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Communicable Diseases Intelligence

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Contents:

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VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTING SCHEME:

A total of 1071 reports were processed during this reporting period (15 February to 28 February 1990).

A case of dengue was diagnosed in a 33 year old male who had recently been to Vanuatu. The man had had a dengue-like illness for about three weeks before the diagnosis was made by haemagglutination inhibition and detection of IgM to the virus. Four cases of unspecified Group B arbovirus were also suspected to have been dengue. The patients were a 35 year old male who had recently been to Papua New Guinea, a 32 year old male and a 28 year old female who had been travelling in Thailand, and a 38 year old female who had been overseas (areas not specified). (A further case of dengue was also reported separately from the Viruses Reporting Scheme. It occurred in a female who had recently returned from Fiji. The diagnosis was clinical and based on symptoms of sweating, headache and myalgia. Serological tests to confirm the diagnosis are currently being undertaken.)

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- Contributions are solicited, and do not preclude later publication elsewhere.

- Figures given may be subject to revision.

Two cases of influenza type A were reported. They were an adult female and a 6 year old girl who had recently been to Nauru. The subtype of the virus was Shanghai/11/87[H3N2]. This strain is one that has been often detected in the Northern Hemisphere this Northern Winter; it will be included in the 1990 Winter season vaccine for Australia.

Twenty-two cases of rubella were reported during this period. These included 3 pregnant women. One was 24 years old and 8 weeks pregnant, one was 31 years old and 13 weeks pregnant and the third was 20 years old and 16 weeks pregnant.

There were 15 reports of Ross River Virus during this period, close to the average of about 14 each period for this summer. Locations were provided for 12 of the cases: 5 cases were from Darwin, 3 cases from Gove, NT, 2 cases from Kununurra (Northern Western Australia) and there was one case each from Nhulunbuy, NT and Tennant Creek, NT.

Two reports of Hepatitis C were received. The first was a fatal case in a 20 year old male. The patient presented with pyrexia, jaundice and haemophagocytic syndrome and went on to suffer renal failure and death. The diagnosis of Hepatitis C was made histologically at autopsy, after detection of cytopathic changes in the liver that were typical of those caused by this virus. Serological tests were negative, as can be the case in acute Hepatitis C infection. The second case is in a chronic carrier of the virus. The patient is a 39 year old male who has had persistent hepatitis for at least 4 years. The diagnosis was made serologically.

(These are the first reports of Hepatitis C to have been received by the CDI. Arrangements are currently being made to allow regular reporting of cases through the Viruses Reporting Scheme in the near future.)

Three reports of Q fever were received during the period. Occupational details were not supplied for any of these cases.

OVERSEAS BRIEFS:

1. MENINGITIS IN UGANDA

Three hundred and seventeen cases (24 deaths) of cerebrospinal meningitis were reported in Kampala and in the North-West of Uganda up to 15 January. Prophylactic measures are being taken and close contacts of cases are being vaccinated. Recent information indicates that the epidemic is spreading in the country and all visitors are now advised to have meningococcal A+C vaccination before travelling to Uganda. (See also the CDI editorial comment to the article 'A Cluster of Cases of Group C Meningococcal Infection in Katanning Western Australia', below.)

2. CHOLERA IN ZAMBIA AND INDIA

The cholera epidemic in Zambia is continuing. Newly received information is that 319 cases with 40 deaths occurred from 1 to 11 February, and 394 cases with 70 deaths

occurred from 12 to 19 February 1990. The epidemic has also spread to the Copperbelt Province which is now considered by the World Health Organization to be an infected area.

Cases of cholera continue to be reported from India. From 1 to 30 November 1989, 758 cases occurred and there were 5 deaths.

3. DENGUE IN VENEZUELA AND TRINIDAD AND TOBAGO

The Venezuelan dengue epidemic which began in October 1989 is continuing. By 22 January 1990, a total of 5 416 cases (51 deaths) had been reported. Of these, 1500 were dengue haemorrhagic fever, which indicates that reinfection is occurring. The dengue virus has been isolated from 16 patients: 2 isolates were dengue-1, 8 were dengue-2 and 6 were dengue-4. Anti-mosquito measures have been undertaken in Caracas and Maracay where the epidemic is showing a marked decline.

An outbreak of dengue has also been reported from Trinidad and Tobago. By 19 January, 103 cases had been reported. Twenty-five of these were laboratory confirmed and 11 stains of dengue-2 were isolated. The Trinidad and Tobago Ministry of Health has undertaken an education campaign and intensive anti-mosquito perifocal spraying has been carried out.

4. PLAGUE IN MADAGASCAR

Plague cases have been reported from seven previously uninfected Districts of Antananarivo and Fianarantsoa Provinces of Madagascar. The 7 confirmed and 2 suspected cases (4 deaths) occurred in October. The Districts involved are now considered by the World Health Organization to be infected with plague.

SUBACUTE SCLEROSING PANENCEPHALITIS (SSPE) CASE

A case of Subacute Sclerosing Panencephalitis (SSPE), a rare sequela of measles, was reported through the Viruses, Chlamydias, Coxiellas, Rickettsias and Mycoplasmas Reporting Scheme in January. The patient was a nine year old boy who presented with a history typical of SSPE: a gradual decline in his school standards, followed by a reasonably sudden onset of myoclonic jerks.

The diagnosis of SSPE was made after high titres of IgG to measles virus were found in serum and CSF samples. No measles IgM was detected and the virus was not isolated. The measles vaccination status of the boy is not known.

SSPE is a progressive neurodegenerative disorder occurring in about 1 in 10^5 children after measles infection and possibly in about 1 in 10^6 children after measles vaccination. A detailed description of the epidemiological, clinical and diagnostic features of SSPE was published in CDI 89/16.

A CLUSTER OF CASES OF GROUP C MENINGOCOCCAL INFECTION IN KATANNING, WESTERN AUSTRALIA

(Contributed by Charles Watson and Valerie Gardner, Disease Control Branch, Health Department of Western Australia)

A cluster of cases of group C meningococcal infection in the Katanning area prompted the Health Department of Western Australia to implement an emergency meningococcal vaccination program for over 1000 children in the area. This report summarises the events that led up to the vaccination program as well as describing the immediate outcomes of the intervention.

Recent cases of meningococcal infection in the Katanning area

Between mid-November 1989 and mid-February 1990, there were three cases of invasive group C meningococcal infection in the Katanning area. A further case of presumed meningococcal infection (no laboratory confirmation) occurred in a sibling of one of the identified cases.

The notable details of the cases are as follows:

Case 1. An adult male from Katanning was treated for meningococcal meningitis in November 1989. He recovered. The organism was identified as group C.

Case 2. In mid-January 1990, a two year old male infant from Katanning presented with high fever and a blotchy rash which was initially thought to be measles. Treatment for presumed meningococcal septicaemia was commenced about three hours after admission to hospital but soon afterward his temperature fell rapidly from 39°C to under 36°C and signs of brain stem compression appeared soon after. He died the same day he was admitted. It seems clear in retrospect that he was suffering from meningococcal septicaemia at the time of admission. The organism was identified as group C.

Case 3. In mid-February 1990, an eight year old girl from Badgebup (34km east of Katanning) presented with 39°C fever and vomiting and diarrhoea. The girl was a pupil at the primary school at Nyabing 51km east of Katanning. The girl appeared shocked and it was first thought she was dehydrated on account of her vomiting and diarrhoea so an intravenous drip was set up. About three hours after admission, a haemorrhagic rash developed and meningococcal septicaemia was diagnosed. Despite immediate administration of intravenous penicillin, her condition deteriorated and she died within 24 hours. The organism was identified as group C.

Case 4. A younger sister of the girl from Badgebup developed a high fever (39° C) on the day her older sister was admitted to hospital. She was treated immediately with penicillin and recovered quickly. No laboratory evidence of meningococcal infection was found. Despite this, the case is considered likely to have been due to meningococcal infection.

Case 5. Two days after these last two cases, a young boy from Perth was diagnosed as suffering from meningococcal septicaemia (group C). The boy had been on holiday in the south of the state about two weeks before becoming ill. Although he was mainly in Albany, there was a suspicion that he may have spent some time in the Katanning region. He responded well to treatment with penicillin. Later investigation did not reveal any definite geographic association with the Katanning cases but at the time this case added significantly to concerns of a potential outbreak.

Treatment of Contacts

Antibiotic prophylaxis was instituted in these cases. This was not without problems. In case 3, rifampicin was not available in the area on the day of the girl's death; it was obtained from Albany 170km away. Because of widespread panic over the girl's sudden death, there was pressure to administer rifampicin to school contacts and others outside the immediate family.

Parents indicated that they would not send their children to the Nyabing primary school. A doctor representing the Health Department travelled to Nyabing to address these concerns at a public meeting.

The Meningococcal Vaccination Program

The occurrence of two confirmed cases of invasive group C meningococcal infection in the Katanning area within a period of one month was reason enough to consider a program of meningococcal vaccination. The addition of a presumed case (case 4) lent further support for such an intervention and the possibility of geographical association in case 5 could not initially be excluded. The existance of a recent group C case in the area within two months was also considered to be significant.

The decision to carry out an emergency vaccination program was taken four days after the admission to hospital of case 3. It was decided to vaccinate all children aged 2 to 13 years who attended primary schools, pre-schools and play groups in the Katanning area. The Katanning area was defined as the Katanning shire (population approximately 5000) and the adjacent shires of Kent (towns of Badgebup and Nyabing) and Woodanilling. These latter shires each have populations of between 500 and 1000. It was estimated that 1200 children would qualify for vaccination.

The decision to exclude children below the age of 2 years was based on standard opinion that a satisfactory immunogenic response to polysaccharide vaccines such as the meningococcal vaccine cannot be elicited in younger children.

Stocks of meningococcal vaccine in Perth (500 doses held by the Health Department and about 100 doses at Smith Kline Biologicals) were not sufficient for the planned program. Because of this, further stocks (600 doses) were ordered from CSL in Melbourne two days after the death of case 3. These extra doses were available in Perth the same day the decision to vaccinate was made.

The vaccination program was supported by staff from Perth (including two medical officers) using a mobile immunisation van and injections were given by community health nurses and school health nurses from the Katanning area. The cooperation of school principals and teachers was vital for the sucessful operation of the program.

Two days before the program, information sheets and consent forms were sent home to all parents and local media publicised the program. The program began seven days after the death of case 3 and was completed in two days (1116 children were vaccinated). A supplementary program to vaccinate those children who were ill and/or absent from school was carrried out a few days later. No serious reactions to the vaccination were reported.

This was the first time a large scale meningococcal vaccination program has been undertaken in an open community in Western Australia. In the past decade, vaccination has been used only in relatively isolated Aboriginal communities in the North-West of the state.

No further cases of meningococcal infection have been detected in the Katanning area since case 4. The Health Department has instituted a special system of laboratory surveillance to obtain early information on cases in which meningococcal infection is isolated or suspected.

Meningococcal Infection in Other Parts of WA

There has been a significant increase in the number of sporadic cases of invasive meningococcal infection in the rest of WA in the first two months of 1990. Most of these cases have been group C. This finding is consistent with the reports of Clements and Gilbert (1989) of a recent increase in incidence of group C cases in Victoria.

REFERENCES

1. Clements, D. and Gilbert, L. (1989) Recent Increase in Menigococcal Infections. Infectious Diseases Bulletin, Department of Microbiology, Royal Childrens Hospital, Nov 89.

CDI Editorial Comment

The epidemiology and control of meningococcal disease was reviewed in CDI 89/7. Briefly, meningococcal infection is caused by *Neisseria meningitidis*. Infection may be restricted to the nasopharynx or invasive causing active septicaemia and/or meningitis. Group A organisms caused the major epidemics in the past but presently groups B and C appear to be responsible for most cases. Additional serotypes such as Groups W-135, X, Y and Z have been recognised as pathogens in recent years.

The meningococcal vaccine available in Australia contains 50µg each of purified meningococcal polysaccharides A and C. A single dose induces protective antibodies within 10 to 14 days in 90% of recipients over the age of 2 years. Protective immuninity persists for 2 to 3 years in persons over the age of 4 years.

A report which details recent dases of *Neisseria meningitidis* in Victoria, and shows a similar increase in Group C infections, will be published in the CDI in the near future.

GONOCOCCAL SURVEILLANCE AUSTRALIA: 1 JULY TO 30 SEPTEMBER 1989

(Contributed by the Australian Gonococcal Surveillance Programme [AGSP] Coordinator Dr J.W. Tapsall, The Prince of Wales Hospital, Sydney NSW 2031)

In this report, details are provided of the sensitivity to pencillin of 492 isolates of gonococci examined by standardised techniques in participating laboratories throughout Australia (Table 1). Details of the methods used have been previously provided and strains are classified as 'sensitive' or 'less sensitive' or 'relatively resistant' to gonococci according to results of sensitivity testing (see Table footnotes for MIC values which determine these categories). Penicillinase-producing gonococci (PPNG), which have a different mechanism of resistance to penicillins, are shown separately in the Table.

Table 1: Penicillin sensitivity of isolates of *Neisseria gonorrhoeae*: 1 July - 30 September 1989

Centre	Percentage of isolates		
	Sensitive*	Less Sensitive**	PPNG***
Brisbane	12 (26.1)	65 (55.4)	7.2 (9.8)
Sydney	1.2 (3.6)	41.4 (45.5)	34.5 (36.5)
Melbourne	5 (4)	64 (45.2)	16 (14.3)
Adelaide	21.7 (4.9)	76 (75.6)	2.2 (4.9)
Perth	5.5 (17.1)	61.1 (51.2)	0 (10)

* Sensitive = MIC 0.004 to 0.016 mg/L
** Less sensitive = MIC 0.06 to 0.25 mg/L
Relatively resistant = MIC 1.0mg/L or greater
***PPNG = Penicillinase- producing N. gonorrhoeae
Figures in parentheses represent data for the same period in 1988.

The continuing trend, particularly in Sydney and Melbourne, to higher levels of intrinsic resistance continued in this period. In both centres a small number of strains relatively resistant to penicillin were again isolated.

The percentage of isolates which possessed penicillinase activity has not increased when rates for this quarter are compared with the corresponding period in 1988. Again, regional differences were noted in the proportion of infections with PPNG acquired locally. In Sydney 46 cases of locally acquired PPNG infections were noted amongst the 57 patients infected with strains of this type. Thailand and the

Philippines were the areas where most imported infections with gonorrhoea were acquired. In Melbourne eight PPNG infections were acquired locally or else were the contacts of a patient in that category and seven patients acquired this infection overseas. The source of infection in six patients was not stated.

The total number of isolates examined (492) reresents a slight decrease on the 527 strains examined in this period in 1988.

REFERENCE

1. Penicillin sensitivity of gonococci in Australia: development of the Australian Gonococcal Surveillance Programme. Members of the Australian Gonococcal Surveillance Programme. Br J. Vener Dis 1984;60:226-30.

LARGE OUTBREAK OF FOODBORNE NORWALK-TYPE VIRAL GASTROENTERITIS IN A BRITISH DISTRICT GENERAL HOSPITAL

(Based on CDR 1990 90/06:3-4)

On the morning of Wednesday 7 June 1989 the Infection Control Officer (ICO) for a 650-bedded district general hospital was informed that two consultant pathologists had developed diarrhoea and vomiting during the previous night. The catering manager was informed and enquiries into a possible hospital food source begun. By late afternoon another ten consultant medical staff, including the ICO himself, and three secretarial staff had reported similar symptoms. Information from all other units in the hospital, which is split between two sites, was sought that evening and by Thursday morning another 17 members of staff and 31 patients had been identifed as having suggestive symptoms. Almost all the cases were associated with one site.

An Outbreak Control Team was constituted and met for the first time at lunch-time on Thursday 8 June to review the evidence, formulate a case definition and working model for the outbreak, and determine action. By the end of the outbreak and after 19 consecutive daily meeting of this group, a total of 521 cases had been reported (380 staff and 141 patients), and every ward (three orthopaedic, six acute geriatric, two psychogeriatric, the maternity unit and special care baby unit) at the affected site had had to be closed to new admissions for up to 18 days.

Investigations

Epidemiology

Nearly all the cases known by 8 June had occurred amongst staff and patients who were based at the newer of the two hospital sites, or amongst staff who had eaten at that site on Monday 5 June. High attack rates were reported, in particular among staff who had attended two lunch-time functions at the affected site, where cold food was consumed. Given this, and the nature of the symptoms, the working hypothesis was made that the gastroenteritis was viral in origin, that the source was probably cold food contaminated by a member of the catering staff in the kitchen which served most of the affected site, that other cases would soon become apparent from the initial source, and that considerable secondary spread was likely.

A case was defined as a hospital patient or staff member with symptoms, not otherwise explained, of nausea, stomach cramps, diarrhoea or vomiting, from 5 June. In some, these symptoms were associated with 'flu-like symptoms, malaise and excess flatus. A system for reporting cases to the ICO and nurse was set up initially, but the number of reports and queries and press attention became so great that it became necessary to open and staff an Incident Room on Monday 12 June. Questionnaires were sent out on 8 and 9 June to all patient and staff cases. A more detailed questionnaire was sent to 200 affected staff and 220 staff controls on 12 June.

Microbiology

Faecal specimens were obtained from 100 cases with diarrhoea. These were examined for ova, cysts and parasites, and cultured for bacterial pathogens. Some were examined by electron microscopy (EM) for viruses and assessed by immune capture EM. All remnants of foodstuffs consumed on 5 June had been disposed of before 7 June and were unavailable for analysis.

Results

Epidemiology

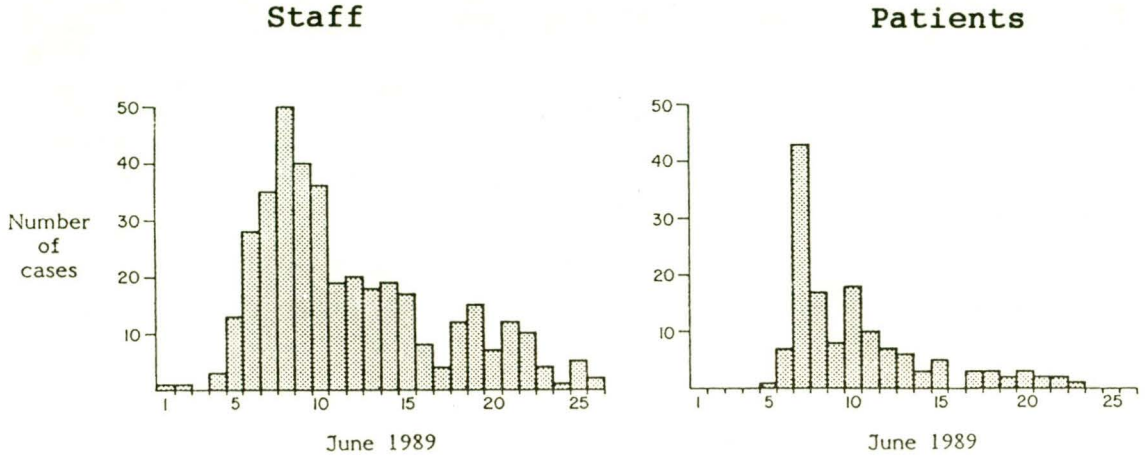
The affected hospital site contained 400 beds in geriatric, orthopaedic, psychiatric, maternity and special care baby units. Food was supplied to these units from one of the two kitchens on the site and patients in all these units were affected, whereas no patients at the older hospital were affected. The latter hospital was provided with cook-chill food supplied by the central processing unit at the newer site.

Seventeen of 20 doctors who attended one meeting and seven of eight people who attended another at the affected site on Monday 5 June developed symptoms within 48 hours. The mean incubation period was 36 hours (range 24-48 hours). The food items common to both meetings were sandwiches containing salmon, roast beef, or salad and cheese. It was not possible to identify any one food which was significantly associated with illness, nor was there any association between other affected staff and place of eating. On careful questioning, the catering member who prepared sandwiches for lunch and tea on Monday 5 June recalled having had some mild indigestion that day, but no other symptoms. Four other members of the catering staff in the same kitchen developed symptoms, two on 7 June and two on 12 June.

Symptoms were varied and included nausea (77%), abdominal pain (71%), diarrhoea (64%) and vomiting (44%). Other complaints were of 'flu-like symptoms, excess flatus, constipation and feeling 'washed-out'. Symptoms lasted on average 36 hours, with a range of eight hours to seven days. There was some evidence of biphasic illness with about 2% of cases reporting a further episode of diarrhoea or vomiting up to one week after the resolution of the initial symptoms. Twenty-five per cent of affected staff reported illness in other family members compared with only 8% of controls. There was no evidence of an increase in gastroenteritis in the local community.

In contrast to the sharp peak incidence in patients from the primary infection, the pattern of dates of onset suggested that most cases resulted from secondary spread (Figure 1). No cases occurred at the other site despite the presence of infected staff, suggesting that environmental contamination from patients' vomiting and diarrhoea was the main route of secondary spread.

Figure 1: Dates of onset of illness in staff and patients



Microbiology

All faecal specimens were negative for protozoal, parasitic and bacterial pathogens. One of the 20 faecal specimens appropriately collected within 24 hours of onset was positive for a Norwalk-like virus.

Control measures

In order to reduce secondary spread, all affected wards were closed to new admissions, necessitating restrictions on cold surgery and support from neighbouring districts. Initially, wards were re-opened 48 hours after the last patient or staff member developed symptoms. In several cases, notably on the geriatric and maternity wards, further cases immediately occurred, and the time had to be extended to 72 hours.

Strict hand-washing was enforced on all affected wards, with the provision of an alcohol-based antiseptic hand rub. After patients admitted to a maternity ward which had been empty for two days went on to develop symptoms, it was clear that environmental contamination was significant. Walls, toilets and ward surfaces were therefore cleaned thoroughly with a hypochlorite disinfectant. Following these measures, no further cases occurred.

Staff were sent off work when symptomatic, and not allowed back until one clear working day after last symptoms - two clear days in the case of catering staff. Staff and patient movement between affected and unaffected units was restricted as much as possible.

Conclusion

Given the sudden widespread onset of gastrointestinal illness in the units served by one particular kitchen, it is almost certain that the member of catering staff who prepared the

sandwiches on Monday 5 June was the source of the outbreak. The length of the incubation period supports the diagnosis of viral gastroenteritis and, as is usual in Norwalk-like foodborne outbreaks, no one item of food could be shown to be the vehicle of infection. Such a large outbreak - one of the largest reported in a hospital in the UK - can create considerable disruption, and the services of three neighbouring districts had to be called on to provide extra beds.

The size of the primary wave was considerable, and was followed by marked secondary spread, notably in the geriatric wards where aerosol spread and environmental contamination from vomiting would have been a major problem. The fact that patients could not easily be discharged from these wards meant that spread could continue. The role of environmental contamination in the spread of Norwalk-like viral infection must be emphasised.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 15/2/90 TO 28/2/90

1. CODE 018 - MDU, UNI MELB
2. CODE 019 - FAIRFIELD(VIC)
3. CODE 065 - STATE LAB(WA)
4. CODE 066 - PMH(WA)
5. CODE 110 - IMVS(SA)
6. CODE 111 - RCH(VIC)
7. CODE 112 - ICPMR(NSW)
8. CODE 113 - PHH POW(NSW)
9. CODE 114 - RAHC(NSW)
10. CODE 115 - STATE LAB(QLD)
11. CODE 116 - WVH(ACT)
12. CODE LDS - DIAGNOSTIC SERV LAUNCESTON(TAS)
13. CODE RHH - ROYAL HOBART HOSP(TAS)

	018	019	065	066	110	111	112	114	115	116	LDS	RHH	TOTAL
0100 ADENOVIRUS NOT TYPED	0	0	4	12	1	0	1	1	8	1	0	0	28
0101 ADENOVIRUS TYPE 1	0	0	0	0	1	0	2	1	0	0	0	0	4
0102 ADENOVIRUS TYPE 2	0	0	0	0	1	0	2	0	0	0	0	0	3
0103 ADENOVIRUS TYPE 3	0	2	0	0	1	0	1	0	0	1	0	0	5
0104 ADENOVIRUS TYPE 4	0	1	0	0	3	0	1	0	0	0	0	0	5
0105 ADENOVIRUS TYPE 5	0	1	0	0	0	0	0	0	0	0	0	0	1
0106 ADENOVIRUS TYPE 6	0	0	0	0	1	0	0	0	0	0	0	0	1
0107 ADENOVIRUS TYPE 7	0	1	0	0	0	0	0	0	0	0	0	0	1
0111 ADENOVIRUS TYPE 11	0	0	0	0	0	0	1	0	0	0	0	0	1
0128 ADENOVIRUS TYPE 28	0	0	0	0	0	0	1	0	0	0	0	0	1
0130 ADENOVIRUS TYPE 30	0	1	0	0	0	0	0	0	0	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	0	0	0	0	0	2	0	0	0	0	0	0	2
0202 INFLUENZA A VIRUS SUBTYPE H3N2	0	2	0	0	0	0	0	0	0	0	0	0	2
0203 INFLUENZA B VIRUS	0	1	0	0	0	0	1	0	0	0	0	0	2
0301 PARAINFLUENZA VIRUS TYPE 1	0	0	0	1	0	0	0	0	0	0	0	0	1
0303 PARAINFLUENZA VIRUS TYPE 3	0	1	0	0	0	4	0	1	1	0	0	0	7
0399 PARAINFLUENZA VIRUS TYPING PEN	0	0	0	0	0	0	0	0	3	0	0	0	3
0400 RESPIRATORY SYNCYTIAL VIRUS (R	0	1	0	0	1	0	2	1	3	0	0	0	8
0500 RHINOVIRUS (ALL TYPES)	0	8	5	0	2	4	1	0	0	0	0	0	20
0600 MYCOPLASMA PNEUMONIAE	0	1	1	0	15	0	1	0	0	0	0	3	21
0700 ORNITHOSIS-PSITTACOSIS	3	0	0	0	1	0	0	0	0	1	0	0	5
0903 COXSACKIEVIRUS B3	0	0	0	0	0	0	1	0	0	0	0	0	1
1003 ECHOVIRUS TYPE 3	0	1	1	0	0	0	1	0	0	0	0	0	3
1009 ECHOVIRUS TYPE 9	0	0	0	0	0	0	1	0	0	0	0	0	1
1011 ECHOVIRUS TYPE 11	0	0	0	0	0	0	4	0	0	0	0	0	4
1014 ECHOVIRUS TYPE 14	0	2	0	0	0	0	0	0	0	0	0	0	2
1018 ECHOVIRUS TYPE 18	0	0	0	0	0	0	1	0	0	0	0	0	1
1022 ECHOVIRUS TYPE 22	0	0	0	0	0	0	0	0	0	0	0	1	1
1025 ECHOVIRUS TYPE 25	0	1	0	0	0	0	0	0	0	0	0	0	1
1101 POLIOVIRUS TYPE 1	0	0	0	0	0	0	4	0	0	0	0	0	4
1102 POLIOVIRUS TYPE 2	0	0	0	0	1	0	5	1	0	0	0	0	7
1103 POLIOVIRUS TYPE 3	0	0	0	0	0	0	2	0	0	0	0	0	2
1200 MUMPS VIRUS	0	0	0	0	0	0	1	1	0	0	0	0	2
1300 HERPES VIRUS GROUP - NOT TYPED	0	0	1	0	0	0	0	0	0	6	0	0	7
1301 HERPES SIMPLEX VIRUS - NOT TYP	0	0	0	3	0	0	34	0	63	0	7	0	107
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	0	1	5	0	23	3	14	1	0	1	0	0	48
1303 VARICELLA-ZOSTER VIRUS	0	4	4	0	0	0	3	0	0	0	0	0	11
1306 HERPES SIMPLEX TYPE 1	0	46	29	1	19	0	4	1	0	0	7	0	107
1307 HERPES SIMPLEX TYPE 2	0	47	52	0	25	0	18	0	0	0	5	0	147
1399 HERPES VIRUS TYPING PENDING	0	0	0	0	0	2	0	0	0	0	0	0	2
1401 COXIELLA BURNETII	0	0	0	0	0	0	2	0	0	0	0	0	2
1502 PICORNIA VIRUS - NOT TYPED = E	0	0	7	0	0	0	0	0	9	0	0	0	16
1521 MEASLES VIRUS	0	1	0	0	0	0	3	0	0	0	0	0	4
1522 RUBELLA VIRUS	0	6	5	0	6	0	5	0	0	0	0	0	22
1532 HEPATITIS B ANTIGEN	0	12	27	0	12	0	39	2	23	2	1	0	118
1535 HEPATITIS A ANTIBODY	0	0	3	0	1	0	1	0	0	0	0	0	5
1541 CHLAMYDIA A - C. TRACHOMATIS	77	0	69	0	25	1	1	1	23	7	11	6	221
1556 CMV - CYTOMEGALOVIRUS	0	27	2	2	6	0	12	7	7	1	0	0	64
1564 ROTAVIRUS	0	0	1	0	3	0	6	1	0	0	0	0	11
1599 ENTEROVIRUS TYPING PENDING	0	0	0	0	0	1	0	5	0	0	0	0	6
9901 ARBOVIRUS GROUP A.(UNSPECIFIED	0	0	0	0	0	0	0	0	0	0	0	1	1
9992 ROSS RIVER VIRUS	0	2	11	0	2	0	0	0	0	0	0	0	15
9995 DENGUE	0	0	1	0	0	0	0	0	0	0	0	0	1
9998 ARBOVIRUS GROUP B.(UNSPECIFIED	0	4	0	0	0	0	0	0	0	1	0	0	5
TOTAL	80	174	228	19	150	17	176	24	140	21	31	11	1071

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 15/2/90 TO 28/2/90

NSW: ICPMR; PHH POW; RACH; ST GEORGE HOSP, KOGARAH; ROYAL NEWCASTLE HOSP.
VIC: FAIRFIELD; RCH; MDU, UNI MELB
QLD: STATE LAB, BRIS; TOOWOOMBA PATH LAB; ROYAL BRIS HOSP.
WA: STATE LAB, PERTH; PMH.
SA: IMVS.
TAS: ROYAL HOBART HOSP; DIAGNOSTIC SERVICES, LAUNCESTON; LAUNCESTON GEN HOSP; DIAGNOSTIC SERVICES, HOBART; HOBART PATH; MERSEY GEN HOSP, LATROBE.
ACT: WVH.

		NSW	VIC	QLD	WA	SA	TAS	ACT	TOTAL
0100	ADENOVIRUS NOT TYPED	2	0	8	16	1	0	1	28
0101	ADENOVIRUS TYPE 1	3	0	0	0	1	0	0	4
0102	ADENOVIRUS TYPE 2	2	0	0	0	1	0	0	3
0103	ADENOVIRUS TYPE 3	1	2	0	0	1	0	1	5
0104	ADENOVIRUS TYPE 4	1	1	0	0	3	0	0	5
0105	ADENOVIRUS TYPE 5	0	1	0	0	0	0	0	1
0106	ADENOVIRUS TYPE 6	0	0	0	0	1	0	0	1
0107	ADENOVIRUS TYPE 7	0	1	0	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	1	0	0	0	0	0	0	1
0128	ADENOVIRUS TYPE 28	1	0	0	0	0	0	0	1
0130	ADENOVIRUS TYPE 30	0	1	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	2	0	0	0	0	0	2
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	2	0	0	0	0	0	2
0203	INFLUENZA B VIRUS	1	1	0	0	0	0	0	2
0301	PARAINFLUENZA VIRUS TYPE 1	0	0	0	1	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	1	5	1	0	0	0	0	7
0399	PARAINFLUENZA VIRUS TYPING PEN	0	0	3	0	0	0	0	3
0400	RESPIRATORY SYNCYTIAL VIRUS (R	3	1	3	0	1	0	0	8
0500	RHINOVIRUS (ALL TYPES)	1	12	0	5	2	0	0	20
0600	MYCOPLASMA PNEUMONIAE	1	1	0	1	15	3	0	21
0700	ORNITHOSIS-PSITTACOSIS	0	3	0	0	1	0	1	5
0903	COXSACKIEVIRUS B3	1	0	0	0	0	0	0	1
1003	ECHOVIRUS TYPE 3	1	1	0	1	0	0	0	3
1009	ECHOVIRUS TYPE 9	1	0	0	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	4	0	0	0	0	0	0	4
1014	ECHOVIRUS TYPE 14	0	2	0	0	0	0	0	2
1018	ECHOVIRUS TYPE 18	1	0	0	0	0	0	0	1
1022	ECHOVIRUS TYPE 22	0	0	0	0	0	1	0	1
1025	ECHOVIRUS TYPE 25	0	1	0	0	0	0	0	1
1101	POLIOVIRUS TYPE 1	4	0	0	0	0	0	0	4
1102	POLIOVIRUS TYPE 2	6	0	0	0	1	0	0	7
1103	POLIOVIRUS TYPE 3	2	0	0	0	0	0	0	2
1200	MUMPS VIRUS	2	0	0	0	0	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	0	0	0	1	0	0	6	7
1301	HERPES SIMPLEX VIRUS - NOT TYP	34	0	63	3	0	7	0	107
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	15	4	0	5	23	0	1	48
1303	VARICELLA-ZOSTER VIRUS	3	4	0	4	0	0	0	11
1306	HERPES SIMPLEX TYPE 1	5	46	0	30	19	7	0	107
1307	HERPES SIMPLEX TYPE 2	18	47	0	52	25	5	0	147
1399	HERPES VIRUS TYPING PENDING	0	2	0	0	0	0	0	2
1401	COXIELLA BURNETII	2	0	0	0	0	0	0	2
1502	PICORNIA VIRUS - NOT TYPED = E	0	0	9	7	0	0	0	16
1521	MEASLES VIRUS	3	1	0	0	0	0	0	4
1522	RUBELLA VIRUS	5	6	0	5	6	0	0	22
1532	HEPATITIS B ANTIGEN	41	12	23	27	12	1	2	118
1535	HEPATITIS A ANTIBODY	1	0	0	3	1	0	0	5
1541	CHLAMYDIA A - C. TRACHOMATIS	2	78	23	69	25	17	7	221
1556	CMV - CYTOMEGALOVIRUS	19	27	7	4	6	0	1	64
1564	ROTAVIRUS	7	0	0	1	3	0	0	11
1599	ENTEROVIRUS TYPING PENDING	5	1	0	0	0	0	0	6
9901	ARBOVIRUS GROUP A.(UNSPECIFIED	0	0	0	0	0	1	0	1
9992	ROSS RIVER VIRUS	0	2	0	11	2	0	0	15
9995	DENGUE	0	0	0	1	0	0	0	1
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	0	4	0	0	0	0	1	5
TOTAL		200	271	140	247	150	42	21	1071

NOTE: DIRECT COMPARISION BETWEEN STATES IS NOT POSSIBLE SINCE:
- SOME STATES HAVE MORE THAN ONE CONTRIBUTING LABORATORY; AND
- INTERSTATE REFERRRALS OCCUR REGULARLY.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1

PERIOD 15/02/90 TO 28/02/90

1. CODE 00, 99 ..... - NO ILL OR DATA
2. CODE 01, 02, 11, 12 - RESPIRATORY
3. CODE E3 ..... - ENCEPHALITIS
4. CODE M3 ..... - MENINGITIS
5. CODE 04 ..... - PARALYSIS
6. CODE 05, 13 ..... - CNS OTHER UNSPEC
7. CODE 07, 49 - GASTRO INTESTINAL
8. CODE 17, 47 - HEPATIC
9. CODE 19 ... - CVS
10. CODE 89 ... - URINARY TRACCT
11. CODE 06 ... - SKIN MUCOUS

		1	2	3	4	6	7	8	9	10	11	TOTAL
0100	ADENOVIRUS NOT TYPED	0	15	0	0	0	5	0	1	0	0	21
0101	ADENOVIRUS TYPE 1	0	2	0	0	0	2	0	0	0	0	4
0102	ADENOVIRUS TYPE 2	2	1	0	0	0	0	0	0	0	0	3
0103	ADENOVIRUS TYPE 3	0	2	0	0	0	1	0	0	0	0	3
0104	ADENOVIRUS TYPE 4	0	1	0	0	0	0	0	0	0	0	1
0105	ADENOVIRUS TYPE 5	0	1	0	0	0	0	0	0	0	0	1
0106	ADENOVIRUS TYPE 6	0	1	0	0	0	0	0	0	0	0	1
0107	ADENOVIRUS TYPE 7	0	1	0	0	0	0	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	0	0	0	0	0	1	0	0	0	0	1
0130	ADENOVIRUS TYPE 30	0	0	0	0	0	1	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	2	0	0	0	0	0	0	0	0	2
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	2	0	0	0	0	0	0	0	0	2
0203	INFLUENZA B VIRUS	1	0	0	0	0	0	0	0	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	0	1	0	0	0	0	0	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	0	6	1	0	0	0	0	0	0	0	7
0399	PARAINFLUENZA VIRUS TYPING PEN	0	3	0	0	0	0	0	0	0	0	3
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	8	0	0	0	0	0	0	0	0	8
0500	RHINOVIRUS (ALL TYPES)	2	13	0	0	0	0	0	0	0	0	15
0600	MYCOPLASMA PNEUMONIAE	3	15	0	0	0	0	0	0	0	0	18
0700	ORNITHOSIS-PSITTACOSIS	2	3	0	0	0	0	0	0	0	0	5
0903	COXSACKIEVIRUS B3	0	0	0	0	0	1	0	0	0	0	1
1003	ECHOVIRUS TYPE 3	1	1	0	0	0	0	0	0	0	0	2
1009	ECHOVIRUS TYPE 9	0	0	0	1	0	0	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	0	0	0	1	0	1	0	0	0	1	3
1014	ECHOVIRUS TYPE 14	0	0	0	2	0	0	0	0	0	0	2
1018	ECHOVIRUS TYPE 18	0	0	0	0	0	1	0	0	0	0	1
1022	ECHOVIRUS TYPE 22	0	1	0	0	0	0	0	0	0	0	1
1101	POLIOVIRUS TYPE 1	4	0	0	0	0	0	0	0	0	0	4
1102	POLIOVIRUS TYPE 2	1	2	0	0	0	4	0	0	0	0	7
1103	POLIOVIRUS TYPE 3	1	0	0	0	0	1	0	0	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	0	1	0	0	0	0	0	0	0	1	2
1301	HERPES SIMPLEX VIRUS - NOT TYP	6	12	0	0	0	0	0	0	0	52	70
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	4	1	0	0	0	0	2	0	0	0	7
1303	VARICELLA-ZOSTER VIRUS	0	1	0	0	0	0	0	0	0	10	11
1306	HERPES SIMPLEX TYPE 1	2	5	0	0	1	0	0	1	1	60	70
1307	HERPES SIMPLEX TYPE 2	1	0	0	0	0	0	0	0	0	69	70
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	1	1
1401	COXIELLA BURNETII	1	0	0	0	0	0	0	0	0	0	1
1502	PICORNIA VIRUS - NOT TYPED = E	0	1	0	0	1	8	0	0	0	2	12
1521	MEASLES VIRUS	1	0	0	0	0	0	0	0	0	1	2
1522	RUBELLA VIRUS	7	0	0	0	0	0	0	0	0	4	11
1532	HEPATITIS B ANTIGEN	71	0	0	0	0	1	37	0	1	0	110
1535	HEPATITIS A ANTIBODY	1	0	0	0	0	0	4	0	0	0	5
1541	CHLAMYDIA A - C. TRACHOMATIS	55	3	0	0	0	0	0	0	0	0	58
1556	CMV - CYTOMEGALOVIRUS	4	10	0	0	1	0	2	0	5	1	23
1564	ROTAVIRUS	3	0	0	0	1	6	0	0	0	0	10
1599	ENTEROVIRUS TYPING PENDING	0	2	0	0	0	2	0	0	0	0	4
9992	ROSS RIVER VIRUS	0	1	0	0	0	0	0	0	0	3	4
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	4	0	0	0	0	0	0	0	0	0	4
TOTAL		177	118	1	4	4	35	45	2	7	205	598

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2

PERIOD 15/02/90 TO 28/02/90

12. CODE 10 - EYE
13. CODE 59 - GENITAL
14. CODE 39 - ENDOCRINE/SALIVARY GL.
15. CODE 38 - RETICULO-ENDOTHELIAL
16. CODE 29 - MUSCLE/JOINT
17. CODE 69 - CONGENTIAL
18. CODE P8 - PUO
19. CODE G8 - FEVER/MALAISE
20. CODE 09 - OTHER
21. CODE A1 - SIDS

		12	13	14	15	16	17	18	19	20	TOTAL
0100	ADENOVIRUS NOT TYPED	4	0	0	0	0	0	0	2	1	7
0103	ADENOVIRUS TYPE 3	2	0	0	0	0	0	0	0	0	2
0104	ADENOVIRUS TYPE 4	4	0	0	0	0	0	0	0	0	4
0128	ADENOVIRUS TYPE 28	0	0	0	0	0	0	0	0	1	1
0203	INFLUENZA B VIRUS	0	0	0	0	0	0	0	0	1	1
0500	RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	1	2	2	5
0600	MYCOPLASMA PNEUMONIAE	0	0	1	0	0	0	1	0	1	3
1003	ECHOVIRUS TYPE 3	0	0	0	0	0	0	0	0	1	1
1011	ECHOVIRUS TYPE 11	0	0	0	0	0	0	0	0	1	1
1025	ECHOVIRUS TYPE 25	0	0	0	0	0	0	0	0	1	1
1200	MUMPS VIRUS	0	0	2	0	0	0	0	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	0	5	0	0	0	0	0	0	0	5
1301	HERPES SIMPLEX VIRUS - NOT TYP	2	35	0	0	0	0	0	0	0	37
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	34	0	0	0	2	1	4	41
1306	HERPES SIMPLEX TYPE 1	3	26	0	2	0	0	0	0	6	37
1307	HERPES SIMPLEX TYPE 2	0	73	0	1	0	0	0	1	2	77
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	1	0	1
1401	COXIELLA BURNETII	0	0	0	0	0	0	0	0	1	1
1502	PICORNIA VIRUS - NOT TYPED = E	1	0	0	0	1	0	0	1	1	4
1521	MEASLES VIRUS	0	0	0	0	0	0	0	2	0	2
1522	RUBELLA VIRUS	0	0	1	0	1	0	2	1	6	11
1532	HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	0	8	8
1541	CHLAMYDIA A - C. TRACHOMATIS	2	158	0	1	0	0	0	1	1	163
1556	CMV - CYTOMEGALOVIRUS	0	1	1	1	0	2	4	2	30	41
1564	ROTAVIRUS	0	0	0	0	0	0	0	1	0	1
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	0	2	0	2
9901	ARBOVIRUS GROUP A.(UNSPECIFIED	0	0	0	0	0	0	1	0	0	1
9992	ROSS RIVER VIRUS	0	0	0	0	11	0	0	0	0	11
9995	DENGUE	0	0	0	0	0	0	1	0	0	1
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	0	0	0	0	0	0	1	0	0	1
TOTAL		18	298	39	5	13	2	13	17	68	473