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Communicable Diseases Intelligence

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Contents:

VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTING SCHEME: A total of 1387 reports were processed during this period.

Seven cases of Q fever (3 males, 1 female, 3 sex not stated) were reported during this period. Ages ranged from 12 to 61 years. No occupational exposure details were provided.

Rubella virus was isolated from muscle, liver, lung, thymus, spleen, kidney, eye and nasopharyngeal necroscopy samples from a fetus. The pregnancy had been terminated following serological confirmation of rubella infection in the mother at 9 weeks gestation and isolation of rubella virus from amniotic fluid [1]. The mother had been vaccinated against rubella in year 6 at school (approximately 10 years ago). (*Editorial note:* The NHMRC recommends that women of child-bearing age should be tested for rubella immunity prior to pregnancy. Seronegative women of childbearing age, provided they are not pregnant, should be offered rubella vaccine [2]. In addition NHMRC recommends that women should be serologically tested during each pregnancy, and non-immune women be vaccinated before the next prenancy [3]. The implementation of these recommendations will result in the detection of women with waning immunity, or who have not seroconverted following vaccination, and appropriate measures can be taken to prevent infection and reduce the incidence of congenital rubella.)

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Echovirus type II was isolated from nasopharyngeal and rectal samples (at 7 days old) and cerebrospinal fluid (at 12 days old) from a male neonate with encephalitis. There has been a slight increase in the activity of this virus since September 1989 with 4-6 reports each month. (Two reports were received in 1988, 32 in 1989, and 3 in January 1990.) Eleven of the 22 reports received since September 1989 were of CSF isolates from patients with CNS symptoms. Outbreaks of this virus were observed in 1982/83 (nearly 800 reports) and in 1986/87 (approximately 400 reports).

REFERENCES

1. CDI 89/2 p 2.
2. NHMRC. Immunisation Procedures, 3rd edition AGPS: Canberra, 1986, p 30.
3. NHMRC. Report of the 104th Session, November, 1987, p 20-1.

OVERSEAS BRIEFS:

1. CHOLERA IN KENYA, ZAMBIA, ANGOLA, MALAYSIA AND INDIA

Kenya is currently experiencing an epidemic of cholera - 952 cases with 40 deaths were reported between 24 November and 5 February. Areas of the country which were considered to be 'infected' as at 8 February 1990 are the Districts of Kilifi, Mombasa, Kisumu, Kivale and Siaya.

The Lusaka area of Zambia was declared to be cholera-infected on 8 February, 1990. An epidemic is currently occurring there and all official and private meetings, social and sporting events have been cancelled. The Zambian government has also closed all schools and colleges in Lusaka and advises that non-essential travel into or out of the city should be deferred. By 7 February 1990, 163 cases had been admitted to hospital and there had been 17 deaths. The government of neighbouring Zimbabwe has placed health officials at border posts between the two countries and may delay travellers from Zambia with tests for cholera-free status.

Cholera continues to Occur in Malaysia. Between 24 September and 16 December 1989, 154 cases with 3 deaths occurred. No epidemiological details are available except that the areas considered to be cholera-infected on 8 February were the MPPP and Klang Districts of Peninsular Malaysia, and the Keningau, Kunak, Labuk Sugut, Lahad, Penampang, Sandakan, Semporna, Tambunan and Tawau Districts of Sabah.

India has also had many cholera cases recently; 1633 cases with 13 deaths occurred between 1 September and 30 November 1989. Currently infected areas of India are in Andhra Pradesh State, Delhi Territory, Karnataka (Mysore) State, Maharashtra State, Tamil Nadu State and West Bengal State.

There was an increase in the number of cases of cholera occurring in Angola during November and December 1989. In Luanda, a total of 285 cases and 5 deaths were recorded from 29 November to 2 January, 1990. Latest reports indicate that the situation has inproved since January.

Areas of Burundi, Cameroon, Cote d'Ivoire, Ghana, Guinea, Liberia, Malawi, Mali, Mauritania, Niger, Nigeria, Sao-Tome and Principe, United Republic of Tanzania, Zaire, Indonesia, Nepal and Vietnam were also considered to be cholera-infected on 8 February, 1990. Travellers to these countries should take care in the selection of foods and drinking water. The cholera vaccine is of limited efficacy and is not generally recommended.

2. MARBURG VIRUS

The World Health Organization has reported that a case of Marburg disease has been diagnosed in a young man returning to Sweden from Kenya on 11 January, 1990 (WER, 1990, 65:44). He fell ill with haemorrhagic fever on 16 January, 1990. Filovirus was isolated and antibodies against Marburg virus were demonstrated on 5 February 1990. On 9 February, the patient was still severely ill and being treated in an intensive care unit. No further details of this case has been made available thus far.

Human Marburg virus disease is a serious viral haemorragic disease. It has only been recognised on four previous occasions, all between 1967 and 1982; a total of 35 cases with 10 deaths occurred in Zimbabwe, Kenya, and associated with a shipment of African Green Monkeys from Uganda. The reservoir of the virus is unknown. Person-to-person transmission occurs by direct contact with infected blood, secretions, organs, semen or by the aerosol route.

3. DENGUE FEVER IN VANUATU

The epidemic of Dengue fever is continuing in the islands and two major towns of Vanuata and with the arrival of the rainy seasons, the number of cases has increased. Between 30 December 1989 and 12 January 1990, 49 cases and 14 admissions occurred in Vila, 35 cases and 11 admissions occurred in Santo and 67 cases and 25 admissions occurred in the Eastern Districts. Forty cases were reported from Ambrym, 81 were reported from Tafea and 20 were reported from Tanna. Serotype information is not available as yet.

The Vanuatu Health Department has repeated chemical applications in Vila however the most effective control measures continue to be a reduction in breeding sites. There is also a effort being made to make early identification of cases in rural areas. Visitors to Vanuatu should be advised to take measures to prevent being bitten by mosquitos, for example the use of mosquito repellents containing DEET.

SALMONELLA OUTBREAKS, AUSTRALIA - JANUARY TO SEPTEMBER, 1989

(Based on the National Salmonella Surveillance Scheme (NSSS) Quarterly Reports, Issues 7/89 dated October 1989, and 8/89 dated November 1989).

The following clusters or outbreaks of salmonellosis occurring from January to September 1989 have been reported through the National Samonella Surveillance Scheme:

- **S typhimurium 201a in Victoria:** In 1989, 42 reports of isolates of *S typhimurium* 201a associated with an outbreak which occurred in Melbourne before Christmas 1988, were received. These reports continued until well into March 1989.

- **S typhimurium 201a in South Australia:** An outbreak of *S typhimurium* 201a occurred mainly in suburban Adelaide. The first isolate of this outbreak was identified on 15 January 1989 and reports continued to be received by the NSSS up until May 1989. A report on this outbreak, prepared by staff of the South Australian Health Commission was published in the CDI in August 1989 [1].

- **S oranienburg in the Northern Territory:** In January 1989 fifteen reports were received from Alice Springs, 9 of which were known to be associated with a hostel.

- **S typhimurium 9 in Tasmania:** Five reports of this serotype were received from Hobart, Tasmania, in January. In addition to human cases, the family cat and dog of one household was also found to be infected.

- **S bovismorbificans 7 in New South Wales:** Four outbreaks of salmonella food poisoning involving over 100 people were reported to the Department of Health, NSW, in mid-February 1989. In each of these outbreaks the only food served in common was fruit salad prepared by one particular food processor on one particular day, 16 February 1989. *S bovismorbificans* was isolated from leftover fruit salad collected from outbreaks 1 and 4. Clinical specimens available from patients involved in outbreaks 1 and 2 were also positive for the presence of *S bovismorbificans.* The source of the infection at the processing premises could not be reliably identified; however large metal drums used as waste receptacles were suggested by the food inspector as the source. These were used by the processor to collect waste apple peel, before being transported by a local dairy farmer, in the cattle truck, to his property for use as animal feed. The drums were then returned to the processing premises unwashed.

- **S singapore in Western Australia:** From the beginning of March to the end of June 1989 there were 38 cases of *S singapore* reported from Western Australia with all but two patients residing in the Perth Metropolitan area. In the past, this serotype has not been a common human serotype in Western Australia. During the 35 years from 1950 to 1985, 108 human cases of *S singapore* were recorded. In 1986, 1987 and 1988 there were 8, 8 and 7 cases respectively.

  S singapore was detected in chicken cloacal swabs and in poultry meal used for animal feed preparation three months prior to the emergence of this outbreak, and was isolated from poultry processing and abattoir effluents at the beginning of March when human cases were beginning to be detected.

Information from the eastern states led to the testing of chickens, gelatin and aspic from the east but there were no positive findings. In the NSSS fourth quarter report for 1988 *S singapore* was in sixth position in the top ten salmonella reported with 44 cases (NSW 25, Qld 13). In the second quarter of 1989 it was the second most common salmonella in Western Australia.

Investigation by the Health Department of family contacts of index cases revealed only one who was infected with *S singapore.* Interviews with the patients failed to reveal a common food or source of the outbreak.

. **S mississippi in Tasmania:** In March, 13 reports were received of salmonella infection in mothers and infants which were associated with a hospital in the Launceston area.

. **S typhimurium 135 in Tasmania:** Also in March, 10 cases of *S typhimurium* type 135 were associated with a restaurant in Hobart.

. **S typhimurium 9 in Victoria:** An outbreak of 20 cases of *S typhimurium* type 9 was associated with a cake shop in Sale in April/May1989. In addition there were 11 cases of food poisoning associated with this phage type in Melbourne in early May.

. **S typhimurium 141 in Victoria:** Sixteen cases were reported from Hamilton, Victoria in June. No details are available.

. **S reading in the Northern Territory and Victoria:** Since the end of July, ten cases of *S reading* have been notified from Darwin and two from Alice Springs. Five were children below the age of five. At the same time there have nine cases from Melbourne and four cases from country Victoria (eight young children and three adults). The relevant Health authorities were notified and investigations are continuing. *S reading* is not a common serovar and previous cases from Victoria, the Northern Territory and Queensland are shown below, together with the total number of Australian cases.

State	Year								
	1981	1982	1983	1984	1985	1986	1987	1988	1989
VIC	-	2	-	1	-	-	-	-	13
NT	2	3	-	-	-	-	-	-	12
QLD	4	1	1	5	2	-	4	2	7
Total (Aust)	9	7	1	6	2	-	7	3	32

. **S cerro in New South Wales:** There has been an increase in the number of cases of *S cerro* notified from New South Wales. Twelve of the 25 cases reported to the NSSS in 1989 were reported from Sydney between August and September. Eight were from children under five years of age.

Between April 1985 and December 1988, 182 cases were reported to the NSSS, of which 67% were notified from children under the age of five (see below). In 1986, of the 43 cases from New South Wales, 41 were from Sydney and suburbs and of these 32 were from children under five. Four cases were from adults and five were of unspecified age.

Year	State								<5y.o	Total
	ACT	NSW	VIC	QLD	SA	WA	TAS	NT		
1985	-	-	-	1	-	5	-	-	1	6
1986	6	43	12	15	13	12	6	3	76	110
1987	-	9	2	5	4	5	-	-	18	25
1988	1	12	5	10	4	9	-	-	28	41
1989	-	13	7	2	-	1	1	-	16	24
Total	7	77	26	33	21	32	7	3	139	206

In addition to these salmonella cases, an outbreak of *Shigella flexneri* 2b associated with an Outward Bound camp were reported from Townsville, Queensland, in mid-June 1989.

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1. Murray C, Gasiorowski PS, White C, Drake P. Salmonella typhimurium phage type 201a in South Australia. CDI 89/16:2-4.

UPDATE: EBOLA-RELATED FILOVIRUS INFECTION IN NONHUMAN PRIMATES AND INTERIM GUIDELINES FOR HANDLING NONHUMAN PRIMATES DURING TRANSIT AND QUARANTINE

(Based on MMWR 1990;39:22-4,29-30)

In November 1989, infections caused by a filovirus closely related to Ebola virus were detected in cynomolgus (Macaca fascicularis) monkeys imported from the Philippines and held in a primate quarantine facility in Virginia [1]. One hundred and forty-nine persons who came in contact with infected animals or the blood or tissues of these animals were placed under surveillance for 21 days after their last known exposure, and all were tested for Ebola virus antibody. Active surveillance was discontinued 25 December. No illness compatible with that known to be caused by Ebola virus has occurred among these persons, and none had antibody to Ebola virus. Twelve nonhuman primates in two of 12 holding rooms in the Virginia facility were infected; these and all remaining animals in the facility were euthanised, and the building was decontaminated. Extensive investigation at transit points in Amsterdam and New York did not implicate cross-infection of the monkeys by African primates.

In December, a telephone survey of 40 other U.S. primate importers identified another shipment of cynomolgus monkeys

that had arrived in Pennsylvania from the Philippines on 28 November and in which a number of unexplained deaths had occurred shortly after arrival. An Ebola-related filovirus was isolated from liver tissue of one of these animals. The specific geographical origin within the Philippines of these animals is being identified, and active surveillance has been initiated at the facility in Pennsylvania to establish whether the virus has spread to other groups of monkeys or to human contacts. No unusual illnesses in staff of the facility have been reported. Animals currently quarantined are being tested for serological evidence of Ebola virus infection.

Inspection of the four major holding facilities in the Philippines, including the facility that had supplied the monkeys in Virginia, did not identify unusual illness compatible with Ebola virus disease in either workers or nonhuman primates. The infected animals had been captured from widely separated remote areas. Serological and virological studies of animals and workers are under way in these and other facilities in the Philippines.

MMWR Editorial Note:

The episodes documented in Virginia and Pennsylvania are the first known instances of Ebola-related filovirus infection in imported primates in the United States. Numerous infectious agents, including other filoviruses, with a range of pathogenic potential may be circulating in Africa, Asia, and other parts of the world.

The ecology, natural history, and mode of transmission in nature of Ebola virus and the related Marburg virus are unknown. Humans have acquired the disease from nosocomial transmission (often by contaminated needles) and from person-to-person transmission to those in close contact with blood or secretions from seriously ill patients. The only known episode of the transmission of a filovirus from monkeys to humans resulted from direct handling, without protective measures, of blood and tissues from monkeys infected in the wild by Marburg virus. Animal caretakers did not become infected [2].

The lack of human infection in these incidents suggests the effectiveness of the quarantine measures instituted in 1975. Nonetheless, CDC has developed the following interim guidelines that update and modify the procedures used in the transportation and quarantine of nonhuman primates. These guidelines are intended for interim use. A comprehensive set of guidelines will be developed by CDC, with input from organisations and institutions involved in the transport, quarantine, care, and regulation of nonhuman primates.

INTERIM GUIDELINES FOR HANDLING NONHUMAN PRIMATES DURING TRANSIT AND QUARANTINE DEVELOPED BY THE UNITED STATES CENTERS FOR DISEASE CONTROL, ATLANTA, GEORGIA.

All imported nonhuman primates are quarantined for the first 31 days after arrival, including transit time. Nonhuman primates, particularly those recently captured in the wild, may harbour viruses infectious for humans. Although such viruses are usually present in the animal's blood, they may be detected in

urine, faeces, or saliva. Those at risk for infection include persons working in temporary or long-term holding facilities and persons who transport animals to these facilities (eg, cargo handlers and inspectors). Although the risk for human infection from these activities is low, guidelines are useful to minimise such risk in persons exposed to nonhuman primates during transport and quarantine.

General guidelines for handling nonhuman primates during transit and quarantine

1. Management of transportation and quarantine facilities should ensure that personnel are instructed as to the hazards of handling nonhuman primates, that protective apparel is available, and that the need for its use is understood. Management should provide periodic retraining as well as reinforcement of these procedures.

2. Persons working with nonhuman primates should not drink, eat, or smoke while handling animals, cages, crates, or materials from such animals.

3. Access to animal holding areas should be restricted to essential personnel. The number of persons involved in the care, transport, and inspection of nonhuman primates should be the minimum necessary to expedite efficient and humane handling.

4. All staff in direct contact with animals should wear protective clothing (ie, gloves and surgical masks and gowns) when opening crates, removing foreign materials from crates, feeding the animals, removing dead animals, or handling bedding materials. These persons should remove disposable protective clothing before leaving the animal holding facilities; this clothing should be autoclaved or incinerated. Nondisposable contaminated clothing should be disinfected on site before laundering.

5. Separate nonglass water bottles should be provided for each nonhuman primate during transit and quarantine. Reusable items should be adequately decontaminated between use.

6. All animal waste, bedding, uneaten food, and other possibly contaminated items should be treated with appropriate disinfectant before removal from the animal holding facilities. All cages, feeding bottles, and other possibly contaminated items should be disinfected between each use or before disposal. Glass items should not be used.

7. A separate disposable needle and syringe (and, if required, infusion equipment) should be used for each animal, then autoclaved or incinerated. A clean needle should be used for any access to multidose vials (eg, of ketamine) to avoid contamination. After each use on a group of quarantined animals, multidose vials must be autoclaved and discarded. Disposable supplies should be used whenever possible and must not be reused. Nondisposable equipment should be thoroughly disinfected.

8. Caution must be used to prevent infection from potentially contaminated needles, scalpels, or other sharp instruments, particularly during disposal of needles. Used needles should not be recapped by hand; removed from disposable syringes by

hand; or bent, broken, or otherwise manipulated. Only one set of disposable syringes, needles, and scalpels should be used per animal. Used disposable syringes and needles, scalpel blades, and other sharp items should be placed in puncture-resistant containers kept as close to the work site as practical.

9. Nonquarantined animals should never be placed in, or permitted access to, areas with quarantined animals. This includes unrestrained pets, feral animals, and animals temporarily boarded for overseas travellers or destined for export.

10. Management should keep records of all serious febrile illnesses (fever >101.3°F [38.5°C] for >2 days) in persons having direct contact with nonhuman primates in transit or in quarantine and should promptly notify the appropriate quarantine authority* if such an illness occurs. Management should ensure that the physician providing care is informed that the patient works with and/or has been exposed to nonhuman primates.

Additional guidelines for handling nonhuman primates during transit

1. Persons who handle crates or pallets containing nonhuman primates should be protected with elbow-length reinforced leather gloves, long-sleeved shirts and trousers of sufficient thickness to resist minor tears, and sturdy waterproof shoes or boots. The gloves should be of a thickness that prevents penetration of splinters or other crating debris. During warm weather, garments may be of lightweight materials to minimise discomfort. Disposable coverall suits can be used for added protection.

2. Crates should be free of sharp projections that can cause scratches or wounds to workers. Handles should be present on the sides of crates, and mechanical lifting and transporting devices should be used whenever possible.

3. Crates containing nonhuman primates should be separated by a physical or spatial barrier from all other animals and cargo at all times.

4. Wherever possible, nonhuman primates should not be handled directly. Live animals should be removed from cages only when staff can be supervised by a qualified veterinarian. Procedures that may result in bites or scratches should be avoided.

5. Management of holding facilities should maintain records to document the removal of dead animals; documentation should include the date, shipment number, country of origin, species, importer, and disposition of the removed animal. The carcass must be placed in waterproof double bags and incinerated. The quarantine autorities* should be notified.

6. Temporary holding facilities should document all injections or parenteral infusions administered to nonhuman primates.

* See CDI editorial note

7. If animals are removed from a shipment while in transit, facilities retaining these animals should ensure full compliance with these guidelines and should maintain records on the care and disposition of animals. Temporary facilities holding animals in this way must be registered as importers of nonhuman primates.

Additional guidelines for care of nonhuman primates during quarantine

1. Quarantine facilities should be secure, with access limited to authorised, trained, and informed personnel.

2. Quarantine facilities should be designed to be adequately disinfected. Management and staff should refer to the Guide for the Care and Use of Laboratory Animals [3] and the CDC/National Institutes of Health Biosafety in Microbiological and Biomedical Laboratories, second edition (Animal biosafety level 2, p. 52) [4], for information on design and operation of animal holding facilities.

3. Staff should use protective clothing, gloves, and masks at all times when in the animal holding facilities; these items should be disinfected or disposed of properly. Staff should use fresh clothing when going from room to room.

4. Adequate equipment and space should be available for discarding and disinfecting all equipment, clothing, and caging.

5. Care should be taken to avoid scratches and bites of animals. All handling of individual animals should be done while the animals are anaesthetised or tranquilised, and animals should be maintained in squeeze-back cages wherever possible.

6. Different lots of primates should not be mixed while in quarantine (minimum 31 days).

7. Management should notify the quarantine authorities* of severe illnesses and deaths in recently imported primates and request advice on collection of specimens for investigation of cause of death.

CDI Editorial Comment:

These recommendations were developed for use in the United States and included references to specific contacts in the US which have been replaced by general contacts in this article. These are not recommendations of Australian health authorities. However, since (as stated earlier in this article) 'numerous infectious agents, including other filoviruses, with a range of pathogenic potential may be circulating in Africa, Asia, and other parts of the world', an awareness of these recommendations is worthwhile for any person handling nonhuman primates in Australia.

Australian quarantine regulations relating to the importation of nonhuman primates are strict; only animals bred in captivity in the United States or the United Kingdom may be imported and these must satisfy stringent health criteria [5].

* See CDI editorial note

Ebola virus infection is a quarantineable disease in Australia. In the event that such an infection is suspected either the Communicable Diseases Section, Department of Health, Canberra (in the case of human infection) or the Australian Quarantine and Inspection Service, Department of Primary Industry and Energy (in the case of infection in an animal) should be contacted immediately).

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4. CDC/National Institutes of Health. Biosafety in microbiological and biomedical laboratories. 2nd ed. Bethesda, Maryland: US Department of Health and Human Services, Public Health Service, 1988; DHHS publication no. (CDC)88-8395.
5. Ebola virus infection in primates imported into Virginia, USA. CDI 1990;90/1:8-9.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 1/2/90 TO 14/2/90

1. CODE 019 - FAIRFIELD(VIC)
2. CODE 065 - STATE LAB(WA)
3. CODE 066 - PMH(WA)
4. CODE 110 - IMVS(SA)
5. CODE 111 - RCH(VIC)
6. CODE 112 - ICPMR(NSW)
7. CODE 113 - PHH POW(NSW)
8. CODE 114 - RAHC(NSW)
9. CODE 115 - STATE LAB(QLD)
10. CODE 116 - WVH(ACT)
11. CODE TPL - TOOWOOMBA PATHOLOGY LAB

		019	065	066	110	111	112	113	114	115	116	TPL	TOTAL
0100	ADENOVIRUS NOT TYPED	2	8	6	0	6	0	4	6	12	0	0	44
0101	ADENOVIRUS TYPE 1	2	0	0	0	4	2	0	0	0	0	0	8
0102	ADENOVIRUS TYPE 2	2	0	0	1	0	5	0	0	0	1	0	9
0103	ADENOVIRUS TYPE 3	6	0	0	9	0	7	0	0	0	0	0	22
0104	ADENOVIRUS TYPE 4	4	0	0	5	0	2	0	0	0	0	0	11
0105	ADENOVIRUS TYPE 5	1	0	0	0	0	1	0	0	0	0	0	2
0107	ADENOVIRUS TYPE 7	2	0	0	0	0	0	0	0	0	0	0	2
0108	ADENOVIRUS TYPE 8	2	0	0	0	0	0	0	0	0	0	0	2
0110	ADENOVIRUS TYPE 10	0	0	0	0	0	1	0	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	0	0	0	0	0	1	0	0	0	0	0	1
0115	ADENOVIRUS TYPE 15	0	0	0	0	0	1	0	0	0	0	0	1
0120	ADENOVIRUS TYPE 20	0	0	0	0	0	1	0	0	0	0	0	1
0123	ADENOVIRUS TYPE 23	0	0	0	0	0	1	0	0	0	0	0	1
0125	ADENOVIRUS TYPE 25	0	0	0	0	0	1	0	0	0	0	0	1
0130	ADENOVIRUS TYPE 30	0	0	0	0	0	1	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	1	0	0	0	6	0	0	1	0	0	0	8
0201	INFLUENZA A VIRUS	0	1	0	0	0	0	0	0	0	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	0	0	1	2	0	1	0	0	0	0	0	4
0303	PARAINFLUENZA VIRUS TYPE 3	4	0	0	0	1	2	0	0	0	0	0	7
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	0	1	0	6	1	0	0	3	0	0	11
0500	RHINOVIRUS (ALL TYPES)	17	5	0	3	8	3	0	0	0	0	0	36
0600	MYCOPLASMA PNEUMONIAE	4	5	0	3	0	1	2	0	0	0	0	15
0700	ORNITHOSIS-PSITTACOSIS	3	0	0	0	0	0	0	0	0	0	0	3
0816	COXSACKIEVIRUS A16	1	0	0	0	0	2	0	0	0	0	0	3
0902	COXSACKIEVIRUS B2	0	0	0	1	1	0	0	0	0	0	0	2
0903	COXSACKIEVIRUS B3	1	0	0	0	3	0	0	0	0	0	0	4
0904	COXSACKIEVIRUS B4	0	0	0	0	0	1	0	0	0	0	0	1
0906	COXSACKIEVIRUS B6	1	0	0	0	0	0	0	0	0	0	0	1
1000	ECHOVIRUS NOT TYPED	0	0	0	1	0	0	0	0	0	0	0	1
1001	ECHOVIRUS TYPE 1	0	0	0	0	0	1	0	1	0	0	0	2
1002	ECHOVIRUS TYPE 2	0	0	0	0	1	0	0	0	0	0	0	1
1004	ECHOVIRUS TYPE 4	1	0	0	0	0	0	0	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	1	0	0	0	0	0	0	0	0	0	0	1
1009	ECHOVIRUS TYPE 9	1	0	0	0	0	1	0	0	0	0	0	2
1011	ECHOVIRUS TYPE 11	3	0	0	0	0	2	0	0	0	0	0	5
1014	ECHOVIRUS TYPE 14	1	0	0	0	0	0	0	0	0	0	0	1
1021	ECHOVIRUS TYPE 21	1	0	0	0	0	0	0	0	0	0	0	1
1030	ECHOVIRUS TYPE 30	1	0	0	0	0	0	0	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	0	0	0	0	1	0	3	0	0	0	0	4
1101	POLIOVIRUS TYPE 1	1	0	0	0	0	2	0	0	0	0	0	3
1102	POLIOVIRUS TYPE 2	0	0	0	2	0	1	0	0	0	0	0	3
1103	POLIOVIRUS TYPE 3	1	0	0	0	0	1	0	0	0	0	0	2
1200	MUMPS VIRUS	2	0	0	0	0	2	0	0	0	0	0	4
1300	HERPES VIRUS GROUP - NOT TYPED	8	3	0	0	0	0	0	0	0	4	0	15
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	0	3	0	0	40	0	0	61	0	0	104
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	9	6	0	17	1	1	0	5	0	1	0	40
1303	VARICELLA-ZOSTER VIRUS	5	5	0	0	0	5	0	0	0	0	0	15
1306	HERPES SIMPLEX TYPE 1	95	22	0	21	3	6	8	2	0	0	0	157
1307	HERPES SIMPLEX TYPE 2	111	87	0	17	0	31	8	0	0	0	0	254
1399	HERPES VIRUS TYPING PENDING	0	1	0	0	1	0	0	0	0	0	0	2
1401	COXIELLA BURNETII	1	0	0	0	0	6	0	0	0	0	0	7
1502	PICORNIA VIRUS - NOT TYPED = E	0	3	1	0	0	0	4	0	6	0	0	14
1521	MEASLES VIRUS	7	0	0	0	0	0	1	0	0	0	0	8
1522	RUBELLA VIRUS	17	3	0	10	0	1	4	0	0	0	0	35
1532	HEPATITIS B ANTIGEN	39	19	0	22	0	32	7	0	44	4	0	167
1535	HEPATITIS A ANTIBODY	2	6	0	12	0	0	0	0	2	0	0	22
1541	CHLAMYDIA A - C. TRACHOMATIS	0	66	0	37	0	50	1	0	16	2	9	181
1556	CMV - CYTOMEGALOVIRUS	65	1	1	2	4	4	2	1	9	0	0	89
1564	ROTAVIRUS	0	0	2	4	11	4	1	0	0	0	0	22
1571	ENTEROVIRUS TYPE 71 (BCR)	0	0	0	0	0	0	0	1	0	0	0	1
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	4	0	6	0	0	0	0	10
9902	POXVIRUS GROUP NOT TYPED	1	0	0	0	0	0	0	0	0	0	0	1
9992	ROSS RIVER VIRUS	0	5	0	1	0	1	0	0	0	0	0	7
9994	SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	0	0	1	0	0	0	1
TOTAL		426	246	15	170	61	226	51	18	153	12	9	1387

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 1/2/90 TO 14/2/90

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	ACT	TOTAL
0100	ADENOVIRUS NOT TYPED	10	8	12	14	0	0	44
0101	ADENOVIRUS TYPE 1	2	6	0	0	0	0	8
0102	ADENOVIRUS TYPE 2	5	2	0	0	1	1	9
0103	ADENOVIRUS TYPE 3	7	6	0	0	9	0	22
0104	ADENOVIRUS TYPE 4	2	4	0	0	5	0	11
0105	ADENOVIRUS TYPE 5	1	1	0	0	0	0	2
0107	ADENOVIRUS TYPE 7	0	2	0	0	0	0	2
0108	ADENOVIRUS TYPE 8	0	2	0	0	0	0	2
0110	ADENOVIRUS TYPE 10	1	0	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	1	0	0	0	0	0	1
0115	ADENOVIRUS TYPE 15	1	0	0	0	0	0	1
0120	ADENOVIRUS TYPE 20	1	0	0	0	0	0	1
0123	ADENOVIRUS TYPE 23	1	0	0	0	0	0	1
0125	ADENOVIRUS TYPE 25	1	0	0	0	0	0	1
0130	ADENOVIRUS TYPE 30	1	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	1	7	0	0	0	0	8
0201	INFLUENZA A VIRUS	0	0	0	1	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	1	0	0	1	2	0	4
0303	PARAINFLUENZA VIRUS TYPE 3	2	5	0	0	0	0	7
0400	RESPIRATORY SYNCYTIAL VIRUS (R	1	6	3	1	0	0	11
0500	RHINOVIRUS (ALL TYPES)	3	25	0	5	3	0	36
0600	MYCOPLASMA PNEUMONIAE	3	4	0	5	3	0	15
0700	ORNITHOSIS-PSITTACOSIS	0	3	0	0	0	0	3
0816	COXSACKIEVIRUS A16	2	1	0	0	0	0	3
0902	COXSACKIEVIRUS B2	0	1	0	0	1	0	2
0903	COXSACKIEVIRUS B3	0	4	0	0	0	0	4
0904	COXSACKIEVIRUS B4	1	0	0	0	0	0	1
0906	COXSACKIEVIRUS B6	0	1	0	0	0	0	1
1000	ECHOVIRUS NOT TYPED	0	0	0	0	1	0	1
1001	ECHOVIRUS TYPE 1	2	0	0	0	0	0	2
1002	ECHOVIRUS TYPE 2	0	1	0	0	0	0	1
1004	ECHOVIRUS TYPE 4	0	1	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	0	1	0	0	0	0	1
1009	ECHOVIRUS TYPE 9	1	1	0	0	0	0	2
1011	ECHOVIRUS TYPE 11	2	3	0	0	0	0	5
1014	ECHOVIRUS TYPE 14	0	1	0	0	0	0	1
1021	ECHOVIRUS TYPE 21	0	1	0	0	0	0	1
1030	ECHOVIRUS TYPE 30	0	1	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	3	1	0	0	0	0	4
1101	POLIOVIRUS TYPE 1	2	1	0	0	0	0	3
1102	POLIOVIRUS TYPE 2	1	0	0	0	2	0	3
1103	POLIOVIRUS TYPE 3	1	1	0	0	0	0	2
1200	MUMPS VIRUS	2	2	0	0	0	0	4
1300	HERPES VIRUS GROUP - NOT TYPED	0	8	0	3	0	4	15
1301	HERPES SIMPLEX VIRUS - NOT TYP	40	0	61	3	0	0	104
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	6	10	0	6	17	1	40
1303	VARICELLA-ZOSTER VIRUS	5	5	0	5	0	0	15
1306	HERPES SIMPLEX TYPE 1	16	98	0	22	21	0	157
1307	HERPES SIMPLEX TYPE 2	39	111	0	87	17	0	254
1399	HERPES VIRUS TYPING PENDING	0	1	0	1	0	0	2
1401	COXIELLA BURNETII	6	1	0	0	0	0	7
1502	PICORNIA VIRUS - NOT TYPED = E	4	0	6	4	0	0	14
1521	MEASLES VIRUS	1	7	0	0	0	0	8
1522	RUBELLA VIRUS	5	17	0	3	10	0	35
1532	HEPATITIS B ANTIGEN	39	39	44	19	22	4	167
1535	HEPATITIS A ANTIBODY	0	2	2	6	12	0	22
1541	CHLAMYDIA A - C. TRACHOMATIS	51	0	25	66	37	2	181
1556	CMV - CYTOMEGALOVIRUS	7	69	9	2	2	0	89
1564	ROTAVIRUS	5	11	0	2	4	0	22
1571	ENTEROVIRUS TYPE 71 (BCR)	1	0	0	0	0	0	1
1599	ENTEROVIRUS TYPING PENDING	6	4	0	0	0	0	10
9902	POXVIRUS GROUP NOT TYPED	0	1	0	0	0	0	1
9992	ROSS RIVER VIRUS	1	0	0	5	1	0	7
9994	SMALL VIRUS (LIKE) PARTICLE	1	0	0	0	0	0	1
TOTAL		295	487	162	261	170	12	1387

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 2

PERIOD 01/02/90 TO 14/02/90

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	21	TOTAL
0100	ADENOVIRUS NOT TYPED	6	0	0	0	0	0	1	1	0	0	8
0103	ADENOVIRUS TYPE 3	8	0	0	0	0	0	0	1	2	0	11
0104	ADENOVIRUS TYPE 4	6	0	0	0	0	0	0	0	3	0	9
0107	ADENOVIRUS TYPE 7	0	0	0	0	0	0	0	1	0	0	1
0108	ADENOVIRUS TYPE 8	2	0	0	0	0	0	0	0	0	0	2
0111	ADENOVIRUS TYPE 11	0	0	0	0	0	0	0	0	1	0	1
0123	ADENOVIRUS TYPE 23	0	0	0	0	0	0	0	0	1	0	1
0199	ADENOVIRUS TYPING PENDING	1	0	0	0	0	0	0	0	1	0	2
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	0	0	0	0	0	0	1	0	0	1
0500	RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	1	4	0	1	6
0600	MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	0	1	0	0	1
0903	COXSACKIEVIRUS B3	0	0	0	0	0	0	0	1	0	0	1
0906	COXSACKIEVIRUS B6	0	0	0	0	0	0	0	1	0	0	1
1000	ECHOVIRUS NOT TYPED	0	0	0	0	0	0	0	1	0	0	1
1001	ECHOVIRUS TYPE 1	0	0	0	0	0	0	0	0	1	0	1
1002	ECHOVIRUS TYPE 2	0	0	0	0	0	0	0	1	0	0	1
1004	ECHOVIRUS TYPE 4	0	0	0	0	0	0	0	1	0	0	1
1101	POLIOVIRUS TYPE 1	0	0	0	0	0	0	0	0	0	1	1
1102	POLIOVIRUS TYPE 2	0	0	0	0	0	0	0	0	1	0	1
1103	POLIOVIRUS TYPE 3	0	0	0	0	0	0	0	0	0	1	1
1200	MUMPS VIRUS	0	0	2	0	1	0	0	0	0	0	3
1300	HERPES VIRUS GROUP - NOT TYPED	0	4	0	0	0	0	0	0	4	0	8
1301	HERPES SIMPLEX VIRUS - NOT TYP	4	36	0	0	0	0	0	0	0	0	40
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	22	3	0	0	0	3	3	0	31
1306	HERPES SIMPLEX TYPE 1	5	46	0	0	0	0	0	2	7	0	60
1307	HERPES SIMPLEX TYPE 2	0	132	0	0	0	0	0	2	6	0	140
1401	COXIELLA BURNETII	0	0	0	0	0	0	1	1	0	0	2
1502	PICORNIA VIRUS - NOT TYPED = E	1	0	0	0	0	0	0	0	0	0	1
1522	RUBELLA VIRUS	0	0	1	0	0	2	0	2	14	0	19
1532	HEPATITIS B ANTIGEN	0	1	0	0	0	0	0	0	13	0	14
1535	HEPATITIS A ANTIBODY	0	0	0	0	0	0	0	0	4	0	4
1541	CHLAMYDIA A - C. TRACHOMATIS	0	158	0	0	0	0	0	0	0	0	158
1556	CMV - CYTOMEGALOVIRUS	0	1	0	0	0	2	3	7	56	0	69
9992	ROSS RIVER VIRUS	0	0	0	0	4	0	0	0	0	0	4
TOTAL		33	378	25	3	5	4	6	31	117	3	605

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1

PERIOD 01/02/90 TO 14/02/90

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	1	11	0	0	0	22	0	0	0	2	36
0101	ADENOVIRUS TYPE 1	1	6	0	0	0	1	0	0	0	0	8
0102	ADENOVIRUS TYPE 2	2	6	0	0	0	1	0	0	0	0	9
0103	ADENOVIRUS TYPE 3	2	6	0	1	0	1	0	0	0	1	11
0104	ADENOVIRUS TYPE 4	0	2	0	0	0	0	0	0	0	0	2
0105	ADENOVIRUS TYPE 5	0	2	0	0	0	0	0	0	0	0	2
0107	ADENOVIRUS TYPE 7	0	0	0	1	0	0	0	0	0	0	1
0110	ADENOVIRUS TYPE 10	0	0	0	0	0	1	0	0	0	0	1
0115	ADENOVIRUS TYPE 15	0	0	0	0	0	1	0	0	0	0	1
0120	ADENOVIRUS TYPE 20	0	0	0	0	0	1	0	0	0	0	1
0125	ADENOVIRUS TYPE 25	1	0	0	0	0	0	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	4	0	1	0	0	0	0	1	0	6
0201	INFLUENZA A VIRUS	0	0	0	0	0	0	1	0	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	0	4	0	0	0	0	0	0	0	0	4
0303	PARAINFLUENZA VIRUS TYPE 3	0	5	1	0	0	0	0	0	0	1	7
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	10	0	0	0	0	0	0	0	0	10
0500	RHINOVIRUS (ALL TYPES)	2	28	0	0	0	0	0	0	0	0	30
0600	MYCOPLASMA PNEUMONIAE	3	11	0	0	0	0	0	0	0	0	14
0700	ORNITHOSIS-PSITTACOSIS	1	2	0	0	0	0	0	0	0	0	3
0816	COXSACKIEVIRUS A16	0	0	0	0	0	0	0	0	0	3	3
0902	COXSACKIEVIRUS B2	0	1	0	0	1	0	0	0	0	0	2
0903	COXSACKIEVIRUS B3	0	1	0	2	0	0	0	0	0	0	3
0904	COXSACKIEVIRUS B4	0	1	0	0	0	0	0	0	0	0	1
1001	ECHOVIRUS TYPE 1	1	0	0	0	0	0	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	0	0	0	0	0	0	0	0	0	1	1
1009	ECHOVIRUS TYPE 9	0	0	0	2	0	0	0	0	0	0	2
1011	ECHOVIRUS TYPE 11	2	1	1	0	0	0	0	0	0	1	5
1014	ECHOVIRUS TYPE 14	0	0	0	1	0	0	0	0	0	0	1
1021	ECHOVIRUS TYPE 21	0	1	0	0	0	0	0	0	0	0	1
1030	ECHOVIRUS TYPE 30	0	0	0	1	0	0	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	0	1	0	0	0	3	0	0	0	0	4
1101	POLIOVIRUS TYPE 1	1	1	0	0	0	0	0	0	0	0	2
1102	POLIOVIRUS TYPE 2	2	0	0	0	0	0	0	0	0	0	2
1103	POLIOVIRUS TYPE 3	0	0	0	0	0	1	0	0	0	0	1
1200	MUMPS VIRUS	1	0	0	0	0	0	0	0	0	0	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	0	0	0	0	0	0	0	0	7	7
1301	HERPES SIMPLEX VIRUS - NOT TYP	11	0	1	0	0	0	0	1	0	51	64
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	8	0	1	0	0	0	0	0	0	0	9
1303	VARICELLA-ZOSTER VIRUS	2	1	0	0	0	0	0	0	0	12	15
1306	HERPES SIMPLEX TYPE 1	4	5	0	0	0	0	0	0	1	87	97
1307	HERPES SIMPLEX TYPE 2	3	0	0	0	0	0	0	0	0	111	114
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	2	2
1401	COXIELLA BURNETII	3	1	0	0	0	0	0	1	0	0	5
1502	PICORNIA VIRUS - NOT TYPED = E	0	3	0	0	2	8	0	0	0	0	13
1521	MEASLES VIRUS	2	0	0	0	0	0	1	0	0	5	8
1522	RUBELLA VIRUS	7	0	0	0	0	0	0	0	0	9	16
1532	HEPATITIS B ANTIGEN	85	0	0	0	0	0	68	0	0	0	153
1535	HEPATITIS A ANTIBODY	4	0	0	0	0	1	13	0	0	0	18
1541	CHLAMYDIA A - C. TRACHOMATIS	23	0	0	0	0	0	0	0	0	0	23
1556	CMV - CYTOMEGALOVIRUS	6	3	0	0	0	0	0	3	7	1	20
1564	ROTAVIRUS	1	0	0	0	0	21	0	0	0	0	22
1571	ENTEROVIRUS TYPE 71 (BCR)	0	1	0	0	0	0	0	0	0	0	1
1599	ENTEROVIRUS TYPING PENDING	0	3	0	1	0	6	0	0	0	0	10
9902	POXVIRUS GROUP NOT TYPED	0	0	0	0	0	0	0	0	0	1	1
9992	ROSS RIVER VIRUS	1	0	0	0	0	0	0	0	0	2	3
9994	SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	1	0	0	0	0	1
TOTAL		180	121	4	10	3	70	83	5	9	297	782