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OVERSEAS BRIEFS

1. CHOLERA NOTIFICATIONS

The World Health Organization reports the following details on cholera for the period 27 to 31 May:

- Colombia; 1424 cases (286 confirmed) with 778 hospitalisations and 12 fatalities up to 21 May. Cauca and Valle departments newly infected.
- Ecuador; 13902 cases and 232 fatalities up to 15 May.
- Peru; 198 023 cases with 77 483 hospitalisations and 1615 fatalities up to 24 May.
- Chad; outbreak in Chari-baguirmi and Lac provinces. 1002 cases with 68 fatalities up to 29 May.

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SUMMARY OF OCCUPATION-RELATED ZONOSSES IN SOUTH AUSTRALIA, 1986-1990

(Philip Weinstein, Epidemiology Registrar, National Centre for Epidemiology and Population Health and Communicable Disease Control Unit, South Australian Health Commission)

Q FEVER

In the 5 years 1986-1990, 130 cases of laboratory-confirmed Q Fever were notified in South Australia. One hundred and eighteen cases (91%) occurred in males and 12 (9%) in females, and all cases were in unvaccinated people of working age (mean age = 35 years, range 16 to 67 years). The number and percentage of cases are listed by occupation in Table 1.

Table 1. The number and percentage of cases of notified Q fever in South Australia between 1986 and 1990, listed by occupation

Occupation	No. of Cases	% of Cases
Meatworker	71	55%
Animal transport	12	9%
Farm/Dairy/Wool	26	20%
Known contact with above 3	8	6%
Other	9	7%
Unknown	4	3%
TOTAL	130	100%

Most cases occurred in meatworkers (55%), but workers in the animal transport, farming, dairy and wool industries were also at risk. Importantly, 8 cases occurred in known contacts of people in the above categories, indicating that direct contact with the animal reservoir is not always required to contract Q fever. Meatworkers were classified as either metropolitan or country, depending on the location of the abattoir in which they worked; 50 cases occurred in metropolitan meatworkers and 21 cases in country meatworkers. Given that there are approximately 5000 metropolitan and 3000 country meatworkers in South Australia¹, the risk of an unvaccinated meatworker contracting Q fever can be estimated to be approximately 1/300 per annum, and this risk does not differ between metropolitan and country meatworkers ($\chi^2 = 1.92$, $df = 1$, $p = 166$).

LEPTOSPIROSIS

In the 5 years 1986-1990, 26 cases of laboratory confirmed Leptospirosis were notified in South Australia. All cases were in males of working age (mean age 37.5 years, range 18 to 61 years), and the number of cases is listed by occupation in Table 2.

Most cases occurred in meatworkers (57%), but farmers and stock transporters were also at risk. In Australia, the infecting organism is most commonly *Leptospira interrogans harjo* when contracted from cattle or sheep, and *L.i. pomona* when contracted from pigs²; Eleven cases of the former and 13 cases of the latter were

notified. A single case of infection with *L.i. copenhageni* (*icterohaemorrhagiae*) occurred in a tourist after he fell into the River Clyde in the U.K.! It is important to note that the latter serovar is not endemic to South Australia, and that leptospirosis therefore does not result in the symptomatology classically described in textbooks (Weil's disease). The infecting serovar in the remaining case is not known.

Table 2. The number and percentage of cases of notified Leptospirosis in South Australia

Occupation	No. of Cases	% of Cases
Meatworker	15	57%
Animal transport	2	8%
Farm/Dairy/Wool	8	31%
Other	1	4%
TOTAL	26	100%

BRUCELLOSIS

In the 5 years 1986-1990, 3 cases of laboratory-confirmed *Brucella abortus* infection were notified in South Australia. All cases were in males of working age (28, 34 and 36 years old), who were employed at abattoirs in the metropolitan area of Adelaide.

In order to decrease the perceived threat of brucellosis to the viability of the meat export industry, a brucellosis eradication campaign has been pursued in Australia since the mid-1970's. South Australia was declared *Brucella*-free on 1st January, 1988³, and the success of the campaign is reflected in the low incidence of *Brucella abortus* infections in humans. *Brucella melitensis*, the causative organism of more serious disease (Malta fever), has never been endemic in Australia.

REFERENCES

1. Warren, G. Secretary, Meat Industry Employees' Union, S.A.; personal communication, May 1991.
2. Stevenson, WJ and Hughes, KL. Synopsis of Zoonoses in Australia. Australian Government Publishing Service, Canberra, 1988.
3. Australia Agricultural Council, South Australia, 1st January 1988.

SALMONELLA TYPHIMURIUM 135 OUTBREAK, VICTORIA, 1991

(Contributed by J. Carnie, R. Lester, R. Wilby (Environmental Health Standards, Health Department of Victoria); J. Forsyth, D. Lightfoot, A. Tan (Microbiological Diagnostic Unit))

During January and February 1991, a marked increase in cases of salmonellosis due to *Salmonella typhimurium* 135 was noted at the Microbiological Diagnostic Unit (Salmonella Reference Laboratory) and Health Department Victoria (HDV). An outbreak investigation was conducted by a team comprising members from both institutions.

INVESTIGATION

All notified cases of salmonellosis in Victoria are subjected to call-back by an environmental health officer from HDV's Infectious Diseases Program.

Information is sought on a three day food history before the onset of symptoms, any overseas travel, special functions attended and association with other cases. No obvious source of the outbreak had been discovered on routine questioning apart from some of the respondents having eaten Italian ice-cream. From this clue, it was felt that eggs were the likely medium of transmission, as:

- i) raw egg whites are used in the making of gelati; and
- ii) chickens are the common animal source of

S. typhimurium 135.

A more detailed questionnaire was drawn up to more fully investigate any link with other products containing raw or lightly cooked eggs, eg. mousses, marshmallows. Consumption of gelati or milkshakes at the suspected cafe was specifically asked for and persons contacted early in the investigation were questioned again in more detail.

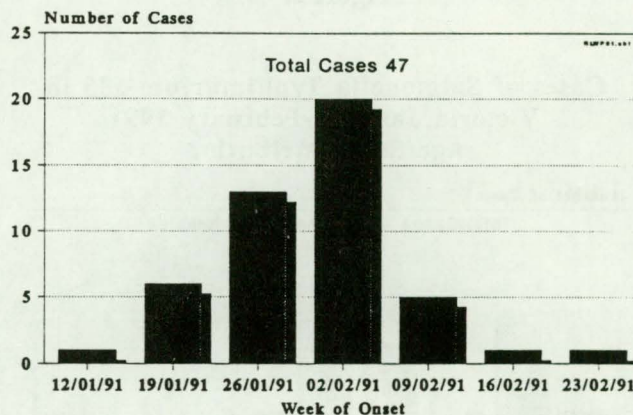
EPIDEMIOLOGY

The major part of the outbreak occurred during week 4 of January and week 1 of February (see Table 1 and Figure 1), where numbers of cases increased significantly from the background level of this type of salmonella in the community. The 47 cases occurring between 12/1/91 and 23/2/91 were felt to constitute the major outbreak, so only these cases have been selected for analysis. The mean age of the persons affected was 17.6 years (range, 3 months to 54 years) with the sexes almost equally affected (see Figure 2).

Postcodes were scattered throughout the metropolitan area, with the exception of one case at Sale, 2 at Traralgon and one at Bendigo. As far as is known, these

Figure 1.

Cases of *Salmonella Typhimurium* 135 in Victoria January-February 1991



persons had not been to Melbourne during the incubation period.

Twenty-five of the 47 (53%) cases investigated with a date of onset on or after 12/1/91 were able to provide a definite history of having eaten at a particular inner city cafe within 72 hours of becoming ill. Seventeen cases (36%) reported other household contacts ill. Only one case reported a workplace or school contact ill. Of these 17, 4 were pairs of cases in which both were reported. One case, with a date of onset of 23/2/91, was a child who was a playmate of another case associated with the cafe, implicating person-to-person transmission.

RESULTS

Sampling of ice-creams, eggs and other foods at the implicated cafe (where ice-cream was made on the premises), yielded isolations of salmonella species in 7 of the 11 ice-creams sampled (63.6%). However, six of the isolations proved to be *S. typhimurium* 145, and one was *S. typhimurium* 135. The contaminated ice-cream was destroyed and the premises subjected to a supervised decontamination before ice-cream was permitted to be sold again (after being bacteriologically tested).

Investigations were made into the source of the eggs used in making the ice-cream. The cafe owner admitted receiving and using cracked eggs from his brother who operates a poultry farm in country Victoria. Other significant findings during the investigation:

Table 1. NSSS Salmonella isolates (*S Typhimurium* 135) in Victoria by week - from December 1990 to February 1991

MONTH	WEEK 1	WEEK 2	WEEK 3	WEEK 4	TOTAL
December	2	2	-	1	5
January	3	2	1	9	15
February	12	16	1	-	39
TOTAL	17	20	2	10	59

- 1) During the several weeks over late January up to 4 February 1991, the employee who usually makes the gelati was on leave, and the cafe owner took over the preparation;
2. Over the period of time of the outbreak, the freezer broke down on several occasions, allowing stored ice-cream to thaw. By the time of our visit, this had been rectified.

SUMMARY

An explosive outbreak of salmonellosis was investigated and traced to a particular inner city cafe selling ice-cream made on its premises. This outbreak emphasises the vulnerability of products made using raw or lightly cooked eggs and sold for human consumption. Producers of such products should be aware of the need to use only quality eggs handled according to strict hygiene protocols.

Figure 2.

**Cases of Salmonella Typhimurium 135 in Victoria January-February 1991
Age/Sex Distribution**

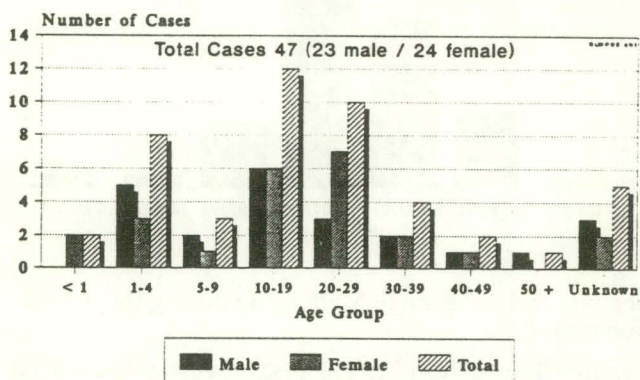
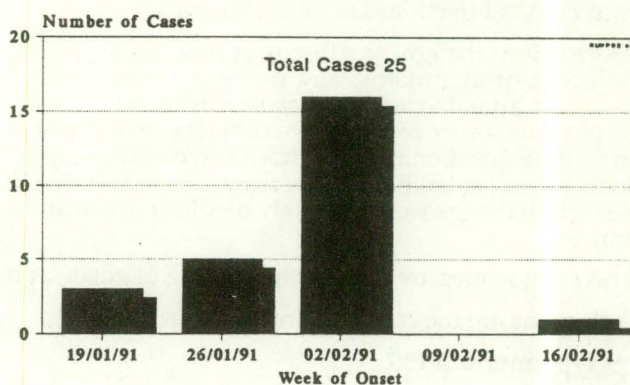


Figure 3.

**Cases of Salmonella Typhimurium 135 in Victoria January-February 1991
Associated with the Implicated Cafe**



SENTINEL SURVEILLANCE OF HIV INFECTION IN SEXUALLY TRANSMISSIBLE DISEASES CLINICS

(Reproduced from Australian HIV Surveillance Report, Vol 7, Supplement 2 (April 1991))

In Australia, HIV is spread primarily by sexual contact (see CDI Vol 15/No. 8:142). It is therefore likely that the distribution of HIV in the Australian population will resemble the distribution of other STDs. A number of studies in the USA, Africa and Europe have shown that

HIV occurs more frequently in people with other STDs, and in Africa, it appears that some STDs may actually facilitate HIV transmission. For these reasons, people seeking treatment for STDs other than HIV represent an important sentinel group, in which changing pat-

Table 1. Number of people seen, number of people tested for HIV antibody and number of people newly diagnosed with HIV infection, by STD Clinic, 1 January to 31 March 1991

STD Clinic	Seen at Clinic	Tested for HIV antibody	Newly diagnosed with HIV infection
Parramatta Sexual Health Clinic, NSW	343	166	0
Sydney Sexual Health Centre, NSW	4917	1007	7
Special Clinic, Brisbane QLD	2037	547	4
Clinic 275, Adelaide SA	1569	1036	1
Melbourne STD Centre, VIC	4809	1146	19
Murray St Clinic, Perth WA	4839	1556	9

terms of HIV infection may be more readily detected than in the wider population.

A program of surveillance for HIV infection in STD clinics has been initiated by the National Centre in HIV Epidemiology and Clinical Research, in collaboration with the National Venereology Council of Australia and State/Territory Departments of Health. The Commonwealth AIDS Research Grants Committee has provided funding, and a network of public STD clinics has been established in the capital cities of five Australian States to provide routine information on the extent and outcome of HIV antibody testing.

For the first quarter of 1991, each participating clinic has tabulated:

1. the number of people seen at the clinic,
2. the number tested for HIV antibody,
3. the number newly diagnosed with HIV infection.

AUSTRALIAN HIV SURVEILLANCE REPORT VOLUME 7, NUMBER 3 (31 MARCH 1991)

The National Centre in HIV Epidemiology and Clinical Research reports that as of 31 March 1991 a total of 17,619 diagnoses of HIV infection and 2,527 cases of AIDS had been reported in Australia. For the most recent period, 1 March to 31 March 1991, 21 new cases of AIDS and 104 new diagnoses of HIV infection were reported. The following tables provide more detailed information on a State/Territory basis.

Readers should note that cumulative figures are subject to retrospective revision, which may result in apparent discrepancies between the number of new cases for the current 4 week period and the increment in the cumulative figures from the previous report.

Table 1. New diagnoses of AIDS and deaths from AIDS occurring in the period 1-31 March 1991, by sex and State/Territory in which diagnosis was made.

STATE/ TERRITORY	CASES			DEATHS		
	Male	Female	Total	Male	Female	Total
ACT	1	0	1	1	0	1
NSW	8	0	8	10	1	11
NT	0	0	0	0	0	0
QLD	0	0	0	0	0	0
SA	0	0	0	0	0	0
TAS	0	0	0	0	0	0
VIC	10	1	11	1	0	1
WA	1	0	1	0	0	0
TOTAL	20	1	21	12	1	13

Table 2. Cumulative cases of AIDS and deaths from AIDS by sex and State/Territory in which diagnosis was made to 31 March 1991.

STATE/ TERRITORY	CASES			DEATHS		
	Male	Female	Total	Male	Female	Total
ACT	33	1	34	21	0	21
NSW	1524	46	1570	964	31	995
NT	5	0	5	3	0	3
QLD	185	7	192	121	6	127
SA	87	3	90	42	1	43
TAS	13	1	14	6	1	7
VIC	490	12	502	269	5	274
WA	113	7	120	65	3	68
TOTAL	2450	77	2527	1491	47	1538

Table 3. New diagnoses of HIV infection, period 1-31 March 1991, and cumulative since the introduction of HIV antibody testing to 31 March 1991, by sex and State/Territory.

STATE/ TERRITORY	MARCH 1991 ¹			CUMULATIVE TO 31 MARCH 1991			
	Male	Female	Total	Male	Female	Sex Unknown	Total
ACT	0	0	0	15	0	97	112
NSW ²	38	6	48	10102	457	2210	12769
NT	1	0	1	57	5	0	62
QLD	22	2	24	1009	40	0	1049
SA ³	-	-	-	333	27	0	360
TAS	0	0	0	50	3	0	53
VIC	26	1	27	2529	77	2	2608
WA	4	0	4	575	31	0	606
TOTAL	91	9	104	14670	640	2309	17619

1. Dashes indicate counts unavailable for period. counts for NSW are for February 1991.

2. Counts for February from the Reference Laboratories at Prince of Wales and Westmead Hospitals. Total for February includes 4 people whose sex was unknown. Cumulative counts to February 1991 for Reference Laboratories at Prince of Wales and Westmead Hospitals, and to 31 January for St Vincent's Hospital.

3. Cumulative counts to 18 May 1990.

4. Total for March includes 4 persons whose sex was not reported.

CHOLERA IN PERU - UPDATE*, MAY 1991

(Based on WER 1991;66:141-145)

At the end of January 1991, an epidemic of cholera broke out on a continent which had witnessed no outbreak in this century. Striking first in a coastal city close to the capital of Peru, the epidemic then spread with unexpected speed and intensity.

Towards the end of January, an abnormal increase in the number of patients with acute diarrhoea was reported in the city of Chancay, 60km north of Lima. A day later, an epidemic of acute diarrhoea was reported from Chimbote, a sea port 400 km north of Chancay. On 31 January, the first cases of cholera were confirmed simultaneously in Chancay and Chimbote.

The epidemic developed swiftly, spreading 2 000 km along the Peruvian coast in 2 weeks, in all the coastal departments (Map 1), with great intensity: over 12 000 cases were reported during this short period. In the fourth week of the epidemic, the mountain departments of the central areas, which had so far been spared, began to report a significant number of cases, while the epidemic gathered strength in the coastal departments. More than 70 550 cases were reported in 1 month (17 February-20 March), ie, an average of 2 550 cases per day in a country with a population of 22 million (Figure 1). It is estimated that, for instance, 2.2% of the population of the city of Trujillo became infected during this period. In Piura, the cholera vibrio was confirmed in 87% of children aged 0-4 years presenting at the municipal hospital with diarrhoea and 77% of adults

presenting with non-dehydrating diarrhoea. The case-fatality rate, however, was low (Figure 2).

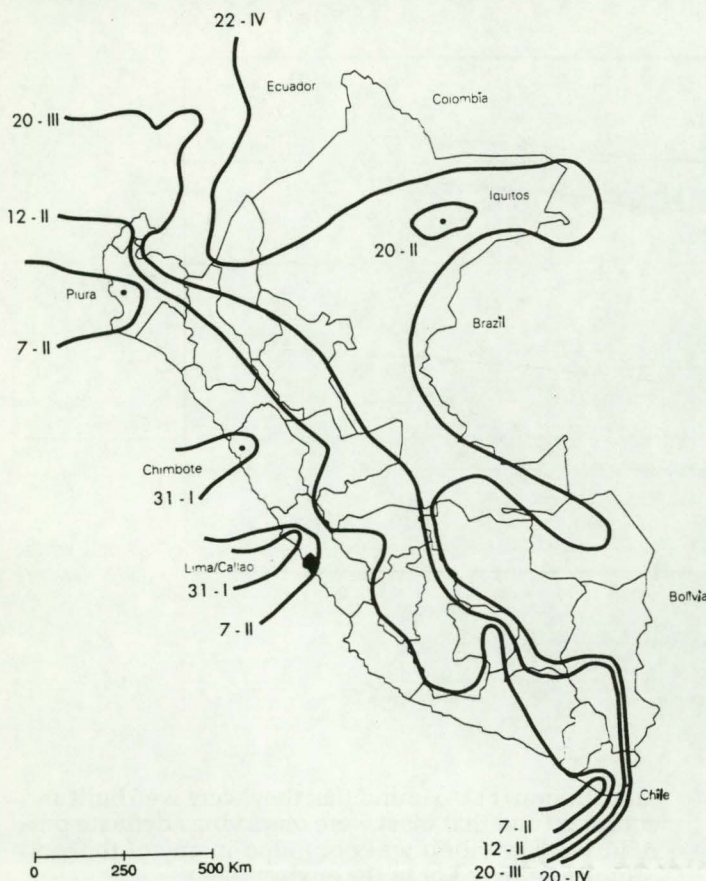
Despite the various measures taken by neighbouring countries, the epidemic spread to Ecuador on 28 February, to Colombia on 8 March, to Chile on 16 April and to Brazil on 22 April. It is striking to note that the first regions in Colombia and Chile to be affected were not at the border with Peru, but more than 800km and 1 700km, respectively, from the area of the epidemic.

As of 7 May, with the epidemic entering its fourth month, serious cases of cholera in Peru had already totalled at least 177 000, with over 68 000 hospitalisations and 1 300 deaths. The attack rate after 3 months was 0.8% (177 000 cases for 22 million) and the overall case-fatality rate 0.7%.

The attack rate has been much lower in the inland departments (0.16%) than in the coastal departments (1.1%). Case fatality, however, has been almost 12 times higher in the inland departments (4.6%) than in the coastal departments (0.4%).

The origin and exact mechanism of the very rapid spread of the epidemic in the first 3 weeks remain open to speculation. However, several factors may account for its intensity. In the first place, there are many reasons to believe that the municipal water supply

Map 1. The spread of cholera in Peru, 1991



The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organisation concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

system has been an important route of transmission in the main coastal cities.

Analyses in Piura revealed that 7 wells out of 18 were contaminated with faecal coliforms. The cholera vibrio was found in samples taken from the water reservoirs of 2 institutions. No residual chlorine could be detected in most of the samples of municipal water. The vibrio was also isolated in samples from 3 community taps.

In Trujillo, the cholera vibrio was found in 3 samples of municipal water. Faecal coliforms were found in 14% of samples drawn from municipal wells. The number of coliforms increased from wells to taps to household storage vessels, indicating progressive contamination of water during distribution and within the home. There was no effective chlorination of the municipal water supply.

In the Lima-Callao conurbation, 20% of 183 samples from the water distribution network contained faecal coliforms. The vibrio was isolated in water from the Rimac River supplying the La Atarjea water purification plant (which serves part of the population of Lima).

Consumption of fruit and beverages sold in the streets is also an important risk factor. The use of commercial ice in drinks is a particularly hazardous practice.

Moreover, locally grown melons and water-melons are often irrigated with untreated wastewater. The practice of slicing these fruits when they may not be sold for several hours is highly conducive to the growth and transmission of faecal organisms.

Figure 1. Cholera epidemic in Peru, average daily incidence, 27 January, 7 May 1991

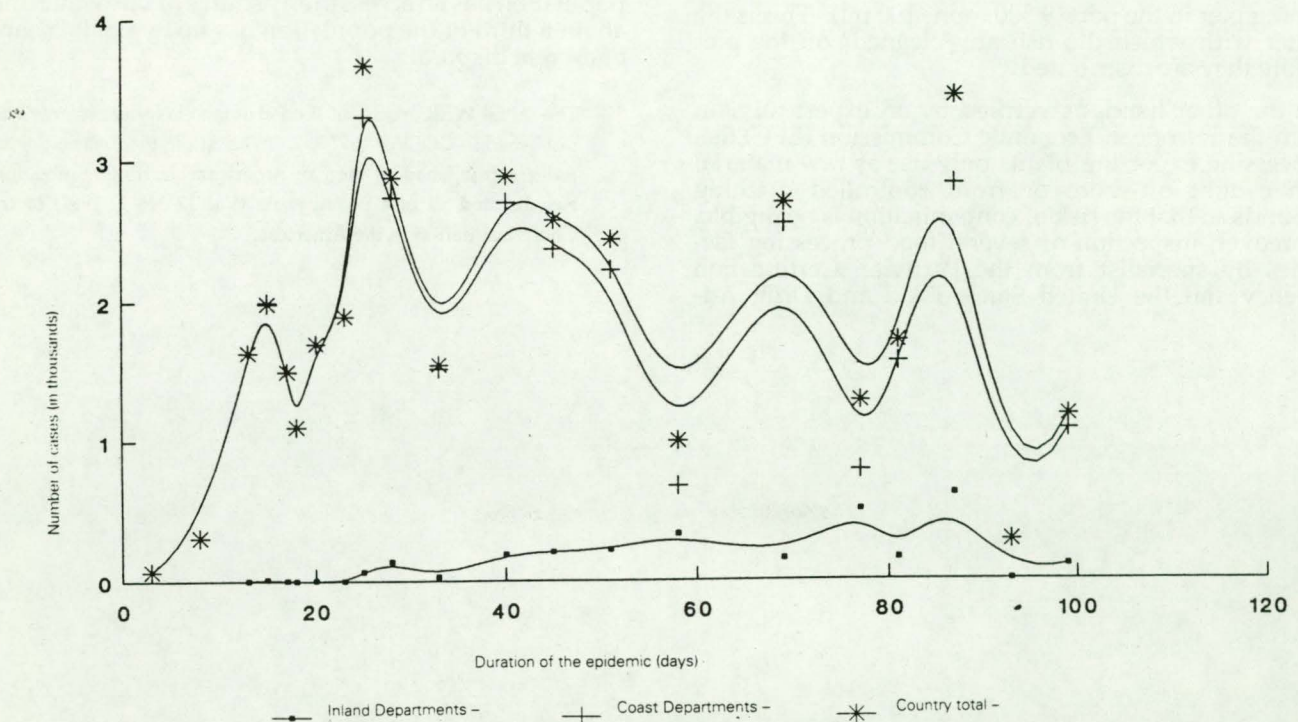
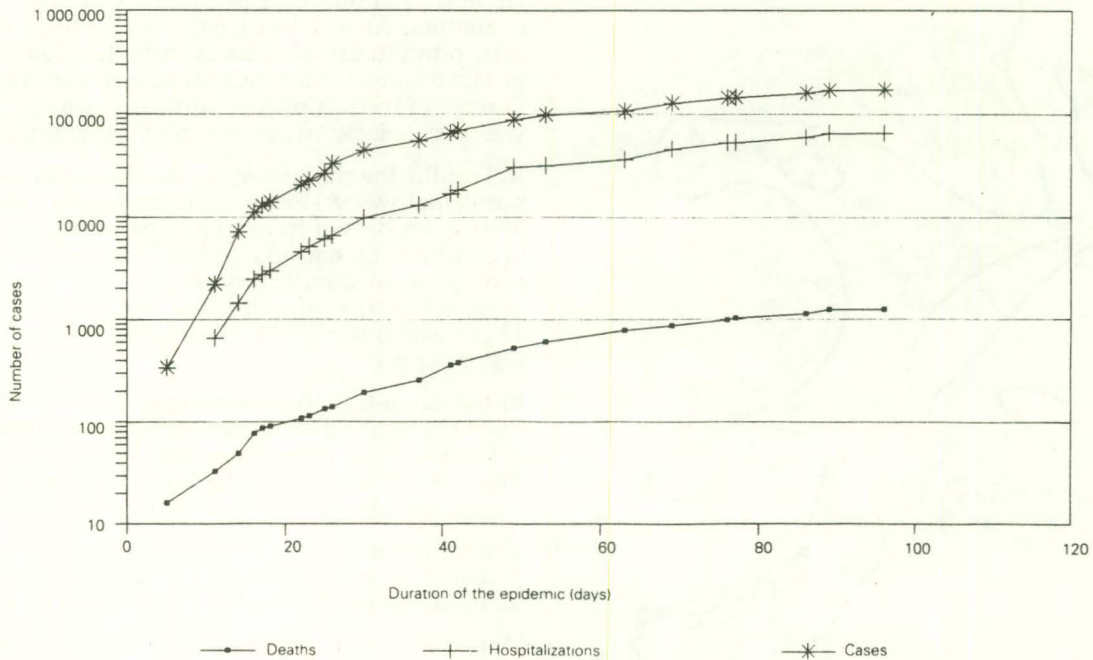


Figure 2. Cholera epidemic in Peru, cumulative incidence as at 2 May 1991



The ocean and sea food have also played a part in spreading the disease. At Chancay, the cholera vibrio was isolated from sea water taken from a point 500m distant from the municipal sewer; evidence of the cholera vibrio was found in phytoplankton, mussels and on the skin of pejerrey fish (*Austromenidia regia*) caught at this distance from the sewer. South of Lima, the cholera vibrio was found in water from the sewer at La Chira in an extremely high concentration, in the sea water surrounding the sewer, and in the water used for irrigation by a nearby farm. Vibrio concentrations in the sea were 430 mpn (most probable number)/100 ml at 500 m and 75 mpn/100 ml at 1 200m from the sewer. Evidence of the cholera vibrio was found in the skins and intestines of a sample of fish caught near the sewer outlet. The vibrio was also present in the water by a fishing pier in the port (9 300 mpn/100 ml). This is the water with which the fish are "cleaned" on the pier before they are distributed.

On the other hand, as verified by an expert mission from the European Economic Commission (EEC), fish processing exporting plants only use as raw material fish caught off-shore or from controlled catching grounds so that the risk of contamination is negligible. Moreover, inspection of several food processing factories by specialist from the Peruvian Certification Agency and the United States Food and Drug Ad-

ministration (FDA) found that they were well built and equipped and that most were observing adequate procedures. The vibrio was not found in any of the food samples analysed or in the environment.

The appearance of cholera in a country caught unprepared has resulted in a raging epidemic that had still not been brought under control 3 months after its onset. Although the prompt reaction of the national health system has kept case fatalities at a moderate level, the poor drinking-water coverage in the population and the level of environmental faecal pollution mean that the epidemic is likely to be of extended duration. Cholera may well become endemic in the long term, thus posing a threat to the whole of Latin America and Caribbean, where it is estimated that a quarter of the population has no access to any source of safe water and about a third of the population has no hygienic means of excreta disposal.

* The initial WER article on the Peruvian cholera epidemic was published in CDI Vol 15/No 7. In addition, the *Epidemiological Bulletin*, published by the Pan American Health Organization, has devoted all of a recent issue (Vol 12 No 1, 1991) to the Cholera situation in the Americas.

CDI REPORTING SCHEME

VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTS

There were 1186 reports processed for the latest period (22 May to 4 June 1991).

- Q fever was reported on 10 occasions for the period, the majority (9) from Queensland with one from NSW. Ages ranged from 17 to 51 years and occupational exposure details were supplied for 3 - all meatworkers.
- Since the new code was introduced this year, we have had seven reports of delta virus hepatitis; one 7 year old male, 2 adult females and 4 adult males.
- The seasonal increase in rotavirus reports has begun with 60 reports for March, 109 reports for April and 148 reports so far for May. This increase appears to be the earliest since 1986.
- Australian Encephalitis was diagnosed in a male infant from a Tanami outstation (NT) who presented with encephalitis. The outstation is on the western margin of the Tanami desert close to the WA border. An elevated IgM titre specific for Murray Valley Encephalitis virus was reported.

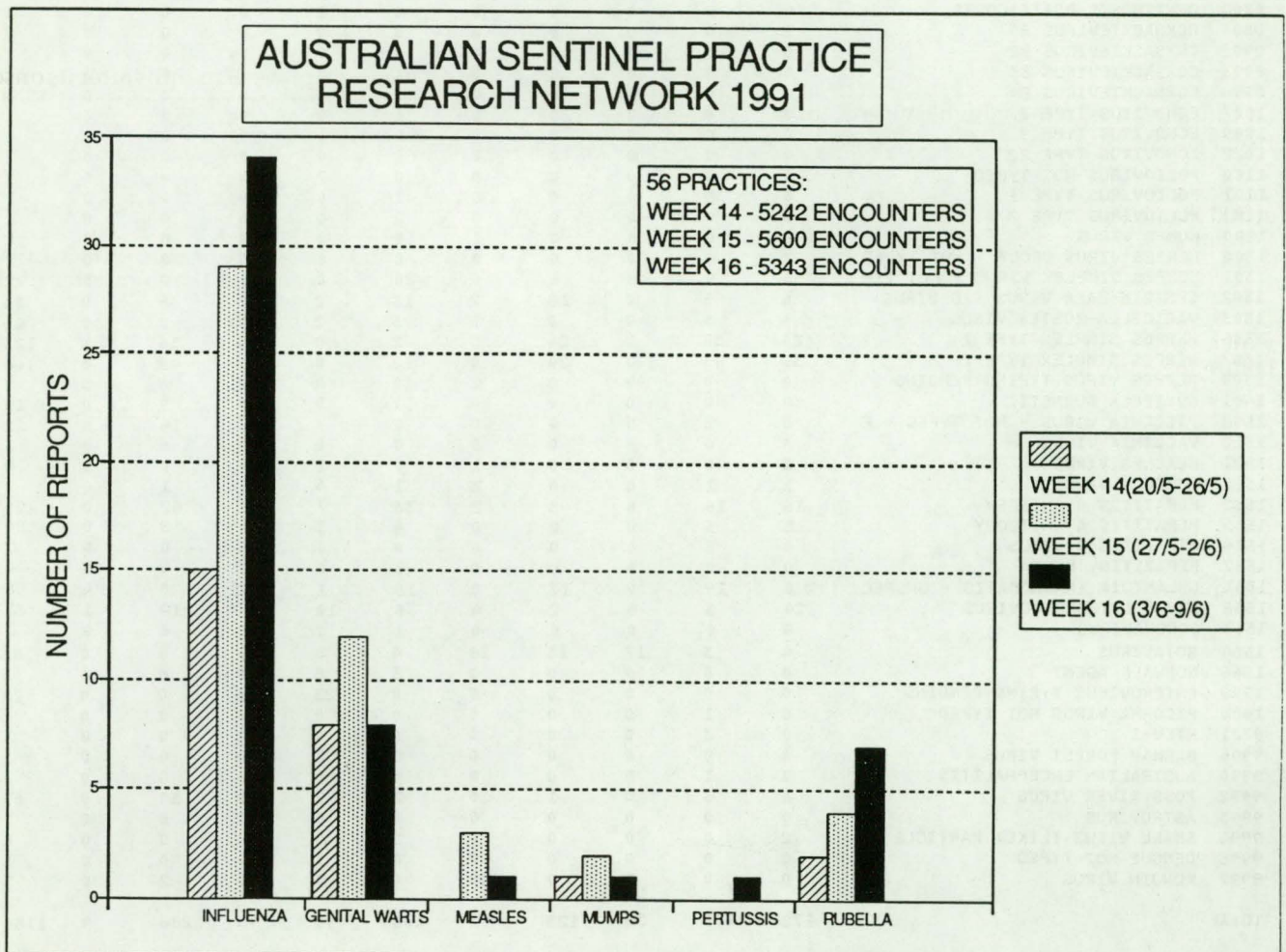
NON-VIRAL PATHOGEN REPORTS

- *Corynebacterium bovis* was cultured from cerebrospinal fluid of a 3 month old boy in whom a ventriculo-peritoneal shunt was in-site for hydrocephalus. By disc susceptibility testing the isolate was resistant to penicillin, sensitive to chloramphenicol. (Rockhampton)

CDI Editorial Comment

There are few reported human infections with *Corynebacterium bovis*, a common commensal organisms in the bovine udder. Of seven reported human infections three involved the central nervous system, one of which with a ventriculojugular shunt. The susceptibility of *C bovis* to penicillin is variable, reported human isolates have been sensitive to rifampicin.

- *Neisseria meningitidis* group C was detected in cerebrospinal fluid from a 4 year old girl (Hobart).
- *Haemophilus influenzae* type B was detected in cerebrospinal fluid from a 5 month old boy and blood culture from a 9 month old boy (both Hobart).



AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 22/05/91 TO 04/06/91

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, GARRAN (ACT)

	019	065	066	110	111	112	113	114	115	116	TOTAL
0100 ADENOVIRUS NOT TYPED	0	9	7	0	10	2	3	4	11	0	46
0101 ADENOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	0	1
0102 ADENOVIRUS TYPE 2	1	0	0	0	0	2	0	0	0	0	3
0103 ADENOVIRUS TYPE 3	0	0	0	2	0	2	0	0	0	0	4
0104 ADENOVIRUS TYPE 4	0	0	0	0	0	1	0	0	0	0	1
0105 ADENOVIRUS TYPE 5	0	0	0	1	0	0	0	0	0	0	1
0108 ADENOVIRUS TYPE 8	1	0	0	0	0	0	0	0	0	0	1
0111 ADENOVIRUS TYPE 11	1	0	0	0	0	6	0	0	0	0	7
0118 ADENOVIRUS TYPE 18	0	0	0	1	0	0	0	0	0	0	1
0126 ADENOVIRUS TYPE 26	2	0	0	0	0	0	0	0	0	0	2
0128 ADENOVIRUS TYPE 28	1	0	0	0	0	0	0	0	0	0	1
0131 ADENOVIRUS TYPE 31	0	0	0	1	0	0	0	0	0	0	1
0144 ADENOVIRUS TYPE 44	1	0	0	0	0	0	0	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	0	0	0	0	2	0	1	0	0	0	3
0201 INFLUENZA A VIRUS	0	0	0	0	0	2	0	0	1	0	3
0203 INFLUENZA B VIRUS	1	0	0	2	0	0	0	0	0	0	3
0302 PARAINFLUENZA VIRUS TYPE 2	2	0	1	5	2	0	0	0	7	0	17
0303 PARAINFLUENZA VIRUS TYPE 3	1	0	1	4	8	2	0	1	6	0	23
0399 PARAINFLUENZA VIRUS TYPING PEN	0	0	0	0	1	0	0	0	0	0	1
0400 RESPIRATORY SYNCYTIAL VIRUS (R	1	0	0	1	5	2	4	9	15	0	37
0500 RHINOVIRUS (ALL TYPES)	4	0	0	0	17	3	0	5	4	0	33
0600 MYCOPLASMA PNEUMONIAE	4	0	0	1	3	1	2	1	0	0	12
0700 ORNITHOSIS-PSITTACOSIS	6	0	0	0	0	0	2	0	0	0	8
0809 COXSACKIEVIRUS A9	3	0	0	0	0	0	0	0	0	0	3
0902 COXSACKIEVIRUS B2	0	0	0	0	0	2	0	0	0	0	2
0903 COXSACKIEVIRUS B3	0	0	0	0	0	1	0	1	0	0	2
0904 COXSACKIEVIRUS B4	0	0	0	0	0	5	0	0	0	0	5
1007 ECHOVIRUS TYPE 7	0	0	0	0	0	1	0	0	0	0	1
1009 ECHOVIRUS TYPE 9	0	0	0	0	0	0	1	0	0	0	1
1022 ECHOVIRUS TYPE 22	0	0	0	0	0	1	0	0	0	0	1
1100 POLIOVIRUS NOT TYPED	0	0	0	0	0	0	7	0	0	0	7
1101 POLIOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	0	1
1102 POLIOVIRUS TYPE 2	0	0	0	0	0	2	0	0	0	0	2
1200 MUMPS VIRUS	0	0	0	0	1	1	0	0	0	0	2
1300 HERPES VIRUS GROUP - NOT TYPED	7	4	0	0	0	0	0	0	0	0	11
1301 HERPES SIMPLEX VIRUS - NOT TYP	0	0	3	1	0	20	2	0	0	3	29
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	6	5	0	18	2	13	2	2	5	0	53
1303 VARICELLA-ZOSTER VIRUS	6	3	0	0	0	3	2	0	7	0	21
1306 HERPES SIMPLEX TYPE 1	26	30	1	24	3	2	0	0	36	1	123
1307 HERPES SIMPLEX TYPE 2	35	53	0	24	0	12	0	0	42	0	166
1399 HERPES VIRUS TYPING PENDING	0	0	0	0	2	0	0	0	0	0	2
1401 COXIELLA BURNETII	0	0	0	0	0	1	0	0	9	0	10
1502 PICORNIA VIRUS - NOT TYPED = E	0	1	0	0	0	0	7	0	14	0	22
1512 VACCINIA VIRUS	3	0	0	0	0	0	0	0	0	0	3
1521 MEASLES VIRUS	5	0	0	0	1	0	2	1	0	0	9
1522 RUBELLA VIRUS	1	1	0	0	1	1	4	0	1	0	9
1532 HEPATITIS B ANTIGEN	16	16	0	3	2	33	7	1	42	0	120
1535 HEPATITIS A ANTIBODY	3	5	0	2	0	4	3	0	3	0	20
1536 HEPATITIS C VIRUS	0	5	0	0	0	0	0	2	0	0	7
1537 HEPATITIS, DELTA	0	0	0	0	0	0	0	0	4	0	4
1541 CHLAMYDIA TRACHOMATIS - UNSPEC	0	19	0	17	0	15	1	2	0	4	58
1556 CMV - CYTOMEGALOVIRUS	24	3	8	2	4	8	10	2	19	1	81
1563 CORONAVIRUS	0	0	0	0	0	1	0	0	0	0	1
1564 ROTAVIRUS	4	3	17	13	28	4	8	5	0	0	82
1566 NORWALK AGENT	0	0	0	0	0	3	0	0	0	0	3
1599 ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	23	5	0	0	28
1600 PICORNA VIRUS NOT TYPED	0	1	0	0	0	0	0	0	0	0	1
9721 HTLV-1	0	3	0	0	0	0	0	0	0	0	3
9906 BARMAN FOREST VIRUS	0	0	0	0	0	0	1	0	4	0	5
9990 AUSTRALIAN ENCEPHALITIS	0	1	0	0	0	0	0	0	0	0	1
9992 ROSS RIVER VIRUS	5	3	0	1	0	2	2	0	54	0	67
9993 ASTROVIRUS	0	0	0	0	0	1	0	0	0	0	1
9994 SMALL VIRUS (LIKE) PARTICLE	2	0	0	0	0	2	0	2	0	0	6
9995 DENGUE NOT TYPED	0	0	0	0	0	0	1	0	0	0	1
9997 KUNJIN VIRUS	0	0	0	0	0	0	0	0	2	0	2
TOTAL	172	165	38	123	92	163	95	43	286	9	1186

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 22/05/91 TO 04/06/91

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	9	10	11	16	0	0	46
0101 ADENOVIRUS TYPE 1	1	0	0	0	0	0	1
0102 ADENOVIRUS TYPE 2	2	1	0	0	0	0	3
0103 ADENOVIRUS TYPE 3	2	0	0	0	2	0	4
0104 ADENOVIRUS TYPE 4	1	0	0	0	0	0	1
0105 ADENOVIRUS TYPE 5	0	0	0	0	1	0	1
0108 ADENOVIRUS TYPE 8	0	1	0	0	0	0	1
0111 ADENOVIRUS TYPE 11	6	1	0	0	0	0	7
0118 ADENOVIRUS TYPE 18	0	0	0	0	1	0	1
0126 ADENOVIRUS TYPE 26	0	2	0	0	0	0	2
0128 ADENOVIRUS TYPE 28	0	1	0	0	0	0	1
0131 ADENOVIRUS TYPE 31	0	0	0	0	1	0	1
0144 ADENOVIRUS TYPE 44	0	1	0	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	1	2	0	0	0	0	3
0201 INFLUENZA A VIRUS	2	0	1	0	0	0	3
0203 INFLUENZA B VIRUS	0	1	0	0	2	0	3
0302 PARAINFLUENZA VIRUS TYPE 2	0	4	7	1	5	0	17
0303 PARAINFLUENZA VIRUS TYPE 3	3	9	6	1	4	0	23
0399 PARAINFLUENZA VIRUS TYPING PEN	0	1	0	0	0	0	1
0400 RESPIRATORY SYNCYTIAL VIRUS (R	15	6	15	0	1	0	37
0500 RHINOVIRUS (ALL TYPES)	8	21	4	0	0	0	33
0600 MYCOPLASMA PNEUMONIAE	4	7	0	0	1	0	12
0700 ORNITHOSIS-PSITTACOSIS	2	6	0	0	0	0	8
0809 COXSACKIEVIRUS A9	0	3	0	0	0	0	3
0902 COXSACKIEVIRUS B2	2	0	0	0	0	0	2
0903 COXSACKIEVIRUS B3	2	0	0	0	0	0	2
0904 COXSACKIEVIRUS B4	5	0	0	0	0	0	5
1007 ECHOVIRUS TYPE 7	1	0	0	0	0	0	1
1009 ECHOVIRUS TYPE 9	1	0	0	0	0	0	1
1022 ECHOVIRUS TYPE 22	1	0	0	0	0	0	1
1100 POLIOVIRUS NOT TYPED	7	0	0	0	0	0	7
1101 POLIOVIRUS TYPE 1	1	0	0	0	0	0	1
1102 POLIOVIRUS TYPE 2	2	0	0	0	0	0	2
1200 MUMPS VIRUS	1	1	0	0	0	0	2
1300 HERPES VIRUS GROUP - NOT TYPED	0	7	0	4	0	0	11
1301 HERPES SIMPLEX VIRUS - NOT TYP	22	0	0	3	1	3	29
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	17	8	5	5	18	0	53
1303 VARICELLA-ZOSTER VIRUS	5	6	7	3	0	0	21
1306 HERPES SIMPLEX TYPE 1	2	29	36	31	24	1	123
1307 HERPES SIMPLEX TYPE 2	12	35	42	53	24	0	166
1399 HERPES VIRUS TYPING PENDING	0	2	0	0	0	0	2
1401 COXIELLA BURNETII	1	0	9	0	0	0	10
1502 PICORNIA VIRUS - NOT TYPED = E	7	0	14	1	0	0	22
1512 VACCINIA VIRUS	0	3	0	0	0	0	3
1521 MEASLES VIRUS	3	6	0	0	0	0	9
1522 RUDELLA VIRUS	5	2	1	1	0	0	9
1532 HEPATITIS B ANTIGEN	41	18	42	16	3	0	120
1535 HEPATITIS A ANTIBODY	7	3	3	5	2	0	20
1536 HEPATITIS C VIRUS	2	0	0	5	0	0	7
1537 HEPATITIS, DELTA	0	0	4	0	0	0	4
1541 CHLAMYDIA TRACHOMATIS - UNSPEC	18	0	0	19	17	4	58
1556 CMV - CYTOMEGALOVIRUS	20	28	19	11	2	1	81
1563 CORONAVIRUS	1	0	0	0	0	0	1
1564 ROTAVIRUS	17	32	0	20	13	0	82
1566 NORWALK AGENT	3	0	0	0	0	0	3
1599 ENTEROVIRUS TYPING PENDING	28	0	0	0	0	0	28
1600 PICORNA VIRUS NOT TYPED	0	0	0	1	0	0	1
9721 HTLV-1	0	0	0	3	0	0	3
9906 BARNAH FOREST VIRUS	1	0	4	0	0	0	5
9990 AUSTRALIAN ENCEPHALITIS	0	0	0	1	0	0	1
9992 ROSS RIVER VIRUS	4	5	54	3	1	0	67
9993 ASTROVIRUS	1	0	0	0	0	0	1
9994 SMALL VIRUS (LIKE) PARTICLE	4	2	0	0	0	0	6
9995 DENGUE NOT TYPED	1	0	0	0	0	0	1
9997 KUNJIN VIRUS	0	0	2	0	0	0	2
TOTAL	301	264	286	203	123	9	1186

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 22/05/91 TO 04/06/91

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

	1	2	3	4	6	7	8	9	10	11	TOTAL
0100 ADENOVIRUS NOT TYPED	0	15	0	0	0	22	0	0	0	0	37
0101 ADENOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	0	1
0102 ADENOVIRUS TYPE 2	0	1	0	0	0	2	0	0	0	0	3
0103 ADENOVIRUS TYPE 3	0	3	0	0	0	0	0	0	0	0	3
0105 ADENOVIRUS TYPE 5	0	1	0	0	0	0	0	0	0	0	1
0111 ADENOVIRUS TYPE 11	0	0	0	0	0	5	0	0	0	0	5
0126 ADENOVIRUS TYPE 26	0	0	0	0	0	1	0	0	0	0	1
0128 ADENOVIRUS TYPE 28	0	0	0	0	0	1	0	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	0	1	0	0	0	0	0	0	0	0	1
0201 INFLUENZA A VIRUS	1	1	0	0	0	0	0	0	0	0	2
0203 INFLUENZA B VIRUS	0	1	0	0	0	0	0	0	0	0	1
0302 PARAINFLUENZA VIRUS TYPE 2	0	17	0	0	0	0	0	0	0	0	17
0303 PARAINFLUENZA VIRUS TYPE 3	1	20	0	0	0	0	0	0	0	0	21
0399 PARAINFLUENZA VIRUS TYPING PEN	0	1	0	0	0	0	0	0	0	0	1
0400 RESPIRATORY SYNCYTIAL VIRUS (R	3	33	0	0	0	0	0	0	0	1	37
0500 RHINOVIRUS (ALL TYPES)	1	30	0	0	0	1	0	0	0	0	32
0600 MYCOPLASMA PNEUMONIAE	1	9	0	0	0	0	0	0	0	0	10
0700 ORNITHOSIS-PSITTACOSIS	0	7	0	0	0	0	0	0	0	0	7
0809 COXSACKIEVIRUS A9	0	1	0	2	0	0	0	0	0	0	3
0902 COXSACKIEVIRUS B2	1	0	0	0	0	1	0	0	0	0	2
0903 COXSACKIEVIRUS B3	1	0	0	0	0	1	0	0	0	0	2
0904 COXSACKIEVIRUS B4	2	0	0	0	0	2	0	0	0	0	4
1007 ECHOVIRUS TYPE 7	0	0	1	0	0	0	0	0	0	0	1
1022 ECHOVIRUS TYPE 22	1	0	0	0	0	0	0	0	0	0	1
1100 POLIOVIRUS NOT TYPED	1	0	0	0	0	6	0	0	0	0	7
1101 POLIOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	0	1
1102 POLIOVIRUS TYPE 2	1	0	1	0	0	0	0	0	0	0	2
1300 HERPES VIRUS GROUP - NOT TYPED	0	0	4	2	0	0	0	0	0	2	8
1301 HERPES SIMPLEX VIRUS - NOT TYP	9	0	1	0	0	0	0	0	0	7	17
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	8	1	0	0	0	1	1	0	0	3	14
1303 VARICELLA-ZOSTER VIRUS	3	1	0	0	1	0	0	0	0	15	20
1306 HERPES SIMPLEX TYPE 1	1	6	1	0	0	0	0	0	0	85	93
1307 HERPES SIMPLEX TYPE 2	0	0	0	0	0	0	0	0	0	81	81
1399 HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	2	2
1401 COXIELLA BURNETII	5	1	0	0	0	0	0	0	0	0	6
1502 PICORNIA VIRUS - NOT TYPED = E	0	6	0	0	0	14	0	0	0	2	22
1521 MEASLES VIRUS	5	0	0	0	0	0	0	0	0	4	9
1522 RUBELLA VIRUS	2	0	0	0	0	0	0	0	0	2	4
1532 HEPATITIS B ANTIGEN	59	0	0	0	0	0	61	0	0	0	120
1535 HEPATITIS A ANTIBODY	4	0	0	0	0	1	15	0	0	0	20
1536 HEPATITIS C VIRUS	4	0	0	0	0	0	1	0	0	0	5
1537 HEPATITIS, DELTA	0	0	0	0	0	0	4	0	0	0	4
1541 CHLAMYDIA TRACHOMATIS - UNSPEC	4	0	0	0	0	1	0	0	0	0	5
1556 CHV - CYTOMEGALOVIRUS	8	16	1	1	0	2	3	0	4	2	37
1563 CORONAVIRUS	0	0	0	0	0	1	0	0	0	0	1
1564 ROTAVIRUS	0	3	0	0	0	79	0	0	0	0	82
1566 NORWALK AGENT	0	0	0	0	0	3	0	0	0	0	3
1599 ENTEROVIRUS TYPING PENDING	1	3	0	0	0	20	0	2	0	0	26
1600 PICORNA VIRUS NOT TYPED	0	0	0	0	0	1	0	0	0	0	1
9721 HTLV-1	3	0	0	0	0	0	0	0	0	0	3
9906 BARMAN FOREST VIRUS	3	0	0	0	0	0	0	0	0	0	3
9990 AUSTRALIAN ENCEPHALITIS	0	0	1	0	0	0	0	0	0	0	1
9992 ROSS RIVER VIRUS	36	1	1	0	0	0	0	0	0	3	41
9993 ASTROVIRUS	0	0	0	0	0	1	0	0	0	0	1
9994 SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	6	0	0	0	0	6
TOTAL	169	179	11	5	1	174	85	2	4	209	839

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2

PERIOD 22/05/91 TO 04/06/91

- | | |
|--------------------------------------|-----------------------------|
| 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	6	0	0	1	0	0	2	0	0	0	9
0103 ADENOVIRUS TYPE 3	1	0	0	0	0	0	0	0	0	0	1
0104 ADENOVIRUS TYPE 4	1	0	0	0	0	0	0	0	0	0	1
0108 ADENOVIRUS TYPE 8	1	0	0	0	0	0	0	0	0	0	1
0111 ADENOVIRUS TYPE 11	1	0	0	0	0	0	0	0	1	0	2
0113 ADENOVIRUS TYPE 18	0	0	0	0	0	0	0	0	1	0	1
0126 ADENOVIRUS TYPE 26	0	0	0	0	0	0	0	0	1	0	1
0131 ADENOVIRUS TYPE 31	0	0	0	0	0	0	0	0	1	0	1
0144 ADENOVIRUS TYPE 44	0	0	0	0	0	0	0	0	1	0	1
0199 ADENOVIRUS TYPING PENDING	1	0	0	0	0	0	1	0	0	0	2
0201 INFLUENZA A VIRUS	0	0	0	0	1	0	0	0	0	0	1
0203 INFLUENZA B VIRUS	0	0	0	0	0	0	0	0	2	0	2
0303 PARAINFLUENZA VIRUS TYPE 3	0	0	0	0	0	0	0	0	2	0	2
0500 RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	0	0	1	0	1
0600 MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	0	1	1	0	2
0700 ORNITHOSIS-PSITTACOSIS	0	0	0	0	0	0	0	1	0	0	1
0904 COXSACKIEVIRUS B4	0	0	0	0	0	0	1	0	0	0	1
1009 ECHOVIRUS TYPE 9	0	0	0	0	0	1	0	0	0	0	1
1200 MUMPS VIRUS	0	0	1	0	0	0	0	0	1	0	2
1300 HERPES VIRUS GROUP - NOT TYPED	0	3	0	0	0	0	0	0	0	0	3
1301 HERPES SIMPLEX VIRUS - NOT TYP	0	9	0	0	0	1	0	0	2	0	12
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	17	6	1	0	4	2	8	0	38
1303 VARICELLA-ZOSTER VIRUS	0	1	0	0	0	0	0	0	0	0	1
1306 HERPES SIMPLEX TYPE 1	7	20	0	0	0	0	0	0	3	0	30
1307 HERPES SIMPLEX TYPE 2	0	84	0	0	0	0	0	0	1	0	85
1401 COXIELLA BURNETII	0	0	0	0	1	0	0	2	1	0	4
1512 VACCINIA VIRUS	0	0	0	0	0	0	0	0	3	0	3
1522 RUBELLA VIRUS	0	0	2	0	0	0	0	2	1	0	5
1536 HEPATITIS C VIRUS	0	0	0	0	0	0	0	0	2	0	2
1541 CHLAMYDIA TRACHOMATIS - UNSPEC	2	49	0	0	0	0	0	0	2	0	53
1556 CMV - CYTOMEGALOVIRUS	0	2	0	0	0	3	3	4	30	1	43
1599 ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	0	2	0	0	2
9906 BARNAH FOREST VIRUS	0	0	0	0	1	0	0	0	1	0	2
9992 ROSS RIVER VIRUS	0	0	0	0	16	0	0	3	7	0	26
9995 DENGUE NOT TYPED	0	0	0	0	0	0	0	1	0	0	1
9997 KUNJIN VIRUS	0	0	0	0	2	0	0	0	0	0	2
TOTAL	20	168	20	7	22	5	11	18	73	1	345