



Communicable Diseases Intelligence

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Dr Robert Hall

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

In this period (8 to 21 November 1990) there were 1389 reports processed.

Eleven reports of Q fever (1 female, 10 males) were received, including three meat workers (M/45yr, M/34yr, M/33yr) and one student (M/19yr). Ages of cases ranged from 15 to 49 years.

Two cases of dengue fever were reported (F/43yr from Sydney; M/71yr). No information was available concerning possible sources of infection.

Coxsackievirus A9 was isolated from: the CSF of a 1 month-old male; a throat swab from a 2 year-old female presenting with fitting; and a throat swab from a 25 year-old male with a respiratory infection.

Included in 30 reports of rubella were:

- isolation of rubella virus from a 1 month-old female;
- serological identification of rubella antibody (single high titre) in two 1 year-old deaf children;
- serological identification of IgM antibody in a 31 year old female who is 16 weeks pregnant.

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NON-VIRAL PATHOGEN REPORTS

Three positive blood culture reports have been received to date for November from the Toowoomba Pathology Laboratory. The following organisms were isolated:

- . *Escherichia coli* from 2 females, one aged 83 years with a concomitant *Proteus mirabilis* urinary tract infection and the other a 74 year-old post-cholecystectomy patient;
- . *Staphylococcus aureus* from a 37 year-old male with a history of infected lesions.

Four reports of meningitis were received (2 from the Queensland State Health Laboratory and one each from Dr Lynch's Rockhampton Pathology Laboratory and the Toowoomba Pathology Laboratory):

- . *Cryptococcus neoformans* was identified in the CSF of a female aged 44 years and a high serum titre was detected in a 6 year-old child from Papua New Guinea;
- . *Haemophilus influenzae* type B was identified in the CSF and blood of a 14 month old female;
- . *Neisseria meningitidis* was identified in the CSF and blood of a 5 month old male infant.

Further interesting reports include:

Aeromonas hydrophila isolated from the wound swabs of:

- . an 81 year-old female after wound debridement of the leg;
- . a 79 year-old female with an infected finger;
- . a 39 year-old male with a penetrating injury to the foot.

Eikenella corrodens was isolated from a peritoneal swab of a male aged 44 years with a perforated appendix.

Helicobacter pylori was isolated from a digestive tract biopsy of a 52 year-old female.

Pleisiomonas shigelloides was isolated from a wound swab of a 39 year-old male with a penetrating injury to the foot.

(The above six reports were received from Dr Lynch's Rockhampton Pathology Laboratory)

Actinomyces israelii was isolated from a lymph node biopsy of a 66 year-old male with a sub-mandibular abscess (Report from the Toowoomba Pathology Laboratory).

Twenty cases of *Bordetella pertussis* have been reported for October to date (18 from Dr Lynch's Rockhampton Pathology Laboratory and 2 from Toowoomba Pathology laboratory) this includes one infant aged 7 months, 8 children (aged 1-14 years) and 10 adults (aged 16-44 years) and one male patient aged 75 years.

Gastrointestinal Tract Infections

Sixty-three reports have been received in the last 4 weeks. Further details are shown in Table 1.

Table 1: Enteric pathogens reports received from 25/10/90 to 21/11/90

AGE	Aeromonas species	Campylobacter species (C.jejuni)	Crypto- sporidium species	Eschericia coli	Giardia lamblia	Salmonella species	Yersinia entero- colitica
1-12 months	1	2(2)	2	3	3	3	
1-4 years		4(1)		7	2	2	a
5-14 years		6(3)	1			2	b
15-24 years	1	3(2)				1	c
25-44 years	1	4(1)			2	1	
45-64 years		2(1)			2		1 d
65-74 years		2				2	
75+ years		1(1)					
Not stated				1			
TOTAL	3	25(11)	3	11	9	11	1

a Salmonella typhimurium from a 3 year old male and S Saint Paul from a 21 month old male.

b Includes S. Saint Paul from a 6 year old male.

c S. virchow from a 17 year old female.

d Y. enterocolitica biotype 4, serotype 03.

OVERSEAS BRIEFS1. GASTROENTERITIS IN TUVALU: REPORT FROM THE TUVALU GOVERNMENT

There were 796 cases of gastroenteritis reported during the month of October 1990. 3 related deaths were also reported. Cases of gastroenteritis were reported from each island in Tuvalu. From 1 to 15 November, 149 cases of gastroenteritis were reported.

COMMENT: There have also been numerous reports of cholera in the South West Pacific.

LEPROSY IN THE NORTHERN TERRITORY

(J C Hargrave, Northern Territory Department of Health and Community Services)

Data collection for leprosy has not been standardised in Australia so far. This poses some problems in presenting national statistics. It is appropriate that each state and territory should present minimal but essential data annually so that an epidemiological picture can be developed for the whole country. Efforts to establish a national database have proved impossible for a variety of reasons. One problem encountered was the need for confidentiality; another that some states were unwilling to contribute; and another that could arise is the insatiable demand of bureaucrats for unnecessary data. It is therefore proposed that only basic data should be collected and that it should be collated annually by the Department of Community Services and Health in Canberra. This brief account of the current status of leprosy in the Northern Territory forms the first of what is hoped will be a series of short articles from the other states on their own comparable data. Some definitions follow.

Prevalence:

For the purpose of control, the World Health Organization (WHO, 1988) categorises patients into:

Paucibacillary

Multibacillary

Their present treatment regimens on multidrug therapy (which could be altered in the near future) are as follows:

For **Paucibacillary** patients, treatment should be given for 6 months and patients should then be 'under surveillance' for a further 2 years after completing treatment.

For **Multibacillary** patients, treatment should be given for at least two years and patients should then be 'under surveillance' for a minimum of 5 years after completing treatment.

Obviously there is a need for clinical judgement, but these form the broad outlines of WHO policy.

For the purposes of standardisation in Australia, therefore, it is proposed that patients under treatment and those 'under surveillance' be grouped under the one heading and be regarded as 'active' or 'potentially active' and that the remainder be regarded as 'inactive'. Clearly, this does not mean that one loses sight of the inactive cases, but it does help to categorise them in this way.

The numbers of patients in each category should then be expressed as a rate per thousand population.

For the southern states, where leprosy is mainly limited to imported cases, the population data used should be that published by the Commonwealth Bureau of Statistics or by the appropriate state authority. For northern Australia, the position is somewhat different. In the Northern Territory at least, some 95% of all diagnoses between 1950 and 1970 were made in Aborigines or people of Aboriginal descent. Over the past decade this figure has fallen to approximately 88% but it is still more realistic to compare Aboriginal prevalence data outlined above with the Aboriginal population. However, since this may not apply to all areas of Australia, calculations that apply both to the Aboriginal population and to the total population (i.e. all ethnic groups) are shown below.

Case detection rate:

For general purposes, this can be broadly taken to be equivalent to the Incidence or the number of new cases diagnosed annually, expressed as a rate per thousand population. Again, comparisons may be made between special populations (e.g. Aboriginal) and the total population, providing that the data used is clearly defined.

Where incidence is low and fluctuates markedly from year to year, it is helpful also to examine 'sliding averages' calculated over 5-yearly periods. This said, probably the only other figures that might be useful to know would be the number of patients on treatment in any one year. However, it would be laborious to go back over past years to calculate how many people were on treatment at any one time and would, in my opinion, not be worth the effort involved. Annual data collection should include the following:

1. Number of Active cases (including those 'under surveillance').
2. Total number of cases (Active plus cured).
3. Number of new cases.
4. Population.
5. Comments re ethnic groups (if appropriate).

Leprosy in the NT 1970-1989

In those cases diagnosed in the years 1970 - 1989, including all

ethnic groups: For the southern states, where leprosy is mainly imported from the population data used should be that published by the Commonwealth Bureau of Statistics for Northern Territory. For Northern Territory, the position is somewhat different. The population data used should be that published by the Commonwealth Bureau of Statistics for Northern Territory.

Male/female ratio = 63:37

Paucibacillary / Multibacillary ratio = 75 : 25

Ethnic breakdown:

Aborigines.....	77.7%
Europeans.....	8.5%
Mixed race (Aboriginal descent).....	9.9%
Chinese & South East Asian.....	3.3%
Others.....	0.5%

Number of patients on treatment in 1990 = 190, many of whom could now cease treatment after review.

Table 1: Prevalence of leprosy in Northern Territory Aborigines

Rates per thousand population (actual case numbers in brackets)

YEAR	ACTIVE plus SURVEILLANCE	TOTAL	POPULATION
1980	1.31 (38)	23 (672)	29003
1981	0.74 (22)	22 (661)	29583
1982	0.63 (19)	22 (649)	30174
1983	0.58 (18)	21 (634)	30777
1984	0.51 (16)	20 (627)	31392
1985	0.50 (16)	19 (609)	32019
1986	0.55 (18)	18 (596)	32659
1987	0.66 (22)	17 (578)	33312
1988	0.59 (20)	17 (564)	33978
1989	0.72 (25)	16 (557)	34658

Table 2: Prevalence for all ethnic groups in the Northern Territory

Rates per thousand population (actual case numbers in brackets)

YEAR	ACTIVE plus SURVEILLANCE	TOTAL	POPULATION
1980	0.41 (48)	6.9 (803)	116200
1981	0.29 (35)	6.6 (799)	121200
1982	0.26 (33)	6.2 (786)	127300
1983	0.23 (30)	5.8 (770)	133000
1984	0.19 (26)	5.5 (764)	139300
1985	0.17 (25)	5.1 (743)	145300
1986	0.20 (30)	4.8 (732)	151900
1987	0.26 (41)	4.6 (713)	155800
1988	0.24 (37)	4.5 (698)	156700
1989	0.23 (36)	4.4 (686)	156400

Table 3: Incidence (case detection rate) in N.T. Aborigines

YEAR	RATE/1000 (Nos. in brackets)	POPULATION
1980	0.21 (6)	29003
1981	0.34 (10)	29583
1982	0.13 (4)	30174
1983	0.06 (2)	30777
1984	0.06 (2)	31392
1985	0.25 (8)	32019
1986	0.15 (5)	32659
1987	0.12 (4)	33312
1988	0.15 (5)	33978
1989	0.14 (5)	34658

Table 4: Incidence (case detection rate) - all N.T. ethnic groups

<u>YEAR</u>	<u>RATE/1000 (Nos. in brackets)</u>	<u>POPULATION</u>
1980	0.07 (8)	116200
1981	0.14 (17)	121200
1982	0.06 (8)	127300
1983	0.02 (2)	133000
1984	0.03 (4)	139300
1985	0.06 (8)	145300
1986	0.05 (8)	151900
1987	0.04 (7)	155800
1988	0.03 (5)	156700
1989	0.04 (7)	156400

INCIDENCE / CASE DETECTION RATE - N.T. ABORIGINES

SLIDING AVERAGES - (calculated over 5 years)

1976 - 1980 = 0.38	1981 - 1985 = 0.17
1977 - 1981 = 0.42	1982 - 1986 = 0.13
1978 - 1982 = 0.35	1983 - 1987 = 0.13
1979 - 1983 = 0.26	1984 - 1988 = 0.14
1980 - 1984 = 0.16	1985 - 1989 = 0.16

REFERENCE

1. World Health Organization, (1988): A Guide to Leprosy Control, Second Edition, page 27; WHO, Geneva.

LISTERIA OUTBREAK IN WESTERN AUSTRALIA

Contributed by:

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An outbreak of listeriosis in pregnant women has occurred in Western Australia this year. Up until the end of September 1990, 10 cases have been identified in pregnant women attending the King Edward Memorial Hospital for women. Among the 11 fetuses or infants affected there were 6 stillbirths or mid-trimester miscarriages with a case-fatality rate of 55%. Listeriosis is not currently a notifiable disease in Western Australia but the number of known cases for 1989 was 16, of which 6 were in pregnant women with a case-fatality rate of 50% in the infected fetuses. This compares with a total of 15 recorded cases in the years 1985-1988, of which 6 were in pregnant women.

There is strong circumstantial evidence for a food-borne origin of this infection. *Listeria monocytogenes* was isolated from cooked diced chicken and a number of processed meats in Western Australia between July and September of this year. As well as the chicken, pate, pastrami and salami were found to be contaminated with *L. monocytogenes*.

One of the pregnant women who was infected with *L. monocytogenes* and who subsequently had a stillbirth had eaten a certain brand of pate in the two weeks prior to delivery of a stillborn child. A sample of this pate from the patient's refrigerator grew *L. monocytogenes* and this brand of pate had also been shown to be contaminated with Listeria on routine health surveillance.

We also have informal evidence that at least two other pregnant women with listeriosis had eaten the brand of pate which was known to be contaminated with Listeria. The contaminated pate and pastrami from the one manufacturer were withdrawn from sale.

Because of the strong circumstantial evidence of a food-borne cause of the outbreak and because of understandable community concern, the Health Department of Western Australia has taken a number of further steps aimed at preventing a recurrence of the outbreak:

- . Listeriosis will be made a notifiable infectious disease in Western Australia.
- . Stillbirths and neonatal deaths in the first week of life will be examined for *L. monocytogenes* infection.
- . DNA typing of Listeria will be undertaken to determine if the strain of organism responsible for the cases in pregnant women is the same as the strain which has been found as a food contaminant.
- . Continued and expanded monitoring of the presence of Listeria in processed meats and other foods at both the manufacturing and retailing level has been undertaken as part of the Western Australian Food Monitoring Programme. Preliminary results from this monitoring indicate that Listeria contamination of processed meat products is not confined to one manufacturer.
- . A brochure giving information about the risk of listeria infection to pregnant women has been produced and made available to the public.
- . A single page bulletin containing information about listeriosis and advice about appropriate counselling has been widely circulated to medical practitioners and other health professionals.

Of these, the most significant action has been to alert the public in general and pregnant women in particular to the danger of eating possibly contaminated food and to advise pregnant women to restrict their diet to freshly prepared foods as far as possible.

When an outbreak of food-borne listeriosis associated with commercially prepared coleslaw was documented in the maritime provinces of Canada in 1981 (1) the relevant health authorities felt it was not yet time to recommend changes in dietary habits for pregnant women. However up until the beginning of 1990 there have been at least six other documented outbreaks of food-borne listeriosis around the world (2) and the Health Department of Western Australia feels it is now time that such recommendations are made. There has been no adverse public reaction to these recommendations.

Up until mid November there have been no further reports of listeriosis in Western Australia, which may imply that the measures taken so far have been successful.

Food-borne listeriosis is likely to become a more important disease as changes in dietary fashions and the move to convenient, processed foods continue.

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MANAGEMENT GUIDELINES

Listeria monocytogenes is a common gram-positive bacillus which is present in many raw vegetables and in processed foods such as soft cheeses, pate and meat products. The organism may proliferate in situations where processed foods are not adequately refrigerated or where other hygiene provisions are not attended to. Large doses of *Listeria* may cause significant infection and illness.

Healthy adults are not normally susceptible to *Listeria* infection but the old, neonates, and the immunocompromised may develop meningocencephalitis and/or septicemia.

In healthy adults (including pregnant women) *Listeria* infection will usually be asymptomatic or will cause a minor illness with a mild fever, headache, and aches and pains. Diagnosis is difficult because it is similar to many others acute febrile illnesses. However, staff at King Edward Memorial Hospital have found that in cases where a baby was infected, the pregnant mother suffered a significant febrile illness. Pregnant women with a severe febrile illness indicative of listeriosis may have to be treated with antibiotics on the basis of suspicion.

The incubation period for listeriosis is not accurately known but probably ranges between two days and three weeks.

Infection of the fetus or neonate

Infection of the fetus occurs about three days after maternal infection and may result in fetal death and abortion. The baby may be stillborn and in other cases a neonate may develop septicaemia or meningitis. The case fatality rate in neonates is 30% to 50%.

Laboratory Diagnosis

The organism can be identified in blood, CSF, meconium, lochia, gastric washings and from other sites of infection. Precise identification of the organism is difficult and can not be used for routine screening.

A firm diagnosis of listeriosis will usually only be possible in cases of septicemia or other obvious cases of infection.

Treatment

Antibiotic treatment is usually successful. Amoxycillin is the preferred method of treatment pregnant women. In cases where infection is demonstrated or strongly suspected, oral amoxycillin should be given in a dosage of 1 g 8 hourly for ten to fourteen days.

Advice to patients

Patients should be told that *Listeria* infection is extremely common and usually asymptomatic. Accurate clinical diagnosis is impossible in most cases in healthy adults. Experience at KEMH indicates that the baby is at risk only in cases in which the pregnant woman has a significant febrile illness. Minor illnesses in pregnancy do not warrant speculative treatment with antibiotics.

Listeria infection causes abortion in farm animals, so it is important that pregnant women avoid contact with aborted animal fetuses on farms or in veterinary clinics.

BACTERIAL MENINGITIS - CHILDREN'S HOSPITAL CAMPERDOWN, NSW

(reproduced with acknowledgement from Monthly Infectious Diseases Report, July 1990. editor D Isaacs.)

The following review of bacterial meningitis at RAHC is based on the records of bacterial isolates from CSF maintained by Dr Dorman since 1965.

(a) Neonatal Meningitis

Until the mid-1970's *Escherichia coli* was the organism most commonly isolated from babies with neonatal bacterial meningitis. However group B streptococcus is now the organism most commonly isolated (Table 1). A similar trend has been seen in the United States [1] and the United Kingdom.

Table 1: Neonatal bacterial meningitis (positive CFS culture) RAHC 1965-1990

	1965-74	1975-84	1985-90
<i>Escherichia coli</i>	28 (35%)	12 (27%)	1 (7%)
Group B Streptococci	12 (15%)	17 (38%)	7 (50%)
<i>S. pneumoniae</i>	2 (3%)	2 (4%)	- -
<i>N. meningitidis</i>	1 (1%)	2 (4%)	- -
<i>H. influenzae</i>	- -	1 (2%)	- -
Misc (mainly Gram negative bacilli)	37 (46%)	11 (24%)	6 (43%)
Totals	80	45	14

Group B streptococcus, *E. coli* and other Gram negative bacilli are the organisms most commonly isolated. However, *H. influenzae*, *S. pneumoniae* and *N. meningitidis* are occasional causes of neonatal meningitis (Table 2). The incidence of bacterial meningitis is higher in the neonatal period than at any other period in life, remembering that the "neonatal period" is only one month long and the number of cases needs to be multiplied by 12 to compare with figures from, say 1-2 years (Table 2). The falling number of cases of laboratory-diagnosed neonatal meningitis probably reflects changing referral patterns (Table 1).

(b) Post neonatal meningitis

In children over the age of 1 month *H. influenzae*, usually type b, is the predominant cause of bacterial meningitis. The maximum incidence of *H. influenzae* type b meningitis is in the first two years of life, with 68% of culture - positive cases seen at RAHC from 1965-85 occurring by age 24 months (Table 2).

Table 2: Bacterial meningitis (positive culture from CSF) by age RAHC 1965-1985

	<1m	<12m	1-2y	2-3y	3-4y	4-5y	5-6y	>6y	TOTAL	%
<i>H. influenzae</i>	1	195	158	77	47	18	11	12	519	47
<i>S. pneumoniae</i>	4	92	42	15	11	5	8	21	198	18
<i>N. meningitidis</i>	3	91	44	15	12	5	2	22	194	18
<i>Escherichia coli</i>	40	17	1	-	-	-	-	-	58	5
Group B <i>streptococci</i>	29	8	-	-	-	-	-	-	37	3
<i>M. tuberculosis</i>	-	2	4	2	-	-	1	5	14	1
Miscellaneous	48	25	1	-	-	-	-	5	79	7
TOTAL	125	430	250	109	70	28	22	65	1099	
	11%	39%	23%	10%	6%	3%	22%	6%		

These figures are consistent with other reports of the epidemiology of *H. influenzae* type b (Hib) meningitis in Australia, the USA and the UK [2-4]. Most cases of Hib meningitis are thought to occur under 2 years, because children under this age make a relatively poor antibody response to the type b capsular polysaccharide. Nevertheless, cases of Hib meningitis continue to occur up to the age of 5 years, and sometimes in older children and young adults (Table 2). Over the age of 6 years pneumococci and meningococci are the most likely causes of bacterial meningitis.

To see if there has been any significant variation in the pattern of organisms causing bacterial meningitis, we compared the periods 1965-85 and 1986-90 (See Table 3).

Table 3: Post-neonatal bacterial meningitis (positive CSF culture)
RAHC 1965-1990

	1965-85	1986-90
<i>H. influenzae</i>	518 (53%)	58 (60%)
<i>S. pneumoniae</i>	194 (20%)	22 (23%)
<i>N. meningitidis</i>	191 (20%)	14 (15%)
<i>Escherichia coli</i>	18 (2%)	
<i>Group B Streptococcus</i>	8 (1%)	
<i>Miscellaneous</i>	33 (3%)	2 (2%)
<i>M. tuberculosis</i>	12 (1%)	
	974	96

There has been no major change in the proportions of organisms over the two periods. Tuberculous meningitis has not been diagnosed in the last 5 years. However, there has been a steady decline in the annual number of cases of bacterial meningitis since 1975 (Table 4). This might have been due to an increasing number of cases referred from other hospitals with cultures performed at the referring hospital (in which case they would not appear in our figures which are based only on positive CSF cultures at RAHC). We, therefore, examined the hospital discharge diagnoses of bacterial meningitis which were available from 1983 and these reveal a similar but less marked decline (Table 4).

Table 4: Post-neonatal bacterial meningitis (positive CSF culture) by year RAHC 1975-1989 (excluding shunt infections)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<i>H. influenzae</i>	25	24	19	30	26	18	27	25	25	16	14	20	11	14	9
<i>S. pneumococcus</i>	8	6	11	8	6	18	7	7	8	4	1	9	5	6	2
<i>N. meningococcus</i>	8	3	6	5	11	9	5	2	5	2	6	2	-	3	8
<i>E. coli</i>	1	1	1	-	3	1	2	1	-	-	1	-	-	-	-
Other	-	2	4	3	3	3	-	-	-	1	-	-	1	1	-
TOTAL	42	36	41	46	49	49	41	35	38	23	22	31	17	24	19
Numbers of children with discharge diagnosis of bacterial meningitis									55	31	38	46	39	45	32

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AUSTRALIAN HIV SURVEILLANCE REPORT: 13 JULY 1990

The following tables have been taken from the Australian HIV Surveillance Report Volume 6, Supplement 2 (October 1990). The full 19 page report contains considerably more information, including two special reports: one from Western Australia on the stage of presentation of people with AIDS, the other on HIV antibody testing in the ACT.

Copies of the full report are freely available by writing to:

The Editor
Australian HIV Surveillance Report
National Centre in HIV Epidemiology and Clinical Research
376 Victoria Street
DARLINGHURST NSW 2010

Age at diagnosis of AIDS and death following AIDS

The age distribution of AIDS cases and deaths following AIDS is given in Table 1. Recent cases in females appear to be concentrated in the age group 20-39, in contrast to the more even spread across age groups in earlier female cases.

Table 1: Cases of AIDS and deaths following AIDS by sex and age group, cumulative to 30 September 1990, and for two previous yearly intervals.

Cases

AGE GROUP (YEARS)	1 OCT 88-30 SEP 89		1 OCT 88-30 SEP 89		CUMULATIVE TO 30 SEP 90			%
	Male	Female	Male	Female	Male	Female	Total	
0-12	2	1	3	0	15	3	18	0.9
13-19	2	1	5	0	11	3	14	0.7
20-29	106	6	82	2	403	18	421	20.2
30-39	230	2	157	4	862	10	872	41.9
40-49	139	1	122	1	523	7	530	25.5
50-59	46	1	37	2	165	11	176	8.5
60+	13	1	5	0	39	11	50	2.4
Total	538	13	411	9	2018	63	2081	100

Deaths (1.)

0-12	0	0	2	1	10	2	12	0.9
13-19	0	0	2	1	3	2	5	0.4
20-29	42	2	53	2	188	6	194	15.3
30-39	131	2	172	1	528	4	532	41.9
40-49	89	1	111	0	344	5	349	27.5
50-59	32	2	43	2	125	10	135	10.6
60+	12	1	3	0	33	10	43	3.4
Total	306	8	386	7	1231	39	1270	100

1. Deaths are classified by age at death.

Exposure category of AIDS cases and deaths following AIDS.

Table 2: Cases of AIDS by sex and exposure category, cumulative to 30 September 1990, and for two previous intervals of diagnosis

Adults/adolescents (13 years and older at diagnosis of AIDS)

Exposure Category	1 OCT 88- 30 SEP 89		1 OCT 88- 30 SEP 89		CUMULATIVE TO 30 SEP 90		Total	%
	Male	Female	Male	Female	Male	Female		
Male homosexual/ bisexual contact	481	-	361	-	1811	-	1811	87.0
Male homosexual/ bisexual contact and IV drug use	19	-	10	-	56	-	56	2.7
IV drug use (female and heterosexual male)	7	6	5	4	19	13	32	1.5
Heterosexual contact:	1	3	0	1	5	12	17	0.8
Sex with IV drug user	0	0	0	0	0	1	1	
Sex with bisexual male	-	1	-	0	-	5	5	-
From Pattern-II country	1	1	0	0	3	3	6	-
Sex with person from Pattern-II country	0	0	0	0	2	0	2	-
Sex with transfusion recipient	0	1	0	0	0	1	1	-
Sex with HIV-infected person of unknown exposure category	0	0	0	1	0	2	2	-
Haemophilia/ coagulation disorder	6	0	8	0	29	0	29	1.4
Receipt of blood transfusion, blood components, or tissue	6	2	5	3	32	30	62	3.0
Other/undetermined	16	1	19	1	51	5	56	2.7
Total Adults/ adolescents	536	12	408	9	2003	60	2063	99.1

Children (under 13 years at diagnosis of AIDS)

Exposure Category	1 OCT 88- 30 SEP 89		1 OCT 88- 30 SEP 89		CUMULATIVE TO 30 SEP 90		Total	%
	Male	Female	Male	Female	Male	Female		
Mother with/at risk for HIV infection	1	1	1	0	2	2	4	0.2
Haemophilia/ coagulation disorder	0	0	2	0	4	0	4	0.2
Receipt of blood transfusion, blood components, or tissue	1	0	0	0	9	1	10	0.5
Total Children	2	1	3	0	15	3	18	0.9
TOTAL	538	13	411	9	2018	63	2081	100

SALMONELLA CHOLERAESUIS VAR. KUNZENDORF AUSTRALIA A NEW BIOSEROVAR ISOLATED FROM HUMANS AND GOATS' MILK IN WESTERN AUSTRALIA

(J.B. Iveson, V. Wymer, E.M. Kittson, R.B. Curtis, R. Mogyorosy Public Health and Enteric Diseases Unit State Health Laboratories, Perth, Western Australia)

A new bioserovar of *Salmonella* possessing the 6,7:c:1,5 antigenic factors and classified *Salmonella choleraesuis* var Kunzendorf Australia has been isolated from humans, goat milk and dairy processing equipment. The new bioserovar was isolated from 3 children, 1 infant and 2 adults who had consumed raw goat milk retailed to the public and from 3 adults employed in the processing of milk at the farm implicated in the outbreak. The new bioserovar was also isolated from 3 persons who had not consumed goats' milk.

The majority of persons associated with the outbreak presented with symptoms of mild diarrhoea (although 1 person was hospitalised) and 2 persons employed in the processing and distribution of frozen and chilled goats' milk suffered protracted symptoms of diarrhoea. Investigation of family contacts and 4 other persons employed at the producer farm revealed no further cases.

Criteria for sampling goats milk and dairy processing equipment conformed in general to the Hazard Analysis Critical Control Point system recommendations (HACCP). Faeces samples were examined by direct plate culture (xylose lysine desocycholate agar (XLD) and desoxycholate citrate agar (DCA)) and enrichment in strontium chloride (SC) broth incubated at 43°C (IVESON 1973). Milk samples were pre-enriched in buffered peptone water and then inoculated into S.C. broth incubated at 43°C for 24 hours. Subcultures were made on Bismuth Sulphate Agar (BSA) and DCA. Suspect colonies were identified by routine procedures for Salmonella, and bioserovars typed utilising dulcitol, mucate, arabinose, trehalose and H₂S reactions. Further identification of the new bioserovar was performed by Prof. L. Le Minor at the National Salmonella Centre, Institute Pasteur, Paris, France.

Salmonella choleraesuis var Kunzendorf Australia was isolated from 37 (19%) samples of frozen goat milk and 1 L (25%) sample of fresh chilled milk produced and sampled at the farm. the new bioserovar was also isolated from a residual sample of goat milk collected from the residence of the index case.

Sampling at the processing plant and producer farm resulted in the isolation of the causative strain from a sponge used to flush the interior of the milk supply line and also a water condenser attached to the supply line between the milking machine and milk storage tank. no salmonella was isolated from milk samples collected separately by hand milking of individual goats or from rectal swabs from all males, females and goat kids located at the dairy farm. serovar muenchen was isolated from feed pellets supplied to goats.

Serovars of Salmonella with the antigenic formula 6,7:c:1,5 are classified as distinct bioserovars within a single serovar (Le Minor et al 1985). This new bioserovar was identified by biochemical reactions, and agglutination with absorbed anti H:C serum. In these organisms the serological specificity was the same as *S. choleraesuis* var Kunzendorf in that it gave agglutination with anti H:c absorbed with *S. paratyphi* C and *S. choleraesuis* but not *S. choleraesuis* var Kunzendorf, however the biochemical reactions were different from those normally encountered. Differentiation of these strains is of significance to both clinicians and public health authorities as the bioserovars include the invasive pathogens *S. paratyphi* C, *choleraesuis*, *choleraesuis* var Kunzendorf and the gastroenteric serovar *choleraesuis* var Decatur, however the biochemical reactions were different from those normally encountered. The new bioserovar is a previously unknown biochemically aberrant strain which does not ferment dulcitol, produces H₂S and is mucate positive.

Prior to the outbreak and identification of the new bioserovar, non-human isolations of *Salmonella decatur* (old serotype classification) were not differentiated using dulcitol fermentation, and it is possible that the new bioserovar had been isolated previously. Laboratory records for example indicate that *S. decatur* had been isolated occasionally from humans in Western

Australia, and from non-human sources comprising natural waters, sewerage effluent, lizards, snakes, frogs, marsupials, wild birds, flies, feral pigs and foxes. Epidemiological investigations did not implicate the goat herd as the source of milk contamination and the mode of entry of the salmonella bioserovar into the milk and the dairy processing equipment was not established.

Since the outbreak *Salmonella choleraesuis* var Kunzendorf Australia has been isolated from six persons comprising 5 infants and 1 adult who had not consumed goats milk and from non-human sources comprising natural waters and meat process effluent. No further isolations have been recorded from goats' milk.

In recent years, increases in the consumption of raw goats' milk has been a source of concern to health authorities and in a survey of goats' milk produced in New South Wales (Jensen & Hughes 1980) *Salmonella eimsbuettel* (old classification), *B. cereus*, *S. aureus*, *Y. enterocolitica* and high bacterial counts were detected.

The study indicated that the findings represented a hazard to public health and recommended aseptic packaging, regular microbiological testing and the introduction of pasteurisation.

REFERENCES

1. Iveson J.B. (1973). Enrichment procedures for the isolation of *Salmonella*, *Arizona* and *Edwardsiella* from Faeces. *Journal of Hygiene* 71, 349.
2. Jensen, N. & Hughes, D. (1980). Public Health aspects of raw goats' milk produced throughout New South Wales. *Food Technology in Australia* 32, 336.
3. Le Minor, L., Beaud, R., Laurent, B., and Monteil V. (1985). A study of *Salmonella* possessing the 6.7:c:1,5 antigenic factors. *Annals de L'Institut Pasteur Microbiologie (Paris)*. 136B, 225.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 08/11/90 TO 21/11/90

CODE 018 - MICROBIOLOGICAL DIAGNOSTIC UNIT, UNIVERSITY OF MELBOURNE (VIC)
 CODE 019 - FAIRFIELD HOSPITAL, MELBOURNE (VIC)
 CODE 065 - STATE HEALTH LABORATORY SERVICES, PERTH (WA)
 CODE 066 - PRINCESS MARGARET HOSPITAL, PERTH (WA)
 CODE 110 - INSTITUTE OF MEDICAL & VETERINARY SCIENCE, ADELAIDE (SA)
 CODE 111 - ROYAL CHILDRENS HOSPITAL, MELBOURNE (VIC)
 CODE 112 - INSTITUTE OF CLINICAL PATHOLOGY & MEDICAL RESEARCH, WESTMEAD (NSW)
 CODE 113 - PRINCE HENRY/PRINCE OF WALES HOSPITALS, SYDNEY (NSW)
 CODE 114 - ROYAL ALEXANDRA HOSPITAL FOR CHILDREN, CAMPERDOWN (NSW)
 CODE 115 - STATE HEALTH LABORATORY, BRISBANE (QLD)
 CODE 116 - WODEN VALLEY HOSPITAL, GARRAH (ACT)
 CODE 400 - DR TB LYNCH, PATHOLOGIST, ROCKHAMPTON (QLD)
 CODE TPL - TOOWOOMBA PATHOLOGY LABORATORY (QLD)

	018	019	065	066	110	111	112	113	114	115	116	400	TPL	TOTAL
0100 ADENOVIRUS NOT TYPED	0	0	3	4	1	1	1	0	0	6	1	0	1	18
0101 ADENOVIRUS TYPE 1	0	7	0	0	0	0	0	0	0	0	0	0	0	7
0102 ADENOVIRUS TYPE 2	0	3	0	0	0	0	2	0	0	0	0	0	0	5
0104 ADENOVIRUS TYPE 4	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0105 ADENOVIRUS TYPE 5	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0108 ADENOVIRUS TYPE 8	0	1	0	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	0	1
0130 ADENOVIRUS TYPE 30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0144 ADENOVIRUS TYPE 44	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	0	0	0	0	0	6	0	7	0	0	0	0	0	13
0201 INFLUENZA A VIRUS	0	3	0	0	0	0	15	0	0	4	0	4	0	26
0203 INFLUENZA B VIRUS	0	1	0	0	0	0	1	0	0	0	0	0	0	2
0301 PARAINFLUENZA VIRUS TYPE 1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0303 PARAINFLUENZA VIRUS TYPE 3	0	1	0	0	0	5	3	1	0	0	0	0	0	10
0400 RESPIRATORY SYNCYTIAL VIRUS (R	0	3	0	2	7	3	2	0	0	0	1	0	0	18
0500 RHINOVIRUS (ALL TYPES)	0	2	0	0	0	8	3	0	3	3	1	0	0	20
0600 MYCOPLASMA PNEUMONIAE	0	3	0	0	0	0	1	0	0	3	1	2	0	10
0700 ORNITHOSIS-PSITTACOSIS	0	0	0	0	2	0	3	0	0	1	1	1	0	8
0809 COXSACKIEVIRUS A9	0	0	0	0	0	0	0	0	0	0	3	0	0	3
0816 COXSACKIEVIRUS A16	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0902 COXSACKIEVIRUS B2	0	1	0	0	0	0	1	0	0	0	0	0	0	2
0903 COXSACKIEVIRUS B3	0	0	0	0	2	0	0	0	0	0	0	0	0	2
0905 COXSACKIEVIRUS B5	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1002 ECHOVIRUS TYPE 2	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1011 ECHOVIRUS TYPE 11	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1022 ECHOVIRUS TYPE 22	0	0	0	0	0	0	0	1	2	0	0	0	0	3
1032 ECHOVIRUS TYPE 32	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1100 POLIOVIRUS NOT TYPED	0	0	0	0	0	0	0	2	0	0	0	0	0	2
1101 POLIOVIRUS TYPE 1	0	2	0	0	1	0	1	0	1	0	0	0	0	5
1102 POLIOVIRUS TYPE 2	0	1	0	0	1	0	0	0	0	0	0	0	0	2
1103 POLIOVIRUS TYPE 3	0	0	0	0	0	0	3	0	0	0	0	0	0	3
1300 HERPES VIRUS GROUP - NOT TYPED	0	1	0	0	0	0	0	0	0	0	12	3	0	16
1301 HERPES SIMPLEX VIRUS - NOT TYP	0	0	0	5	0	0	24	0	2	6	0	1	0	38
1302 H. STEIN-BARR VIRUS (EB VIRUS)	0	4	7	0	15	0	59	0	2	9	0	45	0	141
1303 VARICELLA-ZOSTER VIRUS	0	2	4	0	2	0	3	0	0	3	0	1	0	15
1306 HERPES SIMPLEX TYPE 1	0	55	35	0	7	0	4	8	0	30	0	0	0	139
1307 HERPES SIMPLEX TYPE 2	0	36	60	0	11	0	27	11	0	30	0	0	0	175
1399 HERPES VIRUS TYPING PENDING	0	0	0	0	0	2	0	0	0	0	0	0	0	2
1401 COXIELLA BURNETII	0	0	0	0	0	0	1	0	0	10	0	0	0	11
1502 PICORNIA VIRUS - NOT TYPED = E	0	0	0	0	0	0	4	0	0	7	0	0	0	11
1514 MOLLUSCUM CONTAGIOSUM	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1521 MEASLES VIRUS	0	3	0	0	0	6	1	0	0	0	1	0	0	11
1522 RUBELLA VIRUS	0	5	2	0	2	0	16	0	2	2	0	1	0	30
1532 HEPATITIS B ANTIGEN	0	17	29	0	9	0	20	5	0	37	5	4	0	126
1534 HEPATITIS B ANTIGEN AND ANTIBO	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1535 HEPATITIS A ANTIBODY	0	0	3	0	5	0	0	0	0	0	0	0	0	8
1536 HEPATITIS C VIRUS	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1541 CHLAMYDIA A - C. TRACHOMATIS	16	0	30	0	24	0	11	0	0	32	4	0	6	123
1543 CHLAMYDIA A - LGV TYPE	0	0	0	0	0	0	0	0	0	0	0	10	0	10
1556 CMV - CYTOMEGALOVIRUS	0	38	1	3	1	6	32	2	1	24	0	20	0	128
1563 CORONAVIRUS	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1564 ROTAVIRUS	0	2	0	4	38	12	30	10	4	0	0	55	18	173
1565 CALICI VIRUS	0	0	0	0	0	0	3	0	0	0	0	0	0	3
1599 ENTEROVIRUS TYPING PENDING	0	0	0	0	0	4	0	9	6	0	0	0	0	19
9992 ROSS RIVER VIRUS	0	0	0	0	0	0	14	0	0	8	0	2	0	24
9993 ASTROVIRUS	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9994 SMALL VIRUS (LIKE) PARTICLE	0	3	0	0	0	0	1	0	1	0	0	0	0	5
9995 DENGUE	0	0	0	0	0	0	1	0	0	1	0	0	0	2
9998 ARBOVIRUS GROUP B.(UNSPECIFIED	0	1	0	0	0	0	1	0	0	0	0	0	0	2
TOTAL	16	200	174	18	131	53	294	56	24	216	30	152	25	1389

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 06/11/90 TO 21/11/90

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; DR TB LYNCH, PATHOLOGIST, ROCKHAMPTON.
 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	1	1	7	7	1	1	18
0101 ADENOVIRUS TYPE 1	0	7	0	0	0	0	7
0102 ADENOVIRUS TYPE 2	2	3	0	0	0	0	5
0104 ADENOVIRUS TYPE 4	0	1	0	0	0	0	1
0105 ADENOVIRUS TYPE 5	1	0	0	0	0	0	1
0108 ADENOVIRUS TYPE 8	0	1	0	0	0	0	1
0111 ADENOVIRUS TYPE 11	1	0	0	0	0	0	1
0130 ADENOVIRUS TYPE 30	0	1	0	0	0	0	1
0144 ADENOVIRUS TYPE 44	0	1	0	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	7	6	0	0	0	0	13
0201 INFLUENZA A VIRUS	15	3	8	0	0	0	26
0203 INFLUENZA B VIRUS	1	1	0	0	0	0	2
0301 PARAINFLUENZA VIRUS TYPE 1	1	0	0	0	0	0	1
0303 PARAINFLUENZA VIRUS TYPE 3	4	6	0	0	0	0	10
0400 RESPIRATORY SYNCYTIAL VIRUS (R	2	6	0	2	7	1	18
0500 RHINOVIRUS (ALL TYPES)	6	10	3	0	0	1	20
0600 MYCOPLASMA PNEUMONIAE	1	3	5	0	0	1	10
0700 ORNITHOSIS-PSITTACOSIS	3	0	2	0	2	1	8
0809 COXSACKIEVIRUS A9	0	0	0	0	0	3	3
0816 COXSACKIEVIRUS A16	1	0	0	0	0	0	1
0902 COXSACKIEVIRUS B2	1	1	0	0	0	0	2
0903 COXSACKIEVIRUS B3	0	0	0	0	2	0	2
0905 COXSACKIEVIRUS B5	1	0	0	0	0	0	1
1002 ECHOVIRUS TYPE 2	0	0	0	0	1	0	1
1011 ECHOVIRUS TYPE 11	0	0	0	0	1	0	1
1022 ECHOVIRUS TYPE 22	3	0	0	0	0	0	3
1032 ECHOVIRUS TYPE 32	0	1	0	0	0	0	1
1100 POLIOVIRUS NOT TYPED	2	0	0	0	0	0	2
1101 POLIOVIRUS TYPE 1	2	2	0	0	1	0	5
1102 POLIOVIRUS TYPE 2	0	1	0	0	1	0	2
1103 POLIOVIRUS TYPE 3	3	0	0	0	0	0	3
1300 HERPES VIRUS GROUP - NOT TYPED	0	1	3	0	0	12	16
1301 HERPES SIMPLEX VIRUS - NOT TYP	26	0	7	5	0	0	38
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	61	4	54	7	15	0	141
1303 VARICELLA-ZOSTER VIRUS	3	2	4	4	2	0	15
1306 HERPES SIMPLEX TYPE 1	12	55	30	35	7	0	139
1307 HERPES SIMPLEX TYPE 2	38	36	30	60	11	0	175
1399 HERPES VIRUS TYPING PENDING	0	2	0	0	0	0	2
1401 COXIELLA BURNETII	1	0	10	0	0	0	11
1502 PICORNIA VIRUS - NOT TYPED = E	4	0	7	0	0	0	11
1514 MOLLUSCUM CONTAGIOSUM	0	0	2	0	0	0	2
1521 MEASLES VIRUS	1	9	0	0	0	1	11
1522 RUBELLA VIRUS	18	5	3	2	2	0	30
1532 HEPATITIS B ANTIGEN	25	17	41	29	9	5	126
1534 HEPATITIS B ANTIGEN AND ANTIBO	0	0	0	0	1	0	1
1535 HEPATITIS A ANTIBODY	0	0	0	3	5	0	8
1536 HEPATITIS C VIRUS	0	0	1	0	0	0	1
1541 CHLAMYDIA A - C. TRACHOMATIS	11	16	38	30	24	4	123
1543 CHLAMYDIA A - LGV TYPE	0	0	10	0	0	0	10
1556 CMV - CYTOMEGALOVIRUS	35	44	44	4	1	0	128
1563 CORONAVIRUS	0	1	0	0	0	0	1
1564 ROTAVIRUS	44	14	73	4	38	0	173
1565 CALICI VIRUS	3	0	0	0	0	0	3
1599 ENTEROVIRUS TYPING PENDING	15	4	0	0	0	0	19
9992 ROSS RIVER VIRUS	14	0	10	0	0	0	24
9993 ASTROVIRUS	1	0	0	0	0	0	1
9994 SMALL VIRUS (LIKE) PARTICLE	2	3	0	0	0	0	5
9995 DENGUE	1	0	1	0	0	0	2
9998 ARBOVIRUS GROUP B.(UNSPECIFIED	1	1	0	0	0	0	2
TOTAL	374	269	393	192	131	30	1389

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

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1

PERIOD 08/11/90 TO 21/11/90

- 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	6	0	0	0	5	0	0	0	0	12
0101 ADENOVIRUS TYPE 1	0	4	0	0	0	0	0	0	0	0	4
0102 ADENOVIRUS TYPE 2	1	3	0	0	0	0	0	0	0	0	4
0104 ADENOVIRUS TYPE 4	0	1	0	0	0	0	0	0	0	0	1
0105 ADENOVIRUS TYPE 5	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	1
0144 ADENOVIRUS TYPE 44	0	0	0	0	0	1	0	0	0	0	1
0199 ADENOVIRUS TYFING PENDING	0	8	0	0	0	4	0	0	0	0	12
0201 INFLUENZA A VIRUS	2	16	0	1	0	0	0	0	0	1	20
0203 INFLUENZA B VIRUS	0	1	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	9	0	0	0	0	0	0	0	0	9
0400 RESPIRATORY SYNCYTIAL VIRUS (R	1	16	0	0	0	0	0	0	0	0	17
0500 RHINOVIRUS (ALL TYPES)	2	15	0	0	0	0	0	0	0	0	17
0600 MYCOPLASMA PNEUMONIAE	3	4	0	0	0	0	0	0	0	0	7
0700 ORNITHOSIS-PSITTACOSIS	1	4	0	0	0	1	0	0	0	0	6
0809 COXSACKIEVIRUS A9	0	1	0	1	0	0	0	0	0	0	2
0816 COXSACKIEVIRUS A16	0	0	0	0	0	0	0	0	0	1	1
0902 COXSACKIEVIRUS B2	0	1	0	0	1	0	0	0	0	0	2
0903 COXSACKIEVIRUS B3	0	2	0	0	0	0	0	0	0	0	2
0905 COXSACKIEVIRUS B5	0	0	0	0	1	0	0	0	0	0	1
1011 ECHOVIRUS TYPE 11	0	0	0	0	0	0	0	0	0	1	1
1022 ECHOVIRUS TYPE 22	0	2	0	0	0	1	0	0	0	0	3
1032 ECHOVIRUS TYPE 32	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	1	2	1	0	0	0	0	0	0	0	4
1102 POLIOVIRUS TYPE 2	0	2	0	0	0	0	0	0	0	0	2
1103 POLIOVIRUS TYPE 3	0	0	0	0	0	3	0	0	0	0	3
1300 HERPES VIRUS GROUP - NOT TYPED	3	0	0	0	0	0	0	0	0	1	4
1301 HERPES SIMPLEX VIRUS - NOT TYP	5	1	0	0	0	0	0	0	0	20	26
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	37	10	1	2	0	3	9	1	0	1	64
1303 VARICELLA-ZOSTER VIRUS	2	1	0	0	0	0	0	0	0	10	13
1306 HERPES SIMPLEX TYPE 1	3	6	0	0	0	1	0	2	5	87	104
1307 HERPES SIMPLEX TYPE 2	1	0	0	0	0	0	0	0	0	84	85
1399 HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	2	2
1401 COXIELLA BURNETII	3	0	0	0	0	0	2	0	0	0	5
1502 PICORNIA VIRUS - NOT TYPED = E	0	3	0	0	2	2	0	0	0	2	9
1514 MOLLUSCUM CONTAGIOSUM	2	0	0	0	0	0	0	0	0	0	2
1521 MEASLES VIRUS	1	2	0	0	0	0	0	0	0	6	9
1522 RUBELLA VIRUS	7	1	0	0	0	0	1	0	0	6	15
1532 HEPATITIS B ANTIGEN	65	0	0	0	0	0	50	0	0	0	115
1535 HEPATITIS A ANTIBODY	2	0	0	0	0	0	5	0	0	0	7
1536 HEPATITIS C VIRUS	0	0	0	0	0	0	1	0	0	0	1
1541 CHLAMYDIA A - C. TRACHOMATIS	6	0	0	0	0	0	0	0	0	0	6
1543 CHLAMYDIA A - LGV TYPE	3	0	0	0	0	0	0	0	0	0	3
1556 CMV - CYTOMEGALOVIRUS	14	20	0	0	0	2	12	1	8	0	57
1563 CORONAVIRUS	0	0	0	0	0	1	0	0	0	0	1
1564 ROTAVIRUS	19	0	0	0	0	152	0	0	1	0	172
1565 CALICI VIRUS	0	0	0	0	0	3	0	0	0	0	3
1599 ENTEROVIRUS TYPING PENDING	2	4	0	1	0	10	0	0	0	0	17
9992 ROSS RIVER VIRUS	6	0	0	0	0	0	0	0	0	0	6
9993 ASTROVIRUS	0	0	0	0	0	1	0	0	0	0	1
9994 SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	5	0	0	0	0	5
9995 DENGUE	0	0	0	0	0	1	0	0	0	0	1
9998 ARBOVIRUS GROUP E.(UNSPECIFIED)	1	0	0	0	0	0	0	0	0	0	1
TOTAL	194	148	2	5	4	200	80	4	14	222	873

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2

PERIOD 08/11/90 TO 21/11/90

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

	12	13	14	15	16	17	18	19	20	21	TOTAL
0100 ADENOVIRUS NOT TYPED	3	0	0	0	0	0	0	0	3	0	6
0101 ADENOVIRUS TYPE 1	1	0	0	0	0	0	0	0	0	2	3
0102 ADENOVIRUS TYPE 2	0	0	0	0	0	0	0	1	0	0	1
0108 ADENOVIRUS TYPE 8	1	0	0	0	0	0	0	0	0	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	0	0	1	0	5	0	6
0203 INFLUENZA B VIRUS	0	0	1	0	0	0	0	0	0	0	1
0303 PARAINFLUENZA VIRUS TYPE 3	0	0	0	0	0	0	0	1	0	0	1
0400 RESPIRATORY SYNCYTIAL VIRUS (R	0	0	0	0	0	0	0	0	1	0	1
0500 RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	1	2	0	0	3
0600 MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	0	1	2	0	3
0700 ORNITHOSIS-PSITTACOSIS	0	0	0	1	0	0	1	0	0	0	2
0809 COXSACKIEVIRUS A9	0	0	0	0	0	0	1	0	0	0	1
1002 ECHOVIRUS TYPE 2	0	0	0	0	0	0	0	0	0	1	1
1101 POLIOVIRUS TYPE 1	0	0	0	0	0	0	0	0	1	0	1
1300 HERPES VIRUS GROUP - NOT TYPED	0	10	0	0	0	0	0	0	0	0	10
1301 HERPES SIMPLEX VIRUS - NOT TYP	3	9	0	0	0	0	0	0	0	0	12
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	37	6	2	0	11	3	18	0	77
1303 VARICELLA-ZOSTER VIRUS	0	0	1	0	0	0	0	0	1	0	2
1306 HERPES SIMPLEX TYPE 1	4	26	0	0	0	0	0	2	3	0	35
1307 HERPES SIMPLEX TYPE 2	0	89	0	0	0	0	0	1	0	0	90
1401 COXIELLA BURNETII	0	0	0	0	1	0	1	2	2	0	6
1502 PICORNIA VIRUS - NOT TYPED = E	0	0	0	0	0	0	0	1	1	0	2
1521 MEASLES VIRUS	0	0	0	0	0	0	0	2	0	0	2
1522 RUBELLA VIRUS	0	0	0	1	2	1	0	1	10	0	15
1532 HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	1	10	0	11
1534 HEPATITIS B ANTIGEN AND ANTIBO	0	0	0	0	0	0	0	0	1	0	1
1535 HEPATITIS A ANTIBODY	0	0	0	0	0	0	0	0	1	0	1
1541 CHLAMYDIA A - C. TRACHOMATIS	1	116	0	0	0	0	0	0	0	0	117
1543 CHLAMYDIA A - LGV TYPE	0	4	0	0	0	0	0	0	3	0	7
1556 CMV - CYTOMEGALOVIRUS	1	1	2	0	4	4	8	7	44	0	71
1564 ROTAVIRUS	0	0	0	0	0	0	0	1	0	0	1
1599 ENTEROVIRUS TYPING PENDING	0	0	0	0	1	1	0	0	0	0	2
9992 ROSS RIVER VIRUS	0	0	0	0	9	0	2	3	4	0	18
9995 DENGUE	0	0	0	0	0	0	1	0	0	0	1
9998 ARBOVIRUS GROUP B.(UNSPECIFIED	0	0	0	0	0	0	0	0	1	0	1
TOTAL	14	255	41	8	19	6	27	30	111	3	514