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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 1,931 reports were processed during this period. Since there are only 25 issues of *CDI* published every year, this period includes reports received during the four weeks form 7/12/89 to 3/1/90.

Seventeen cases of Q fever (14 males, 1 female, 2 sex not stated) were received during these four weeks. Cases included a 17-year-old male abattoir worker with systemic febrile illness, a 19-year old male meatworker with cardiac symptoms, and a 40-year-old female with hepatitis. Occupational exposure details were provided for another two meat workers and a jackaroo. Patients' ages ranged form 17 to 53 years.

During this 4-weekly period, 60 cases of rubella were reported. These included: a 5-week-old boy, a 1-month-old boy, a 1-year-old boy with deafness and congenital heart problems, and a 29-year old asymptomatic pregnant woman who had been in contact with the disease.

Changes to the presentation of the CDI Virus reports

From this issue of the CDI, all contributing laboratories will have their own laboratory code. Consequently, the data from the Princess Margaret Hospital (Perth), Woden Valley Hospital (Canberra), and those laboratories reporting viruses through the pathogen reporting scheme, are tabulated separately.

- The Bulletin is compiled and distributed by the Communicable Diseases Section, Communicable Diseases and Social Health Branch, Telephone: (062) 89 1555, Department of Community Services and Health.
- Contributions are solicited, and do not preclude later publication elsewhere.

- Figures given may be subject to revision.

In addition, a new table showing data by state of contributing laboratory has been included. Readers should recognise that it is not possible to make direct comparisons between states since some states have a number of contributing laboratories (eg New South Wales and Victoria) while others have only one (eg Queensland and Victoria). Referrals of samples from interstate hospitals also occur eg samples from the Northern Territory are regularly received by the State Health Laboratory Services in Perth, IMVS in Adelaide, and the State Health Laboratory in Brisbane.

OVERSEAS BRIEFS

1. CHOLERA IN KENYA

Kenya has reported approximately 160 sporadic cases of cholera in the Mombasa and Kilifi districts of Coast Province in late November/early December 1989. Travellers should be advised in the selection of foods and drinking water if travelling to cholera-infected areas.

2. DENGUE IN VENEZUELA

An outbreak of dengue heamorrhagic fever has been reported in Venezuela. The first cases were reported in the Portuguesa rural area (13 cases with 4 deaths). Since 25 October 1989, an increasing number of cases has been reported in Maracay City and surrounding areas. Up until 18 December 1989, a total of 152 cases and 21 deaths had been reported.

3. MEASLES OUTBREAK IN JAMAICA.

In an outbreak in Jamaica, 2000 cases of measles with 8 deaths had been reported by late December, 1989. Prospective travellers to the area may wish to consider vaccination prior to travel, if they are not already protected.

4. INFLUENZA

Europe: Incidence levels of influenza in Belgium are reported to be as high as in epidemics in 1985/86 and 1988/89. In Paris, influenza activity is also reported to be more intense than during last year's epidemic. Almost all laboratory confirmed cases of influenza in Europe this year have been influenza A(H3N2).

USA: Influenza A activity has been reported in 19 US states so far this season. Of 42 isolates 16 were reported as influenza A(H3N2) (similar to A/Shanghai/11/87) and 2 as influenza A(H1N1) (similar to A/Taiwan/1/86).

Influenza A(H3N2) has been implicated in the first two outbreaks of the season - the first in a Colorado day care centre involving 24 children aged 6 weeks to 10 years, and the second in a Minnesota nursing home involving four residents and two employees.

RUBELLA VACCINATION IN PREGNANCY
(Based MMWR 1989; 38: 289-293.

Rubella is generally a mild disease which causes a transient erythematous rash and lymphadenopathy involving the post-auricular and sub-occipital glands. Occasionally arthritis and arthralgia occur. Other complications may occur but are rare. The aetiological agent of the disease is an RNA virus of the family Togaviridae, genus Rubivirus. Other viruses can cause the same symptoms as rubella virus, and accurate diagnosis is dependent on appropriate serological tests. Rubella virus can cross the placenta, and infection of non-immune women during pregnancy may result in embryopathy or fetal death. If the infant survives to term it may present with microcephaly, motor deficiencies, cataracts, cardiopathy, deafness or other congenital abnormalities, in addition to low birth weight, anaemia, thrombocytopaenia, hepatosplenomegaly and jaundice (the congenital rubella syndrome).

The National Health and Medical Research Council (NHMRC) recommends that all girls between the ages of ten and sixteen years be offered rubella vaccination. NHMRC also recommends that women of child bearing age be tested prior to each pregnancy, and that all seronegative women of child bearing age, provided they are not pregnant, be offered rubella vaccine.

Although pregnancy is an absolute contraindication to rubella vaccination and should be avoided for at least two full menstrual cycles following vaccination, a small proportion of women have been inadvertently vaccinated during this period. In Britain in 1981, concern over the number of pregnancies terminated because of vaccination against rubella prompted that country's Department of Health and Social Security to initiate a study of the possible teratogenicity of rubella vaccines.

A preliminary report of the study has been published [1]. Obstetricians were asked to report women who either conceived within three months after vaccination against rubella or received vaccine during pregnancy. Where pregnancies were not terminated, the children were followed up (clinical observation and virological testing) until 3 years of age.

By May 1985, 54 mothers had been notified. Five had already been notified (as congenital rubella not confirmed) because of the maternal history before the survey started. Seven of the mothers were vaccinated at school (aged 13-15 years). Thirty-four mothers were vaccinated before and 20 after the estimated date of conception.

Of the 54 deliveries: one spontaneously aborted (virus was not isolated from the placenta, and rubella specific IgM was not detected in cord blood); fifty-one mothers delivered live-born infants; and two delivered stillborn infants (one was reported at necropsy as 'macerated: no clear cause of intrauterine death'; the other had 'no external features of congenital rubella'. Forty-four of the 51 live-born infants, including two with congenital heart defects, were tested for laboratory evidence of congenital infection (presence of rubella specific IgM at birth or persistence of haemagglutination inhibition antibody beyond 8 months, or both). All tests yielded negative results. The remaining seven infants had been examined at

birth, and three of them followed up at ages ranging from 14 months to 3 years. No clinical evidence of congenital rubella was found.

Based on these results, and those of two other studies [2,3] the authors concluded that the risk of vaccine-induced embryopathy - if there is one - appears not to be substantial, and termination of pregnancy should be exceptional under these circumstances.

Live attenuated rubella vaccines were first licensed in the United States in 1969. The two vaccine virus strains in use from that time and until the end of 1978 were the Cendehill and HPV-77 strains. Because both of these strains could cause intrauterine rubella infections, the Vaccine in Pregnancy (VIP) registry of women who had received either of these two rubella vaccines within 3 months before or after conception was established in 1971 by the Centers for Disease Control, Atlanta, Georgia [4]. None of the 290 infants born to the 538 women entered into this registry to the end of April 1979 had defects indicative of congenital rubella syndrome (CRS). This included 94 live-born infants of women who were known to be seronegative for rubella up to 1 year prior to receiving the vaccine.

In January 1979, the RA 27/3 rubella vaccine was approved for use in the United States. Concerns were raised that this new live attenuated-virus vaccine might have greater fetotropic and teratogenic potential than the earlier vaccines because this virus was isolated from and propagated in human tissue. Thus, women known to be susceptible to rubella who received the RA 27/3 vaccine within 3 months of their estimated date of conception were subsequently enrolled in the VIP registry [4]. Throughout 1979-1987, an average of 30 susceptible women were enrolled annually; for 1988, 21 women were enrolled. From 1979 to 31 December, 1988 final reports were received for 272 patients from physicians and health departments in 49 reporting areas (including 46 of the 50 U.S. states, the District of Columbia, Puerto Rico, and Canada). The largest numbers of patients were reported from California (34 [13% of the total]) and Georgia (33 [12% of the total]).

Outcomes of pregnancy are known for 254 (93%) of the 272 susceptible women enrolled between 1979 and 1988 (Table 1). Of these 254 women, 210 (83%) delivered 212 living infants, and 13 (5%) had spontaneous abortions. Thirty one (12%) pregnancies were terminated. The interval between date of vaccination and estimated date of conception is known for all 210 susceptible women who had full-term pregnancies, (Figure 1). The median interval for these women was -14 days (ie, they received vaccine 14 days before conception). Of the 212 live-born infants, the average gestational age at birth was 39.5 ± 2.0 weeks and the average birth weight was 3384 ± 521 grams. For the 13 women whose pregnancies ended in spontaneous abortions, the median interval between vaccination and conception was -13 days, and five (38%) were vaccinated during the period of highest risk.

Findings were comparable when the subset of 92 women who were vaccinated within 1 week before to 4 weeks after conception (the period of presumed highest risk for viraemia and fetal malformations was analysed. Pregnancy outcomes were known for 88 (96%) of these women: 73 (83%) delivered 74 living infants,

and five (6%) had spontaneous abortions; 10 (11%) pregnancies were terminated. Of the 74 live-born infants, the average gestational age at birth was 39.5±2.1 weeks, and the average birth weight was 3257±535 grams.

Table 1. Pregnancy outcomes for 683 recipients of RA 27/3 vaccine - United States, reported January 1979 to December 1988

Prevaccination immunity status	Total women	Live births	Spontaneous abortions and stillbirths	Induced abortions	Outcome unknown
Susceptible	272	212*	13	31	18
Immune	32	30	1	0	1
Unknown	379	320#	8	24	28
Total	683	562	22	55	47

* Includes two twin births.
\# Includes one twin birth.

None of the 212 live-born infants had defects indicative of CRS. Although two infants had asymptomatic glandular hypospadias (which has been anecdotally suggested to be part of the CRS constellation of symptoms) including one whose mother had been vaccinated within 1 week before her estimated date of conception, both had negative rubella-specific IgM titres (<1:4) in cord blood at birth. A 6-month follow-up serum specimen, available for one of the infants, showed a rubella HI antibody titre of <1:8 (ie a negative titre).

Overall, serological evaluations were performed on 154 (73%) of the 212 live-born infants, including 43 (58%) of the 74 infants who were exposed during the period of highest risk. Three (2%) of the 154 infants, including one (1%) infant born to a mother vaccinated during the period of highest risk, were normal on physical examination but had a positive rubella-specific IgM titre in cord blood, suggesting a subclinical infection. The first (infant A), born in 1981, had a rubella-specific IgM antibody titre of 1:8 cord blood and an initial corresponding HI titre of 1:128. The maternal HI titre was also 1:128. Simultaneous retesting of the cord blood and testing of a follow-up specimen taken when the infant was 2 months old showed a decrease in HI antibody titre from 1:64 to 1:16 over the 2-month period, suggesting that the cord blood HI titre was passively transferred maternal antibody and that subclinical infection may not have occurred. Infant A had no defects indicative of CRS at 18-month and 29-month follow-up examinations. Since 1985, two additional apparently healthy infants had positive rubella IgM titres in cord serum. Infant B had an IgM EIA index of 1.9, and infant C (whose mother had been vaccinated within 4 weeks after her estimated date of conception) had an index of 2.9. Both mothers had positive IgM indices at delivery; mother B had an index of 4.2 on a serum specimen drawn 11 months after vaccination, and mother C had an index of 2.5 on a serum specimen drawn 9 months after vaccination. No clinical or serological follow-up was available for either of these infants.

MMWR Editorial Note

Data collected by CDC in the VIP registry since 1979 show no evidence that the RA 27/3 rubella vaccine administered in pregnancy can cause defects indicative of CRS. These data include information for 379 women whose immune status were not known, 32 immune women, and 272 women known to be susceptible at vaccination. Previous reviews of data collected before April 1979 on 538 women vaccinated during pregnancy with either Cendehill or HPV-77 rubella vaccines have shown no CRS-indicative outcomes. Therefore, the observed risk for CRS following rubella vaccination continues to be zero. These results are consistent with the experiences in the Federal Republic of Germany and the United Kingdom, where rubella vaccine has not been associated with CRS among infants born to susceptible mothers who were vaccinated around the time of conception.

Based on the 95% confidence limits of the binomial distribution, the theoretical maximal risk for CRS in the group of 212 live-born infants of susceptible women who received RA 27/3 vaccine is 1.7%; the overall maximal risk for all known susceptible women vaccinated during pregnancy with any of the three types of vaccine since 1971 is 1.2% (Table 2). If the analysis is limited to the 74 infants born to mothers vaccinated with RA 27/3 within 1 week before to 4 weeks after conception, the corresponding maximal theoretical risk is 4.9%. These estimates are less than the 20% or greater risk of CRS associated with maternal infection with wild rubella virus during the first trimester and are comparable with the 2%-3% rate of major birth defects observed in the absence of exposure to rubella vaccine. A sample of approximately 375 susceptible women would be required to lower the overall maximal theoretical risk below 1% for receipt of the RA 27/3 vaccine, assuming that no CRS-like anomalies are observed. At the observed average rate of annual enrollment into the VIP registry, this sample size might be attained by 1992 for all women vaccinated within 3 months of conception; however, at this same rate of enrollment, a similar number of women vaccinated in the highest-risk period would not be enrolled until 2023. In either case, the maximal risk can never be lowered to zero.

Although no CRS-like defects have been noted, rubella vaccine viruses can cross the placenta and infect the fetus. The rubella virus isolation rate from the products of conception for the RA 27/3 vaccine was 3% (1/35), and the rate of virus isolation for Cendehill and HPV-77 vaccines was 20% (17/85). Thus, because of this evidence and because the theoretical risk to the fetus, however small, cannot be absolutely ruled out, the U.S. Immunization Practices Advisory Committee (ACIP) continues to state: 1) pregnancy remains a contraindication to rubella vaccination because of the theoretical, albeit small, risk of CRS; 2) reasonable precautions should be taken to preclude vaccination of pregnant women, including asking women if they are pregnant, excluding those who say they are, and explaining the theoretical risks to the others; and 3) if vaccination occurs within 3 months before or after conception, the risk of CRS is so small as to be negligible; thus, inadvertent vaccination of a pregnant woman should not be a reason in itself to consider interruption of pregnancy. The patient and her physician, however, should make the final decision.

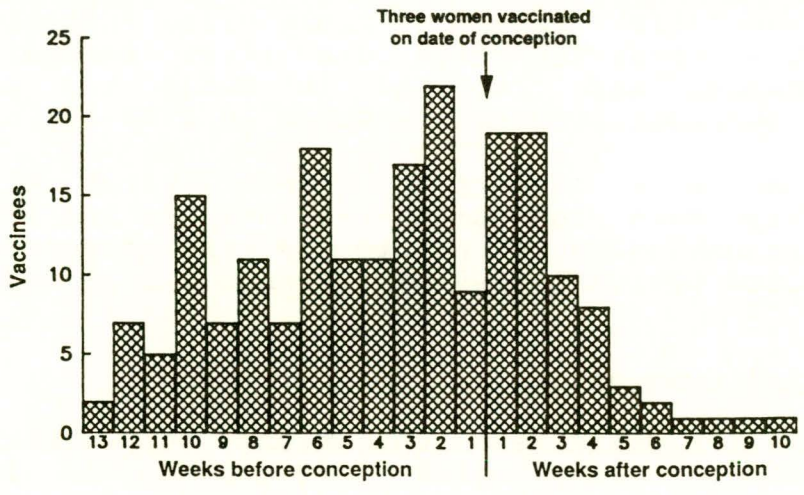
The results obtained from the VIP registry data also provide adequate support for the recommendations that routine laboratory screening for both pregnancy and rubella antibody is not necessary before administration of vaccine and that physicians and other health care personnel should offer rubella vaccine whenever they encounter a potentially susceptible woman lacking contraindications for vaccination. Thus, the essential purposes for which the VIP registry was initiated have been accomplished. Therefore, as from 30 April 1989, CDC discontinued accepting new patients into the VIP registry. All women enrolled before that date will be followed to completion of their pregnancy, and the final data will be analysed for a summary report.

Table 2. Maximum theoretical risks of congenital rubella syndrome (CRS) following rubella vaccination in known susceptible women, by vaccine strain - United States, 1971-1988*

Vaccine strain	Susceptible vaccinees	Normal live births	Risk of CRS(%)	
			Observed	Theoretical+
RA 27/3	210	212#	0	0-1.7
Cendehill or HPV-77	94	94	0	0-3.8
Unknown	1	1	0	-
Total	305	307	0	0-1.2

* Up to 31 December 1988. No women entered in the register after 1980 were vaccinated with Cendehill or HPV-77 vaccine.
\# Includes two twin births.
\+ Based on the 95% confidence limits of the binomial distribution.

Figure 1. Interval between receipt of RA 27/3 vaccine and estimated date of conception



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2. Bart SW, Stetler HC, Preblud SR et al. Fetal risk associated with rubella vaccine: an update. Rev Infect. Dis 1985;7(suppl 1):95-102.
3. Enders G. Rubella antibody titres in vaccinated and nonvaccinated women and rubella vaccination during pregnancy. Rev Infect Dis 1985;7(suppl 1):103-7.
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EBOLA VIRUS INFECTION IN PRIMATES IMPORTED INTO VIRGINIA, USA

Ebola virus infection was detected in two shipments of cynomolgus monkeys (*Macaca fascicularis)* received by a primate facility in Virginia, USA [1]. Both shipments originated from the same supplier in the Philippines and were shipped via Amsterdam and New York [1, 2].

The primate facility routinely quarantines animals for 45 days. During the quarantine period a high rate of mortality was observed in the first shipment of monkeys, some showing symptoms consistent with simian haemorrhagic fever. While simian haemorrhagic fever was confirmed by virus isolation in 3 out of 10 animals tested, 5 other animals tested positive for Ebola virus. Ebola virus antigen was also detected in serum and/or tissues (using a rapid antigen detection enzyme-linked immunosorbent assay) from seven monkeys from the second shipment. These monkeys, which were quarantined in a separate room, also had a high mortality rate. Sixty out of one hundred animals in the first shipment are reported to have died [3].

Up to 6 December 1989 there have been no reports of any evidence of human infection, although all persons who may have been in contact with the monkeys, their tissues or blood specimens in USA are being kept under surveillance by health authorities for 3 weeks from the last possible exposure. In addition, it appears that there has been no illness in airport personnel who may have had significant contact with the monkeys during transit through the Amsterdam [2]. An investigation is being conducted by the Centers for Disease Control Atlanta and the World Health Organization.

This is the first report of Ebola virus infection outside of Africa. Ebola virus infection was first recognised in 1976 when epidemics were reported in Sudan and Zaire [4]; a subsequent outbreak occurred in Sudan in 1979 [5].

Ebola virus is a haemorrhagic fever virus with a high case-fatality rate in humans (60-70%) [3] and little is known about its transmission in nature or the disease reservoirs. The incubation period is 5-9 days (range : 2-15 days).

CDI Editorial Comment

Under Australian quarantine regulations, only monkeys born and bred in USA or the United Kingdom may be imported into Australia. Animals caught in the wild are not accepted. These animals must be certified to be disease free and to have had no

contact with animals suffering from clinical disease for the previous seven months. In addition, they are subject to 60 days post-arrival quarantine in an A-class zoo or in registered quarantine premises in a scientific institution.

Following this report, these regulations were reviewed but, in view of the already stringent requirements, no changes were made. However, any future applications from the USA will be closely monitored.

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4. WHO. Ebola haemorrhagic fever in Sudan, 1976: report of a WHO International Study Team. Bull WHO 1978;56:247-70.
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CLINICAL HANDBOOK ON EPIDEMIC POLYARTHRITIS

Epidemic polyarthritis (EPA) is a mosquito-borne alphaviral disease which can cause rheumatic manifestations, rash and constitutional symptoms such as fever, fatigue and myalgia. The disease is neither fatal nor permanently disabling, but it can cause considerable distress. A clinical handbook on EPA has been prepared for the Communicable Diseases Section, Commonwealth Department of Community Services and Health, to assist medical practitioners in the diagnosis and management of the disease.

The clinical sections were written by Dr J R E Fraser, consultant physician and Deputy Chairman, Department of Medicine, University of Melbourne. Dr Fraser has had many years' experience in the diagnosis and management of this disease and has published extensively in the medical and scientific literature on the subject.

The sections on epidemiology and vector control were written by Dr I D Marshall, Senior Fellow (retired), John Curtin School of Medical Research, Australian National University. Dr Marshall is currently a Visting Fellow, Department of Biochemistry, Faculty of Science, in that University. He has conducted many field and laboratory research programs on arboviruses and their vectors and is an authority on the epidemiology of arboviral diseases.

Copies of the handbook can be obtained by medical practitioners by contacting their state health authorities. Overseas readers of the CDI Bulletin may obtain a copy by writing directly to:

Communicable Diseases Section
Department of Community Services & Health
GPO Box 9848
CANBERRA ACT 2601
AUSTRALIA

In addition to the EPA handbook, copies of a patient information sheet are also available from the same sources.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 7/12/89 TO 3/1/89

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	1	0	11	12	0	4	0	1	40	0	0	69
0101	ADENOVIRUS TYPE 1	2	3	0	4	3	1	0	0	0	0	0	13
0102	ADENOVIRUS TYPE 2	1	1	0	5	7	0	0	1	0	0	0	15
0103	ADENOVIRUS TYPE 3	3	1	0	13	2	1	0	1	0	0	0	21
0104	ADENOVIRUS TYPE 4	3	0	0	4	3	0	0	0	0	0	0	10
0105	ADENOVIRUS TYPE 5	1	0	0	1	5	0	0	0	0	0	0	7
0111	ADENOVIRUS TYPE 11	0	0	0	0	0	1	0	0	0	0	0	1
0130	ADENOVIRUS TYPE 30	1	0	0	0	0	0	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	4	0	0	1	0	0	0	5
0201	INFLUENZA A VIRUS	0	2	0	0	0	0	2	1	5	1	0	11
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	0	0	0	0	1	0	0	2	0	0	3
0203	INFLUENZA B VIRUS	1	1	0	0	0	0	0	1	8	0	0	11
0302	PARAINFLUENZA VIRUS TYPE 2	0	0	0	0	0	0	0	0	1	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	9	1	2	24	9	7	1	2	16	0	0	71
0399	PARAINFLUENZA VIRUS TYPING PEN	0	0	0	0	0	0	0	0	7	0	0	7
0400	RESPIRATORY SYNCYTIAL VIRUS (R	1	1	0	3	1	1	0	1	5	1	0	14
0500	RHINOVIRUS (ALL TYPES)	6	6	0	9	9	0	1	0	1	0	0	32
0600	MYCOPLASMA PNEUMONIAE	5	4	0	56	7	0	0	0	7	2	0	81
0700	ORNITHOSIS-PSITTACOSIS	8	1	0	1	0	0	1	0	0	0	0	11
0800	COXSACKIEVIRUSES GROUP A - NOT	0	2	0	0	0	0	0	0	0	0	0	2
0816	COXSACKIEVIRUS A16	0	0	0	0	0	1	0	0	0	1	0	2
0900	COXSACKIEVIRUS GROUP B - NOT T	0	0	0	0	0	0	0	0	1	0	0	1
0902	COXSACKIEVIRUS B2	1	2	0	0	0	0	0	0	0	0	0	3
0903	COXSACKIEVIRUS B3	2	0	0	0	0	1	0	0	0	0	0	3
0904	COXSACKIEVIRUS B4	0	3	0	0	0	1	0	0	0	0	0	4
0905	COXSACKIEVIRUS B5	0	0	0	1	0	0	0	0	0	0	0	1
1003	ECHOVIRUS TYPE 3	0	2	0	0	0	0	0	0	0	0	0	2
1004	ECHOVIRUS TYPE 4	1	0	0	0	0	0	0	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	3	0	0	0	0	0	0	0	0	0	0	3
1009	ECHOVIRUS TYPE 9	1	0	0	0	0	0	0	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	1	0	0	0	0	2	1	0	0	0	0	4
1028	ECHOVIRUS TYPE 28 = RHINO VIRU	0	0	0	0	0	0	0	1	0	0	0	1
1100	POLIOVIRUS NOT TYPED	0	0	0	0	0	0	2	0	0	0	0	2
1101	POLIOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	0	0	1
1102	POLIOVIRUS TYPE 2	0	0	0	1	0	2	0	0	0	0	0	3
1104	POLIOVIRUS - MIXED VACCINAL ST	0	1	0	0	0	0	0	0	0	0	0	1
1200	MUMPS VIRUS	0	0	0	0	0	1	0	0	0	0	0	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	4	0	0	0	0	2	0	0	11	0	17
1301	HERPES SIMPLEX VIRUS - NOT TYP	1	0	5	0	0	41	0	0	118	0	0	165
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	8	11	0	56	1	0	1	2	17	0	0	96
1303	VARICELLA-ZOSTER VIRUS	3	5	1	1	1	6	3	2	3	0	0	25
1306	HERPES SIMPLEX TYPE 1	70	57	0	29	0	1	0	1	0	0	0	158
1307	HERPES SIMPLEX TYPE 2	108	133	0	22	0	5	0	0	3	2	0	273
1399	HERPES VIRUS TYPING PENDING	1	1	0	0	0	0	0	0	0	0	0	2
1401	COXIELLA BURNETII	0	2	0	1	0	6	0	0	8	0	0	17
1402	OTHER RICKETTSIAE	0	0	0	0	0	0	0	0	1	0	0	1
1502	PICORNIA VIRUS - NOT TYPED = E	0	1	0	0	0	0	4	0	21	0	0	26
1514	MOLLUSCUM CONTAGIOSUM	0	1	0	0	0	0	0	0	0	0	0	1
1521	MEASLES VIRUS	8	0	0	0	2	3	0	0	0	0	0	13
1522	RUBELLA VIRUS	25	13	0	19	1	0	7	0	28	3	0	96
1532	HEPATITIS B ANTIGEN	17	20	0	18	0	37	8	0	33	2	0	135
1535	HEPATITIS A ANTIBODY	5	1	0	5	0	0	0	0	4	0	0	15
1541	CHLAMYDIA A - C. TRACHOMATIS	0	72	0	82	1	37	1	1	9	10	5	218
1556	CMV - CYTOMEGALOVIRUS	60	3	2	4	5	5	2	5	39	0	0	125
1564	ROTAVIRUS	1	1	1	38	19	4	1	1	0	0	0	66
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	8	0	4	5	0	0	0	17
9901	ARBOVIRUS GROUP A.(UNSPECIFIED	0	0	0	0	0	0	0	0	8	0	0	8
9992	ROSS RIVER VIRUS	0	4	0	10	0	0	1	0	13	0	0	28
9995	DENGUE	0	1	0	0	0	0	0	0	4	0	0	5
9997	KUNJIN VIRUS	0	0	0	0	0	0	0	0	1	0	0	1
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	0	0	0	0	0	0	0	0	3	0	0	3
TOTAL		358	361	22	419	88	170	42	27	406	33	5	1931

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 7/12/89 TO 3/1/90

NSW: ICPMR; PHH POW; RACH; ST GEORGE HOSP, KOGARAH; ROYAL NEWCASTLE HOSP.
VIC: FAIRFIELD; RCH.
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	5	1	40	11	12	0	69
0101	ADENOVIRUS TYPE 1	1	5	0	3	4	0	13
0102	ADENOVIRUS TYPE 2	1	8	0	1	5	0	15
0103	ADENOVIRUS TYPE 3	2	5	0	1	13	0	21
0104	ADENOVIRUS TYPE 4	0	6	0	0	4	0	10
0105	ADENOVIRUS TYPE 5	0	6	0	0	1	0	7
0111	ADENOVIRUS TYPE 11	1	0	0	0	0	0	1
0130	ADENOVIRUS TYPE 30	0	1	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	1	4	0	0	0	0	5
0201	INFLUENZA A VIRUS	3	0	5	2	0	1	11
0202	INFLUENZA A VIRUS SUBTYPE H3N2	1	0	2	0	0	0	3
0203	INFLUENZA B VIRUS	1	1	8	1	0	0	11
0302	PARAINFLUENZA VIRUS TYPE 2	0	0	1	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	10	18	16	3	24	0	71
0399	PARAINFLUENZA VIRUS TYPING PEN	0	0	7	0	0	0	7
0400	RESPIRATORY SYNCYTIAL VIRUS (R	2	2	5	1	3	1	14
0500	RHINOVIRUS (ALL TYPES)	1	15	1	6	9	0	32
0600	MYCOPLASMA PNEUMONIAE	0	12	7	4	56	2	81
0700	ORNITHOSIS-PSITTACOSIS	1	8	0	1	1	0	11
0800	COXSACKIEVIRUSES GROUP A - NOT	0	0	0	2	0	0	2
0816	COXSACKIEVIRUS A16	1	0	0	0	0	1	2
0900	COXSACKIEVIRUS GROUP B - NOT T	0	0	1	0	0	0	1
0902	COXSACKIEVIRUS B2	0	1	0	2	0	0	3
0903	COXSACKIEVIRUS B3	1	2	0	0	0	0	3
0904	COXSACKIEVIRUS B4	1	0	0	3	0	0	4
0905	COXSACKIEVIRUS B5	0	0	0	0	1	0	1
1003	ECHOVIRUS TYPE 3	0	0	0	2	0	0	2
1004	ECHOVIRUS TYPE 4	0	1	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	0	3	0	0	0	0	3
1009	ECHOVIRUS TYPE 9	0	1	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	3	1	0	0	0	0	4
1028	ECHOVIRUS TYPE 28 = RHINO VIRU	1	0	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	2	0	0	0	0	0	2
1101	POLIOVIRUS TYPE 1	1	0	0	0	0	0	1
1102	POLIOVIRUS TYPE 2	2	0	0	0	1	0	3
1104	POLIOVIRUS - MIXED VACCINAL ST	0	0	0	1	0	0	1
1200	MUMPS VIRUS	1	0	0	0	0	0	1
1300	HERPES VIRUS GROUP - NOT TYPED	2	0	0	4	0	11	17
1301	HERPES SIMPLEX VIRUS - NOT TYP	41	1	118	5	0	0	165
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	3	9	17	11	56	0	96
1303	VARICELLA-ZOSTER VIRUS	11	4	3	6	1	0	25
1306	HERPES SIMPLEX TYPE 1	2	70	0	57	29	0	158
1307	HERPES SIMPLEX TYPE 2	5	108	3	133	22	2	273
1399	HERPES VIRUS TYPING PENDING	0	1	0	1	0	0	2
1401	COXIELLA BURNETII	6	0	8	2	1	0	17
1402	OTHER RICKETTSIAE	0	0	1	0	0	0	1
1502	PICORNIA VIRUS - NOT TYPED = E	4	0	21	1	0	0	26
1514	MOLLUSCUM CONTAGIOSUM	0	0	0	1	0	0	1
1521	MEASLES VIRUS	3	10	0	0	0	0	13
1522	RUBELLA VIRUS	7	26	28	13	19	3	96
1532	HEPATITIS B ANTIGEN	45	17	33	20	18	2	135
1535	HEPATITIS A ANTIBODY	0	5	4	1	5	0	15
1541	CHLAMYDIA A - C. TRACHOMATIS	39	1	14	72	82	10	218
1556	CMV - CYTOMEGALOVIRUS	12	65	39	5	4	0	125
1564	ROTAVIRUS	6	20	0	2	38	0	66
1599	ENTEROVIRUS TYPING PENDING	9	8	0	0	0	0	17
9901	ARBOVIRUS GROUP A.(UNSPECIFIED	0	0	8	0	0	0	8
9992	ROSS RIVER VIRUS	1	0	13	4	10	0	28
9995	DENGUE	0	0	4	1	0	0	5
9997	KUNJIN VIRUS	0	0	1	0	0	0	1
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	0	0	3	0	0	0	3
TOTAL		239	446	411	383	419	33	1931

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 7/12/89 TO 3/1/89

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	37	0	0	1	17	0	0	0	2	58
0101	ADENOVIRUS TYPE 1	1	9	0	0	0	1	0	0	0	1	12
0102	ADENOVIRUS TYPE 2	1	10	1	0	0	2	0	0	0	0	14
0103	ADENOVIRUS TYPE 3	1	7	0	0	0	3	0	0	0	0	11
0104	ADENOVIRUS TYPE 4	0	4	0	0	0	0	0	0	0	1	5
0105	ADENOVIRUS TYPE 5	0	5	0	0	0	0	0	0	0	0	5
0130	ADENOVIRUS TYPE 30	0	0	0	0	0	1	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	3	0	0	0	1	0	0	0	0	4
0201	INFLUENZA A VIRUS	1	6	0	0	0	0	0	0	0	0	7
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	1	0	0	0	0	0	0	1	0	2
0203	INFLUENZA B VIRUS	0	6	0	0	0	0	0	1	0	0	7
0302	PARAINFLUENZA VIRUS TYPE 2	0	1	0	0	0	0	0	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	2	61	0	0	0	0	0	0	0	6	69
0399	PARAINFLUENZA VIRUS TYPING PEN	0	7	0	0	0	0	0	0	0	0	7
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	12	0	0	0	0	0	0	0	1	13
0500	RHINOVIRUS (ALL TYPES)	1	28	0	0	0	0	1	0	0	0	30
0600	MYCOPLASMA PNEUMONIAE	10	59	0	0	0	0	0	0	0	1	70
0700	ORNITHOSIS-PSITTACOSIS	0	8	0	0	0	0	0	0	0	1	9
0800	COXSACKIEVIRUSES GROUP A - NOT	0	0	0	0	0	0	0	0	0	2	2
0816	COXSACKIEVIRUS A16	0	0	0	0	0	0	0	0	0	2	2
0900	COXSACKIEVIRUS GROUP B - NOT T	0	0	0	0	0	1	0	0	0	0	1
0902	COXSACKIEVIRUS B2	0	2	0	0	0	0	0	0	0	1	3
0903	COXSACKIEVIRUS B3	0	0	0	2	0	0	0	0	0	0	2
0904	COXSACKIEVIRUS B4	1	1	0	1	0	0	0	0	0	0	3
0905	COXSACKIEVIRUS B5	0	1	0	0	0	0	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	0	1	0	2	0	0	0	0	0	0	3
1009	ECHOVIRUS TYPE 9	0	0	0	1	0	0	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	2	1	0	1	0	0	0	0	0	0	4
1028	ECHOVIRUS TYPE 28 = RHINO VIRU	0	1	0	0	0	0	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	0	0	0	0	0	2	0	0	0	0	2
1101	POLIOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	0	1
1102	POLIOVIRUS TYPE 2	1	0	0	0	0	1	0	0	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	2	0	0	1	0	0	0	0	0	10	13
1301	HERPES SIMPLEX VIRUS - NOT TYP	9	13	2	0	0	1	0	0	1	77	103
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	9	6	2	0	1	0	2	0	0	2	22
1303	VARICELLA-ZOSTER VIRUS	8	0	2	0	1	0	0	0	0	14	25
1306	HERPES SIMPLEX TYPE 1	4	3	0	0	0	0	1	0	2	100	110
1307	HERPES SIMPLEX TYPE 2	5	1	0	1	0	0	0	0	0	151	158
1399	HERPES VIRUS TYPING PENDING	0	0	0	1	0	0	0	0	0	1	2
1401	COXIELLA BURNETII	3	0	1	0	0	3	1	1	0	0	9
1502	PICORNIA VIRUS - NOT TYPED = E	0	10	0	0	0	14	0	0	0	0	24
1514	MOLLUSCUM CONTAGIOSUM	0	0	0	0	0	0	0	0	0	1	1
1521	MEASLES VIRUS	5	1	1	0	0	0	0	0	0	4	11
1522	RUBELLA VIRUS	14	2	1	0	0	0	0	1	0	42	60
1532	HEPATITIS B ANTIGEN	53	0	0	1	0	0	69	0	0	0	123
1535	HEPATITIS A ANTIBODY	6	0	0	0	0	0	9	0	0	0	15
1541	CHLAMYDIA A - C. TRACHOMATIS	20	1	0	0	0	0	0	0	0	0	21
1556	CMV - CYTOMEGALOVIRUS	7	23	0	0	0	2	2	2	9	1	46
1564	ROTAVIRUS	1	0	0	0	0	64	0	0	0	1	66
1599	ENTEROVIRUS TYPING PENDING	0	8	1	2	0	4	0	0	0	1	16
9901	ARBOVIRUS GROUP A.(UNSPECIFIED	0	0	0	0	0	0	0	0	0	2	2
9992	ROSS RIVER VIRUS	4	2	0	0	0	0	0	0	0	6	12
9995	DENGUE	1	0	0	0	0	0	0	0	0	1	2
TOTAL		173	341	11	13	3	118	85	5	13	432	1194

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2

PERIOD 7/12/89 TO 3/1/89

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	7	0	3	0	0	0	0	1	0	0	11
0101	ADENOVIRUS TYPE 1	0	0	0	0	0	0	0	0	1	0	1
0102	ADENOVIRUS TYPE 2	0	0	0	0	0	0	0	0	0	1	1
0103	ADENOVIRUS TYPE 3	6	0	0	0	0	0	0	3	1	0	10
0104	ADENOVIRUS TYPE 4	5	0	0	0	0	0	0	0	0	0	5
0105	ADENOVIRUS TYPE 5	0	0	0	0	0	0	0	2	0	0	2
0111	ADENOVIRUS TYPE 11	0	0	0	0	0	0	0	0	1	0	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	0	0	0	1	0	0	1
0201	INFLUENZA A VIRUS	0	0	0	0	1	0	1	1	1	0	4
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	0	0	0	0	0	0	0	1	0	1
0203	INFLUENZA B VIRUS	0	0	0	0	0	0	0	3	1	0	4
0303	PARAINFLUENZA VIRUS TYPE 3	1	0	1	0	0	0	0	0	0	0	2
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	0	0	1	0	0	0	0	0	0	1
0500	RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	0	0	1	1	2
0600	MYCOPLASMA PNEUMONIAE	0	0	1	0	2	0	1	2	5	0	11
0700	ORNITHOSIS-PSITTACOSIS	0	0	0	0	0	0	1	1	0	0	2
0903	COXSACKIEVIRUS B3	0	0	0	0	0	0	0	0	1	0	1
0904	COXSACKIEVIRUS B4	0	0	0	0	0	0	0	1	0	0	1
1003	ECHOVIRUS TYPE 3	0	0	0	0	0	0	0	0	0	2	2
1004	ECHOVIRUS TYPE 4	0	0	0	0	0	0	0	0	0	1	1
1102	POLIOVIRUS TYPE 2	0	0	0	0	0	1	0	0	0	0	1
1104	POLIOVIRUS - MIXED VACCINAL ST	0	0	0	0	0	0	0	0	0	1	1
1200	MUMPS VIRUS	0	0	0	0	0	0	0	1	0	0	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	4	0	0	0	0	0	0	0	0	4
1301	HERPES SIMPLEX VIRUS - NOT TYP	8	52	1	0	0	0	0	0	1	0	62
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	61	2	1	0	2	4	4	0	74
1306	HERPES SIMPLEX TYPE 1	5	37	1	0	0	0	0	1	4	0	48
1307	HERPES SIMPLEX TYPE 2	0	113	0	0	0	0	0	0	2	0	115
1401	COXIELLA BURNETII	0	0	0	0	0	0	1	5	2	0	8
1402	OTHER RICKETTSIAE	0	0	0	0	0	0	0	0	1	0	1
1502	PICORNIA VIRUS - NOT TYPED = E	0	0	0	0	0	0	0	1	1	0	2
1521	MEASLES VIRUS	0	0	1	0	0	0	0	1	0	0	2
1522	RUBELLA VIRUS	0	0	1	0	5	0	0	6	24	0	36
1532	HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	0	12	0	12
1541	CHLAMYDIA A - C. TRACHOMATIS	4	191	0	0	0	0	0	1	1	0	197
1556	CMV - CYTOMEGALOVIRUS	1	8	0	4	1	2	2	4	56	1	79
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	0	0	1	0	1
9901	ARBOVIRUS GROUP A.(UNSPECIFIED	0	0	0	0	3	0	0	1	2	0	6
9992	ROSS RIVER VIRUS	0	0	0	0	10	0	0	4	2	0	16
9995	DENGUE	0	0	0	0	0	0	0	1	2	0	3
9997	KUNJIN VIRUS	0	0	0	0	1	0	0	0	0	0	1
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	0	0	0	0	3	0	0	0	0	0	3
TOTAL		37	405	70	7	27	3	8	45	128	7	737

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Entries indicate Issue/Page number
* Includes editorial comment on the situation in Australia
** The topic is referred to either within the article or in the editorial comment to the article.