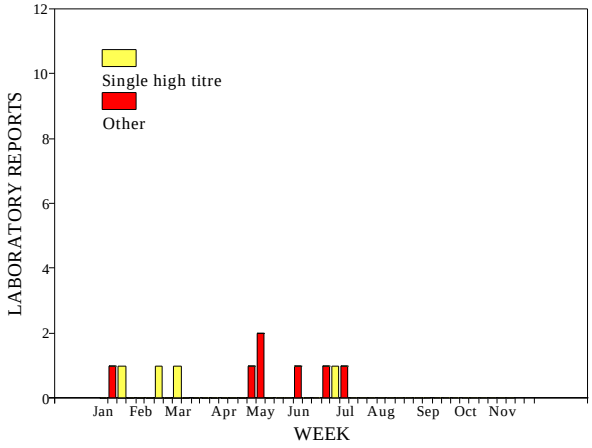
A total of 200 laboratory reports of influenza A were received this fortnight, more than had been previously received for the year to date. The number of laboratory reports per week is well above the corresponding number for the same period last year (Figure 6). Diagnosis for the reports received this period was by antigen detection (89), virus isolation (75), single high titre (18) and four-fold rise in titre (18). Fifty-nine per cent of all reports this year (230 / 389) have been for children under five years of age and 8% (32 / 389) were for adults over 65 years of age.

The majority of laboratory reports have been received from Western Australia, Victoria and Queensland (Figure 7).

Fourteen reports of influenza A (H3N2) were received this fortnight with diagnosis by virus isolation. Eleven reports were for children under five years of age.

Two reports of influenza B were received this fortnight, one was diagnosed by virus isolation the other by four-fold rise in titre (Figure 8).

Figure 8. Influenza B laboratory reports, 1996, by method of diagnosis and week of specimen collection



Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network (ASPREN) comprises 99 sentinel general practitioners from throughout the country. A total of approximately 9,000 consultations are recorded each week for 12 conditions. Of these, CDI reports the consultation rate for influenza, rubella, measles, pertussis and gastroenteritis. For further information including case definitions see CDI 1996;20:98-99.

Data for weeks 28 and 29 ending 14 and 21 July respectively are included in this issue of *CDI* (Table 6). Consultation rates for chickenpox and gastroenteritis have also remained at similar levels to the previous few weeks. The rates of reporting of rubella, measles and pertussis continues to be at low levels.

Table 6. Australian Sentinel Practice Research Network reports, weeks 28 and 29, 1996

	Week 28, to 14 July 1996		Week29, to 21 July 1996	
Condition	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	221	25.5	193	23.2
Rubella	1	0.1	2	0.2
Measles	0	0	0	0
Chickenpox	8	0.9	17	2.0
Pertussis	0	0	3	0.4
Gastroenteritis	102	11.8	113	13.6

LabVISE

The Virology and Serology Reporting Scheme, LabVISE, is a sentinel reporting scheme. Twenty-one laboratories contribute data on the laboratory identification of viruses and other organisms. Data are collated and published in Communicable Diseases Intelligence each fortnight. These data should be interpreted with caution as the number and type of reports received is subject to a number of biases. For further information, see CDI 1996;20:9-12.

There were 1,496 reports received in the *CDI* Virology and Serology Reporting Scheme this period (Tables 7 and 8).

Reports of **respiratory syncytial virus** have increased at a constant rate since April and are average for this time of year (Figure 9). A total of 539 reports have been received in the last fortnight. Diagnosis was by antigen detection (300), virus isolation (238) and four-fold rise in titre (1). Ninety-eight per cent of reports (526 / 539) were for children under five years of age and of these 74% (390 / 526) were under one year of age.

Reports of **rhinovirus** remain above those reported at the same time last year but below those reported in 1994, which was a peak year (Figure 10). Forty reports were received this period, all were diagnosed by virus isolation.

Six reports of **parvovirus** were received this fortnight. All were from Victoria with diagnosis by IgM detection.

Figure 9. Respiratory syncytial virus laboratory reports, 1991 to 1995 average and 1996, by month of specimen collection

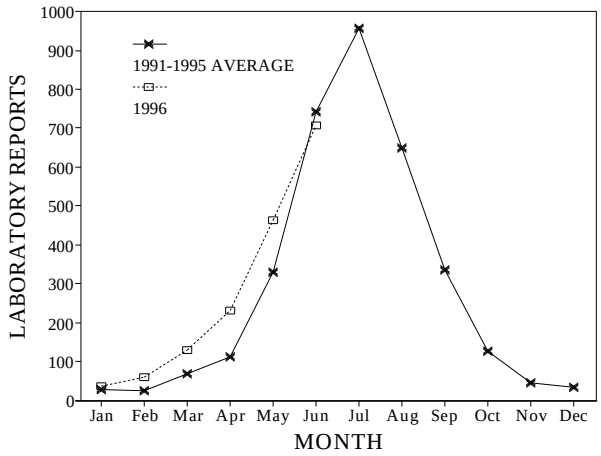


Figure 10. Rhinovirus laboratory reports, 1994, 1995 and 1996 by month of specimen collection

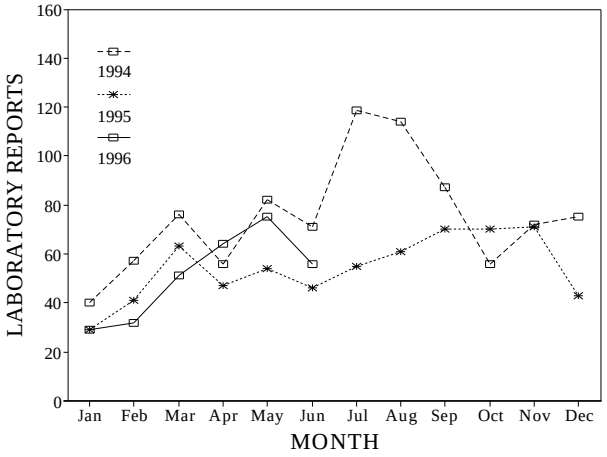


Table 7. Virology and serology laboratory reports by State or Territory[1] for the reporting period 11 to 24 July 1996, historical data[2], and total reports for the year

	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					1		2	1	4	12.0	34
Rubella virus					1			1	2	7.3	321
HEPATITIS VIRUSES											
Hepatitis A virus		1	2		1			4	8	11.3	294
ARBOVIRUSES											
Ross River virus								4	4	12.2	2,998
Barmah Forest virus								2	2	4.7	154
Dengue not typed								2	2	.2	10
ADENOVIRUSES											
Adenovirus type 1					2				2	1.8	11
Adenovirus type 2							1		1	1.2	19
Adenovirus type 3					3				3	1.8	60
Adenovirus type 5					1				1	1.5	3
Adenovirus type 7					2				2	.3	20
Adenovirus type 19							2		2	.2	6
Adenovirus type 28							1		1	.0	1
Adenovirus type 40							1	2	3	.0	23
Adenovirus not typed / pending		13		7	10		7	16	53	39.8	834
HERPES VIRUSES											
Herpes simplex virus type 1							3	1	4	165.8	2,704
Herpes simplex virus type 2							3		3	175.7	2,675
Herpes simplex not typed / pending								2	2	19.7	287
Cytomegalovirus		13		14	6		8	9	50	64.5	1,016
Varicella-zoster virus		1		1	13		10	10	35	30.2	738
Epstein-Barr virus		11	1		17		3	18	50	53.8	1,234
OTHER DNA VIRUSES											
Parvovirus		1					5		6	2.5	94
PICORNA VIRUS FAMILY											
Echovirus type 7		1							1	.0	3
Echovirus type 9		2							2	.2	21
Echovirus type 11		1							1	.8	1
Echovirus type 14		1							1	.7	26
Poliovirus type 1 (uncharacterised)		1					1		2	.8	11
Poliovirus type 2 (uncharacterised)		2							2	1.2	11
Poliovirus type 3 (uncharacterised)		1							1	.5	4
Rhinovirus (all types)		12		14	9		5		40	29.3	430
Enterovirus not typed / pending		2		16			3	10	31	39.5	542

Table 7. Virology and serology laboratory reports by State or Territory[1] for the reporting period 11 to 24 July 1996, 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			
ORTHO / PARAMYXOVIRUSES											
Influenza A virus		33		43	12	1	44	67	200	84.0	428
Influenza A virus H_3N_2				14					14	4.8	22
Influenza B virus					1		1		2	12.3	31
Parainfluenza virus type 1		5		11	17		1	5	39	22.7	233
Parainfluenza virus type 2				1	2			1	4	7.5	50
Parainfluenza virus type 3		3		15	2		2	7	29	27.2	331
Parainfluenza virus type 4				1					1	.0	6
Respiratory syncytial virus	1	135	11	139	30	4	70	150	540	485.8	2,218
Paramyxovirus (unspecified)							1		1	.2	11
OTHER RNA VIRUSES											
HTLV-1								1	1	.2	4
Rotavirus		18	2		10		56	17	103	101.3	703
Small virus (like) particle							1		1	.7	11
OTHER											
Chlamydia trachomatis not typed		9	23		39	2		46	128	83.5	2,353
Mycoplasma pneumoniae		8			8		10	2	28	18.2	369
Coxiella burnetii (Q fever)		4					2		6	7.8	110
Rickettsia tsutsugamushi				1					1	.2	5
Staphylococcus aureus			7						7	.0	7
Streptococcus pneumoniae			3						3	.0	3
Streptococcus group A			1						1	8.8	203
Streptococcus sangius			1						1	.0	1
Escherichia coli			1						1	.0	1
Klebsiella oxytoca			1						1	.0	1
Proteus mirabliis			2						2	.0	2
Enterobacter aerogenes			1						1	.0	1
Haemophilus influenzae			2						2	.0	2
Neisseria gonorrhoeae			1					40	41	.0	56
Bordetella pertussis							6	2	8	8.7	291
Legionella species								1	1	.0	4
Clostridium perfringens			1						1	.0	1
Cryptococcus species								1	1	.5	5
Schistosoma species							6		6	1.2	190
TOTAL	1	278	60	277	187	7	255	422	1,496	1,555.0	22,238

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 8. Virology and serology laboratory reports by contributing laboratories for the reporting period 11 to 24 July 1996

STATE OR TERRITORY	LABORATORY	REPORTS
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	63
	Royal Alexandra Hospital for Children, Camperdown	79
	Royal North Shore Hospital, St Leonards	12
	South West Area Pathology Service, Liverpool	125
Northern Territory	Alice Springs Hospital	32
Queensland	State Health Laboratory, Brisbane	276
	Brisbaine Sexual Health Clinic	9
South Australia	Institute of Medical and Veterinary Science, Adelaide	188
Tasmania	Royal Hobart Hospital, Hobart	7
Victoria	Monash Medical Centre, Melbourne	58
	Royal Children's Hospital, Melbourne	127
	Victorian Infectious Diseases Reference Laboratory, Fairfield Hospital	71
Western Australia	PathCentre Virology, Perth	162
	Princess Margaret Hospital, Perth	219
	Royal Perth Hospital	6
	Western Diagnostic Pathology	62
TOTAL		1496