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Communicable Diseases Intelligence

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Contents:

Editor
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VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTING SCHEME: A total of 1056 reports were processed during this period.

Two cases of Q fever were reported during this period - a 16-year-old male abbatoir worker and a 68-year-old female with no apparent occupational exposure.

High level of Ross River virus activity is still prevalent in Western Australia with 72 serologically confirmed cases reported for this period. Comparable Ross River virus activity is also observed in Victoria and data is still being assessed. Current RRV outbreak ativity during the spring and summer months of 1988-1989 in WA and Victoria is shown below:

State	Date of sample collection				
	←1988→				1989
	Sep	Oct	Nov	Dec	Jan
Western Australia	0	4	18	109	70
Victoria	0	2	25	99*	*
Other States	9	1	2	1	0

* The majority of reports from Fairfield Hospital, Victoria, missed the data processing deadline and have not been included.

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

- Figures given may be subject to revision.

Overall data analysis indicates that RRV activity in 1988 (657 reports) was lower than that observed for 1987 (926 reports) with cases evenly distributed between Victoria (28%), WA (27%) and Queensland (27%) compared to last year where Queensland had 86% of the case load.

Echovirus type 9 outbreak activity in Western Australia, which peaked in August (CDI 89/1), has ended with only two isolates reported in December and one in January.

Other reports:

The following reports were provided by Dr TB Lynch, Pathologist, of Rockhampton:

Treponema pallidum was isolated from postmortem liver and spleen tissue from a stillborn male fetus with hydrops fetalis, evidenced by enlargement of heart, liver and spleen. Antenatal screening of the mother was conducted at 28 weeks gestation - 5 days before intra-uterine death occurred. This was the mother's fifth pregnancy (gravida 5, para 2) and the last pregnancy produced a normal infant.

Herpes simplex type 1 was isolated from vesicles on the tongue and skin of a neonate with meningitis. Herpetic lesions were also observed the nipples of the lactating mother. The infection was acquired nosocomially but responded well to acyclovir.

OVERSEAS BRIEF: DENGUE FEVER IN FRENCH POLYNESIA

A report of 20 January 1989 (WER 1989; 64: 35) has advised that 335 cases of dengue fever had been reported in French Polynesia since 22 December 1988. Dengue 1 virus has been confirmed for 38 cases. So far, no cases of dengue haemorrhagic fever have been reported.

The CDI would be interested in hearing of any imported cases of dengue fever or of any local transmission of the disease.

AIDS & HIV SURVEILLANCE - VICTORIA

(Contributed by the AIDS Unit, Health Department, Victoria)

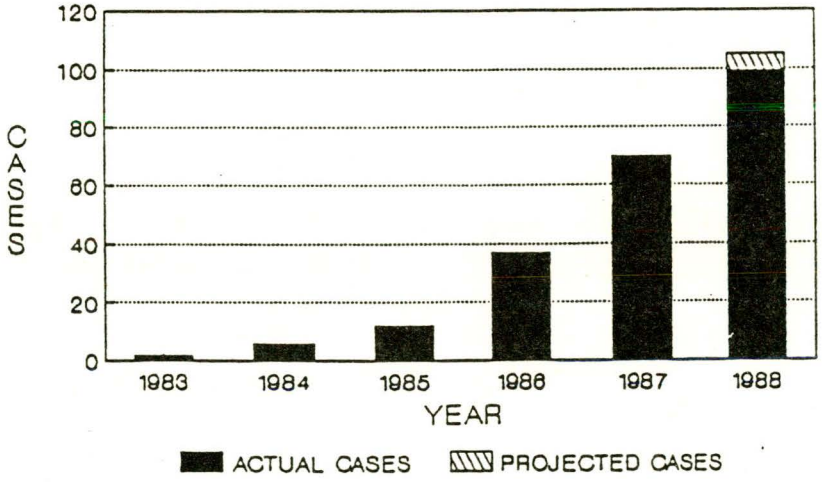
AIDS Surveillance

As of 22 November 1988 a total of 227 cases of acquired immune deficiency syndrome (AIDS) had been notified to the Health Department, Victoria (see Table 1 and Figure 1); 88 of these cases are known to have died. AIDS cases in Victoria by clinical presentation are shown in Table 2.

Table 1: AIDS cases by transmission category and year of diagnosis, 1983-1988

	1983	1984	1985	1986	1987	1988 (To 22/11)	TOTAL M	TOTAL F	TOTAL TOT
Homosexual/ bisexual	2	6	11	34	67	91	211	-	211
IV drug user						1	1	-	1
Homosexual & IV drug user				2	2	1	5	-	5
Haemophiliac			1			2	3	-	3
Blood transfusion				1		1	1	1	2
Heterosexual					2	3	-	5	5
TOTAL	2	6	12	37	71	99	221	6	227

Figure 1: Incidence of AIDS cases by year of diagnosis, Victoria, 1983-1988



Cumulative cases to Nov.22, 1988 = 227

Table 2: AIDS patients by clinical presentation*

PCP	126
Other Opportunistic infection	107
Kaposi sarcoma	43
Other eg. dementia, I.T.P.,	6
Total number of patients	227

* Some patients presented with more than one disease.

HIV Surveillance

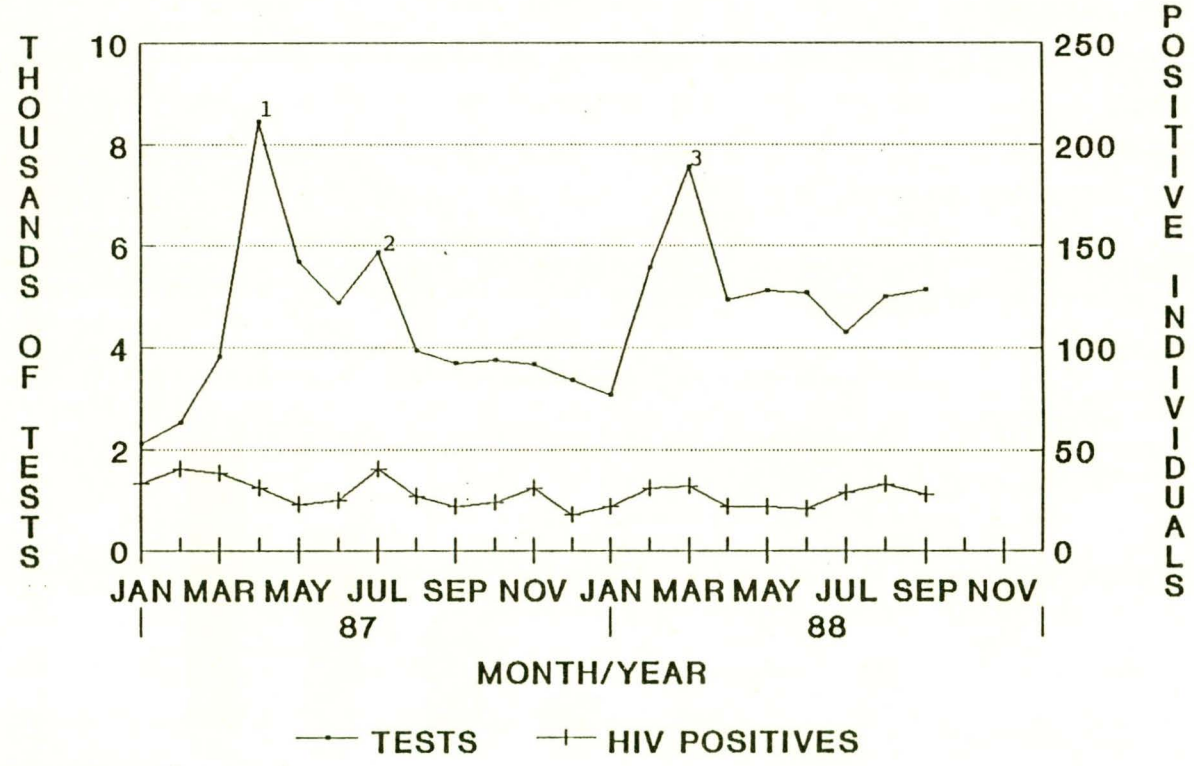
The Victorian HIV Surveillance Programme was established in 1986 by the HIV testing laboratories at Fairfield Hospital, the Royal Melbourne Hospital and the Microbiological Diagnostic Unit (Melbourne) in conjunction with the Health Department, Victoria. The aims of the program, its methods, and the limitations of the data have previously been described (1,2).

For January to September 1988:

- 45,883 HIV ELISA tests were carried out by the three participating laboratories (an increase of 12% compared to the same period last year - see Figure 2);
- 245 new infected individuals; were diagnosed.

Risk category/reason for testing for persons undergoing testing for HIV in 1988 are shown in Table 3.

Figure 2: HIV testing in Victoria, January 1987 - September 1988



1. "Grim Reaper" campaign
2. Suzi's Story on TV
3. Blood Transfusion campaign

Source: Health Department Victoria

Table 3: HIV antibody tests by risk category/reason for testing

Risk cpategory/reason for testing	Number of tests	Number of new positive individuals diagnosed
. Homosexual/bisexual men	2,731	183*
. Persons with haemophilia	254	8
. IV drug users	3,923	24
. Blood transfusion recipients	5,020	2
. Prostitutes	754	0
. Heterosexual contacts	2,514	14#
. Screening of designated groups		
- Prisoners with no identified risk factors	804	0
identified risk factors	959**	0
- IVF patients	1,197	0
- Renal dialysis patients	815	0
- Other screening	9,697	6cf6.@
. Other (no specified risk factors, no identified risk factors, including screened individuals not belonging to above designated groups).	17,215	3

* Includes 7 homosexual/bisexual men who are also IV drug users.

** These are included in the positive individuals with identified risk factors.

Includes 1 males and 8 females with known HIV antibody positive partners.

@ Three males, 3 females for whom heterosexual contact in Africa was the only risk factor.

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2. Victorian HIV Surveillance Programme - 1987. CDI 1988; 88/15: 3-7.

AIDS UPDATE - CANADA

(Based on an update report from the Federal Centre for AIDS, Ottawa, Canada, 3 January 1989)

To 3 January 1989, 2323 cases (2284 adults and 39 paediatric) of AIDS which meet the surveillance case definition for AIDS (revised 1 September 1987) have been reported to the Federal Centre for AIDS, Ottawa. The distribution of those patients by Province of notification (Table 1), by age group (Table 2), by risk category (Table 3) and by primary diagnosis (Table 4) are shown below:

Table 1: AIDS cases by Province of notification

PROVINCE	CASES	(%)	DEATHS
British Columbia	464	(20.0)	255
Alberta	123	(5.3)	70
Saskatchewan	25	(1.1)	16
Manitoba	28	(1.2)	15
Ontario	920	(39.6)	568
Quebec	705	(30.3)	306
New Brunswick	11	(0.5)	7
Nova Scotia	33	(1.4)	13
Prince Edward Island	2	(0.1)	1
Newfoundland	10	(0.4)	8
North West Territories	1	(0.0)	0
Yukon	1	(0.0)	0
TOTAL	2323	(100.0)	1259

Table 2: AIDS cases by sex and age groups

AGE (YEARS)	CASES			DEATHS		
	Male	Female	Total	Male	Female	Total
0-14	18	21	39	11	11	22
15-19	9	0	9	5	0	5
20-29	428	39	467	207	19	226
30-39	981	36	1017	528	21	549
40-49	530	13	543	286	6	292
50+	217	30	247	146	19	165
Unknown	1	0	2	0	0	0
TOTAL	2184	139	2323	1183	76	1259

Table 3: AIDS by risk category

RISK GROUP	CASES			DEATHS		
	Male	Female	Total	Male	Female	Total
ADULTS						
Homo-/bisexual	1862	-	1862	990	-	990
IV drug user	14	3	17	6	2	8
Homo-/bisexual IV Drug User	61	-	61	38	-	38
Blood/blood products recipient	84	33	117	51	20	71
Heterosexual activity**	91	75	166	53	38	91
None of the above	54	7	61	34	5	39
Total	2166	118	2284	1172	65	1237
PAEDIATRIC						
Perinatal transmission	16	17	33	*	*	*
Blood/blood products recipient	2	4	6	*	*	*
Total	18	21	39	10	11	22

* Death breakdown not available.

** Heterosexual activity includes (a) persons originating in or residing in countries with a high prevalence of HIV and where heterosexual transmission of HIV is common; and (b) persons reporting heterosexual activity with person(s) at risk of HIV infection.

Table 4: AIDS by primary diagnosis

PRIMARY DIAGNOSIS	CASES	DEATHS
ADULTS		
Kaposi's Sarcoma (KS)	439	222
Pneumocystis carinii Pneumonia (PCP)	1232	664
KS and PCP	55	37
Other opportunistic infection	430	241
Other malignancies	70	42
HIV Wasting Syndrome	34	15
HIV Encephalopathy	24	16
Total	2284	1237
PAEDIATRIC		
PCP	11	8
Lymphoid interstitial pneumonitis	6	3
Cytomegalovirus	7	6
Other opportunistic infection	15	5
Total	39	22

CONTAMINATION OF MULTI-DOSE VIALS DUE TO REPEAT USAGE OF SYRINGES FOR ASPIRATION - NOVA SCOTIA

(Based on CDWR 1988; 14:193-5)

Multi-dose vials are promoted for use in hospitals because of convenience and cost control. Vials are entered several times and the assumption is that they will remain sterile throughout their periods of use. Early studies of bacterial contamination indicated levels varying from 0-27% (1,2). More recent assessments, including studies on many hundreds of multi-dose vials (3,4,5), have indicated the absence of bacterial infection in such vials. This has been attributed to the addition of bacteriostatic agents, use of single dose medication vials, and adherence to aseptic techniques (6). Moreover, there have been changes in the types of medication dispensed in multi-dose vial form since the earlier studies were reported and changes in preservative types (5) - 2 more important factors. While no cases of HIV transmission have been documented, one study presents the hypothesis that seroconversion to hepatitis B surface antigen was attributable to use of a multi-dose vial of local anaesthetic (7). Outbreaks of *Serratia marcescens* and *Pseudomonas cepacia* septic arthritis have been documented following use of contamined Depo-Medrol* (6). Awareness of the importance of bloodborne viral illnesses must serve to increase our concern regarding prevention of transmission, especially iatrogenic transmission.

The study reported here was initiated because of concerns regarding problems with use of sterile technique involving multiple-dose vials of xylocaine in the Emergency Room. These concerns were expressed to the Pharmacy Committee of the hospital which initiated surveys of multi-dose vials. This paper presents the results of these investigations and hypothesises on how the observed contamination may have been caused. The study was carried out in 2 phases, initially in the Out-patient/Emergency Department of the hospital and then in both the Out-patient/Emergency Department and general hospital patient care areas.

Initial Study: An initial study was made of 23 xylocaine vials and one vial of hapalean collected from the Out-patient/ Emergency Department on 17 May 1988. Contents of the vials were centrifuged and the sediment gram-stained. Sediment remaining after centrifuging 7 cc of fluid from the vials or the remainder of the vial where less than 7 cc remained were cultured on 5% TSA sheep blood agar and observed at 28 and 48 hours. If there was no growth within that period of time, the culture plates were discarded. Ten of the 23 vials (43.5%) of xylocaine contained debris following centrifuging including lint fibres, epithelial cells and red blood cells. Four vials (17.4%) were culture positive after 48 hours at 35°C. Organisms identified included coagulase-negative Staphylococci and gram negative bacilli (coliforms). A control vial of unopened xylocaine was negative both on Gram stain and on culturing. Table 1 provides a summary of results.

* Proprietry name

Table 1: Microbiological Results on 24 Previously Entered Multi-Dose Vials in an Out-Patient/Emergency Department of a Nova Scotia Hospital

GRAM STAINS

Product	*Number in Sample*	*Number contaminated*	*Epithelial Cells*	*Red Blood Cells*	*Fibres*	*Crystals*	*Gram +ve Cocci*
Xylocaine 2% 50mL	11	5	1	1	5	-	-
Control	1	-	-	-	-	-	-
Xylocaine 1% 50mL	6	2	-	-	2	-	-
Control	-	-	-	-	-	-	-
Xylocaine 2% 20mL	6	3	-	-	3	-	-
Control	-	-	-	-	-	-	-
Hepalean	1	1	-	-	1	-	1
Control	-	-	-	-	-	-	-

CULTURES

Product	*Number in Sample*	*Number Positive*	*Staphylococci*	*S. viridans*	*Coliforms*	*Fungi*	*Bacillus sp.*
Xylocaine 2% 50mL	11	2	2	-	1	-	-
Control	1	-	-	-	-	-	-
Xylocaine 1% 50mL	6	2	2	-	-	-	-
Control	-	-	-	-	-	-	-
Xylocaine 2% 20mL	6	-	-	-		-	-
Control	-	-	-	-	-	-	-
Hepalean	1	-	-	-	-	-	-
Control	-	-	-	-	-	-	-

Second Study: Following these initial positive results a second and larger survey was undertaken on 25 May. Forty-seven previously entered multi-dose vials which included the products xylocaine, Dopram*, sodium chloride, Gravol*, sterile water for injection, and hepalean were collected from both the Out-patient/Emergency Department and in-patient units and submitted to the Microbiology Department for analysis as described above. Results of this study indicated that of the 43 specimens that were Gram stained (excluding Gravol* which is not suitable for Gram staining), 9 (21%) contained debris. Seven of these were xylocaine specimens. None of the 8 control specimens contained debris. Seven (14.9%) of the specimens were positive on culture, and 6 of these were xylocaine, representing 6 of 29 xylocaine vials sampled (20.7%). Growth included coagulase-negative *Staphylococci*, *Streptococcus viridans*, fungi, and *Bacillus* sp. One of 5 xylocaine controls was positive on culture. The vial was outdated by almost 1 year (expiry date July, 1987). Table 2 provides a summary of results from Gram stain and cultures of this second survey.

These surveys indicate contaimination with debris and bacteria in a significant number of previously entered multi-dose vials. This finding led to a search for a possible explanation. Of 8 physicians interviewed from the general practice staff of the hospital, 6 indicated that it was not uncommon for them to re-enter multi-dose vials of xylocaine using the same syringe with which they had been administering

* Proprietry name

Table 2: Microbiological Results on 47 Previously Entered Multi-Dose Vials in Both the Out-Patient/Emergency Department and In-Patient Units in a Nova Scotia Hospital

GRAM STAINS

Product	Number in Sample	Number contaminated	Epithelial Cells	Red Blood Cells	Fibres	Crystals	Gram +ve Cocci
Xylocaine 2% 50mL	24	6	-	-	6	1	-
Control	2	-	-	-	-	-	-
Xylocaine 1% 50mL	5	1	1	-	-	-	-
Control	3	-	-	-	-	-	-
Gravol	4	NA	-	-	-	-	-
Control	1	NA	-	-	-	-	-
Hepalean	7	-	-	-	-	-	-
Control	1	-	-	-	-	-	-
Sodium Chloride	1	-	-	-	-	-	-
Control	-	-	-	-	-	-	-
Water inj	4	2	-	-	1	-	1
Control	1	-	-	-	-	-	-
Dopram	2	-	-	-	-	-	-
Control	-	-	-	-	-	-	-

CULTURES

Product	Number in Sample	Number Positive	Staphylococci	S. viridens	Coliforms	Fungi	Bacillus sp.
Xylocaine 2% 50mL	24	5	5	1	-	1	-
Control	2	-	-	-	-	-	-
Xylocaine 1% 50mL	5	1	2	-	-	-	-
Control	3	1	1	-	-	-	-
Gravol	4	1	1	1	-	-	1
Control	1	-	-	-	-	-	-
Hepalean	7	-	-	-		-	-
Control	1	-	-	-	-	-	-
Socium Chloride	1	-	-	-	-	-	-
Control	-	-	-	-	-	-	-
Water inj	4	-	-	-	-	-	-
Control	1	-	-	-	-	-	-
Dopram	2	-	-	-	-	-	-
Control	-	-	-	-	-	-	-

(NA = Not Analyzable)

local anesthesia in order to obtain more. The needle being used to give the injection in this case was removed from the syringe and replaced by the original number 18 needle used to draw up the first syringeful of xylocaine. Two physicians indicated that they always changed both syringe and needle in this situation. One physician indicated that upon using this technique he always told the nurse to discard the multi-dose vial but did not check to see that this had actually been carried out. The debris detected in the Gram stains is direct evidence of the inadequacy of this technique, which probably relates to contamination when vacuums existing in multi-dose vials act to remove cells and bacteria from the syringe, which have entered the syringe tip due to a back pressure in the syringe while in use. Overall, 10 of 52 samples of xylocaine tested (19.2%) were culture-positive, compared to 1 of 19 (5.3%) of other vials tested. A vial of xylocaine is much more likely to be re-entered to get additional drug than other medications where the exact dose required is known initially. In the 1940s Hughes and Evans showed that simply removing a needle from syringe would cause material contaminating in the needle tip to contaminate the syringe itself (8,9). It would appear that this fact is not altogether recognised by practising physicians in this institution and since there is no reason to believe that the practices reported here are markedly

different from those in other institutions in the area, the authors wish to point out the possibility of transmission of serious infection including hepatitis B virus and the human immunodeficiency virus by this route. Very small volumes of human blood (10^{-7} to 10^{-8} mL) have been required to produce hepatitis B infection experimentally in chimpanzees (10). Accidental needlesticks producing infection in man also presumably contain very small amounts of blood. Every effort should be made to see that re-use of syringes during the administration of local anaesthesia does not occur when multi-dose vials are in use.

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NOTIFIABLE DISEASES REPORTED IN AUSTRALIA

Period 9. 14 August 1988 - 10 September 1988

DISEASE	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL	CUMULATIVE TOTAL
Amoebiasis				12					12	49
Ankylostomiasis				2	1		NN		3	25
Anthrax										
Arbovirus infection	3		34				1	NN	38	554
Brucellosis			2						2	10
Campylobacter infection	138	NN	NN	85	26	NN	23		272	2665
Chancroid		NN		NN	1	NN			1	3
Cholera	1								1	3
Congenital rubella syndrome			NN			NN				2
Diphtheria							9		9	38
Donovanosis		NN	8	NN	4	NN	1	NN	13	84
Giardiasis	25	NN	NN	82	19	NN	NN	2	126	1250
Genital herpes	77	NN	66	NN	NN	NN	1	8	152	1173 *
Gonococcal ophthalmia neonatorum		NN			NN	NN		NN		3
Gonnorhoea	30	4	29	49	111	3	49	2	277	2383
Hepatitis A (infectious)	4	5	10	10	15	1	1		46	437
Hepatitis B (serum)	33	19	57	2	22	7	1	1	142	1045
Hepatitis - unspecified			2		NN	NN			2	51
Hydatid disease										8
Lassa fever										
Legionnaires disease	2					NN		NN	2	26
Leprosy			1						1	14
Leptospirosis	1								1	57
Lymphogranuloma venereum		NN		NN	NN	NN		NN		
Marburg disease										

DISEASE	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL	CUMULATIVE TOTAL
Malaria	4	4	1	6	6			1	22	261
Measles	1	NN	11		1	NN	NN		13	80
Meningococcal infections	1	2	1	5	2	NN			11	76 *
Non-specific urethritis	159	NN		NN	NN	NN	1	NN	160	2280
Ornithosis		1	80						81	298
Pertussis (whooping cough)		4	NN			NN		NN	4	87
Plague										
Poliomyelitis										
Q fever	1		18						19	254
Rabies						NN		NN		
Salmonella infections	68	6	45	24	24	6	6	4	183	2418
Shigella infections	5	4	11	2	6		10		38	439
Smallpox										
Syphilis	17	1	47	12	20		63	1	161	1394
Tetanus				1	1				2	4
Trachoma		NN	NN	115	1	NN	NN		116	260
Tuberculosis (all forms)	48	22	13	11	17		7		118	792 *
Typhoid fever	3								3	33
Typhus (all forms)										5
Vibrio parahaemolyticus infection		NN	NN			NN		NN		2
Yellow fever										
Yersinia infections	10		NN	6		NN		NN	16	135

NN - Not notifiable

(Note: Data collected under the National Diseases Returns may bear little or no correlation to that collected under the CDI laboratory scheme. Whilst the latter is a sampling program, the Notifiable Diseases data is dependent upon voluntary reporting by medical practitioners etc.)

* ADJUSTMENT TO THE CUMULATIVE TOTAL SINCE LAST REPORT

Genital Herpes	+1	Australian Capital Territory	
Meningococcal Infect	+1	South Australia	Period 2
	+2	South Australia	Period 4
	+1	South Australia	Period 7
Tuberculosis	+3	South Australia	Period 7

NOTIFIABLE DISEASES REPORTED IN AUSTRALIA

Period 10. 11 September 1988 - 8 October 1988

DISEASE	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL	CUMULATIVE TOTAL
Amoebiasis				1	2				3	52
Ankylostomiasis					2		NN		2	27
Anthrax										
Arbovirus infection	42		22				1	NN	65	619
Brucellosis			1						1	11
Campylobacter infection	158	NN	NN	124	28	NN	25	2	337	3001 *
Chancroid		NN		NN		NN		1	1	4
Cholera										3
Congenital rubella syndrome			NN			NN				2
Diphtheria							10		10	48
Donovanosis		NN	7	NN	4	NN	3	NN	14	98
Giardiasis	40	NN	NN	51	23	NN	NN	2	116	1367
Genital herpes	38	NN	119	NN	NN	NN	2		159	1332
Gonococcal ophthalmia neonatorum		NN			NN	NN		NN		3
Gonnorhoea	69		47	14	35	5	41		211	2594
Hepatitis A (infectious)	2	5	8	13	10				38	474
Hepatitis B (serum)	35	6	49	6	35	2		2	135	1179
Hepatitis - unspecified		1		2	NN	NN		1	4	55
Hydatid disease	2		1	1		2			6	14
Lassa fever										
Legionnaires disease		1				NN		NN	1	27
Leprosy					1				1	15
Leptospirosis	3	2		1					6	63
Lymphogranuloma venereum		NN		NN	NN	NN		NN		
Marburg disease										

DISEASE	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL	CUMULATIVE TOTAL
Malaria	1	2		2	8	1	1		15	278
Measles	6	NN	46	2	1	NN	NN		55	135
Meningococcal infections	1	1	1	3		NN	1	1	8	84
Non-specific urethritis	188	NN		NN	NN	NN	11	NN	199	2479
Ornithosis	1		104						105	403
Pertussis (whooping cough)		5	NN	1	4	NN			10	96 *
Plague										
Poliomyelitis										
Q fever	12		15		1				28	282
Rabies						NN		NN		
Salmonella infections	41	15	43	15	20	3	9	1	147	2566 *
Shigella infections	4	2	7	3	2	2	6		26	465
Smallpox										
Syphilis	22	2	82	3	13		50	1	173	1567
Tetanus										3
Trachoma		NN	NN	2		1	NN		3	263
Tuberculosis (all forms)	32	30	16	2	12	1		2	95	888 *
Typhoid fever		2							2	35
Typhus (all forms)		1							1	6
Vibrio parahaemolyticus infection		NN	NN			NN		NN		2
Yellow fever										
Yersinia infections	2		NN			NN		NN	2	137

NN - Not notifiable

(Note: Data collected under the National Diseases Returns may bear little or no correlation to that collected under the CDI laboratory scheme. Whilst the latter is a sampling program, the Notifiable Diseases data is dependent upon voluntary reporting by medical practitioners etc.)

* ADJUSTMENT TO THE CUMULATIVE TOTAL SINCE LAST REPORT

Campylobacter infection	-1 South Australia	Period 6
Malaria	+1 South Australia	Period 2
	+1 South Australia	Period 5
Pertussis	-1 South Australia	Period 2
Salmonella infection	+1 Australian Capital Territory	
Tuberculosis	+1 Australian Capital Territory	

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 19/1/89 TO 1/2/89

1. CODE 019 - FAIRFIELD(VIC)
2. CODE 065 - STATE LAB(WA)
3. CODE 110 - IMVS(SA)
4. CODE 111 - RCH(VIC)
5. CODE 112 - ICPMR(NSW) WVH(ACT)
6. CODE 113 - PRH POW(NSW)
7. CODE 114 - RAHC(NSW)
8. CODE 115 - STATE LAB(QLD)

		019	065	110	112	113	114	115	TOTAL
0100	ADENOVIRUS NOT TYPED	0	2	4	8	0	1	4	19
0101	ADENOVIRUS TYPE 1	0	2	1	2	0	1	0	6
0102	ADENOVIRUS TYPE 2	0	3	4	3	0	0	0	10
0103	ADENOVIRUS TYPE 3	0	4	2	0	0	0	0	6
0105	ADENOVIRUS TYPE 5	0	5	0	0	0	0	0	5
0107	ADENOVIRUS TYPE 7	0	0	0	1	0	0	0	1
0113	ADENOVIRUS TYPE 13	0	0	0	1	0	0	0	1
0119	ADENOVIRUS TYPE 19	0	0	0	1	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	1	1	0	2
0201	INFLUENZA A VIRUS	0	0	0	1	0	0	0	1
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	0	0	1	0	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	0	0	0	0	0	0	1	1
0302	PARAINFLUENZA VIRUS TYPE 2	0	0	0	0	0	0	2	2
0303	PARAINFLUENZA VIRUS TYPE 3	0	3	8	3	2	2	8	26
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	2	1	0	0	1	1	5
0500	RHINOVIRUS (ALL TYPES)	0	10	6	4	0	1	5	26
0600	MYCOPLASMA PNEUMONIAE	0	8	10	2	0	0	0	20
0904	COXSACKIEVIRUS B4	0	0	0	4	0	1	0	5
0905	COXSACKIEVIRUS B5	0	1	2	0	0	0	0	3
1004	ECHOVIRUS TYPE 4	0	8	0	0	0	0	0	8
1006	ECHOVIRUS TYPE 6	0	1	0	0	0	0	0	1
1009	ECHOVIRUS TYPE 9	0	3	2	0	0	0	0	5
1027	ECHOVIRUS TYPE 27	0	1	0	0	0	0	0	1
1030	ECHOVIRUS TYPE 30	0	4	1	2	0	0	0	7
1033	ECHOVIRUS TYPE 33	0	0	0	1	0	0	0	1
1101	POLIOVIRUS TYPE 1	0	0	0	1	0	0	0	1
1102	POLIOVIRUS TYPE 2	0	0	0	1	0	0	0	1
1103	POLIOVIRUS TYPE 3	0	0	0	1	0	0	0	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	1	0	13	0	1	0	15
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	2	1	87	0	2	0	92
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	5	13	20	0	0	0	38
1303	VARICELLA-ZOSTER VIRUS	0	5	2	5	0	0	1	13
1306	HERPES SIMPLEX TYPE 1	0	49	0	0	0	0	54	103
1307	HERPES SIMPLEX TYPE 2	0	71	0	2	0	0	47	120
1401	COXIELLA BURNETI	0	1	0	1	0	0	0	2
1502	PICORNIA VIRUS - NOT TYPED = E	0	5	0	5	5	0	18	33
1522	RUBELLA VIRUS	0	2	2	4	0	0	0	8
1532	HEPATITIS B ANTIGEN	0	22	14	46	5	2	12	101
1537	HEPATITIS A ANTIBODY	0	7	2	0	0	0	0	9
1541	CHLAMYDIA A - C. TRACHOMATIS	19	71	61	31	0	0	22	204
1556	CMV - CYTOMEGALOVIRUS	0	7	6	16	0	2	7	38
1564	ROTAVIRUS	0	14	7	2	3	2	0	28
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	9	0	0	9
9992	ROSS RIVER VIRUS	0	72	0	1	0	0	0	73
9994	SMALL VIRUS (LIKE) PARTICLE	0	2	0	0	0	1	0	3
TOTAL		19	393	149	270	25	18	182	1056

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VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1.

PERIOD 19/1/89 TO 1/2/89

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	5	6	7	8	9	10	11	TOTAL
0100	ADENOVIRUS NOT TYPED	0	10	0	0	0	0	4	0	0	0	2	16
0101	ADENOVIRUS TYPE 1	0	1	0	1	0	0	4	0	0	0	0	6
0102	ADENOVIRUS TYPE 2	1	0	0	0	0	0	8	0	0	0	0	9
0103	ADENOVIRUS TYPE 3	0	3	0	0	0	0	1	0	0	0	0	4
0105	ADENOVIRUS TYPE 5	1	1	0	0	0	0	2	0	0	0	0	4
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	0	0	2	0	0	0	0	2
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	1	0	0	0	0	0	0	0	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	0	1	0	0	0	0	0	0	0	0	0	1
0302	PARAINFLUENZA VIRUS TYPE 2	0	2	0	0	0	0	0	0	0	0	0	2
0303	PARAINFLUENZA VIRUS TYPE 3	2	23	0	0	0	0	0	0	0	0	0	25
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	5	0	0	0	0	0	0	0	0	0	5
0500	RHINOVIRUS (ALL TYPES)	0	23	0	1	0	0	0	1	0	0	1	26
0600	MYCOPLASMA PNEUMONIAE	2	12	0	0	0	0	0	0	0	0	0	14
0904	COXSACKIEVIRUS B4	1	1	1	0	0	0	2	0	0	0	0	5
0905	COXSACKIEVIRUS B5	1	2	0	0	0	0	0	0	0	0	0	3
1004	ECHOVIRUS TYPE 4	0	0	0	1	0	5	0	0	0	0	0	6
1009	ECHOVIRUS TYPE 9	0	1	0	1	0	0	2	0	0	0	0	4
1030	ECHOVIRUS TYPE 30	1	0	0	2	0	1	3	0	0	0	0	7
1033	ECHOVIRUS TYPE 33	0	0	0	0	0	0	1	0	0	0	0	1
1101	POLIOVIRUS TYPE 1	0	0	0	0	0	0	1	0	0	0	0	1
1102	POLIOVIRUS TYPE 2	0	1	0	0	0	0	0	0	0	0	0	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	0	0	0	0	0	0	0	0	0	3	3
1301	HERPES SIMPLEX VIRUS - NOT TYP	33	0	0	0	0	0	0	0	0	1	17	51
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	7	1	0	0	0	0	0	2	1	0	1	12
1303	VARICELLA-ZOSTER VIRUS	1	0	0	0	0	2	0	0	0	0	7	10
1306	HERPES SIMPLEX TYPE 1	0	5	0	0	0	0	0	0	0	0	88	93
1307	HERPES SIMPLEX TYPE 2	0	1	0	0	1	0	0	0	0	0	84	86
1502	PICORNIA VIRUS - NOT TYPED = E	5	9	0	0	0	1	16	0	1	0	0	32
1522	RUBELLA VIRUS	0	1	0	0	0	1	0	0	0	0	3	5
1532	HEPATITIS B ANTIGEN	64	0	0	0	0	0	0	33	0	0	0	97
1535	HEPATITIS A ANTIBODY	1	0	0	0	0	0	0	8	0	0	0	9
1541	CHLAMYDIA A - C. TRACHOMATIS	21	1	0	0	0	0	0	0	0	2	0	24
1556	CMV - CYTOMEGALOVIRUS	5	7	0	0	0	0	1	5	0	3	2	23
1564	ROTAVIRUS	0	1	0	0	0	0	25	0	1	0	0	27
1599	ENTEROVIRUS TYPING PENDING	1	1	0	1	0	0	4	0	0	0	0	7
9992	ROSS RIVER VIRUS	4	1	0	0	0	0	0	0	0	0	15	20
9994	SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	0	3	0	0	0	0	3
TOTAL		151	115	1	7	1	10	79	49	3	6	223	645

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VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2.

PERIOD 19/1/89 TO 1/2/89

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	2	0	0	0	0	0	0	0	1	0	3
0102	ADENOVIRUS TYPE 2	0	0	0	0	0	1	0	0	0	0	1
0103	ADENOVIRUS TYPE 3	1	0	0	0	0	0	0	1	0	0	2
0105	ADENOVIRUS TYPE 5	0	0	0	0	0	0	1	0	0	0	1
0107	ADENOVIRUS TYPE 7	0	0	0	0	0	0	0	0	1	0	1
0113	ADENOVIRUS TYPE 13	1	0	0	0	0	0	0	0	0	0	1
0119	ADENOVIRUS TYPE 19	1	0	0	0	0	0	0	0	0	0	1
0201	INFLUENZA A VIRUS	0	0	0	0	1	0	0	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	0	0	0	0	0	0	0	0	0	1	1
0600	MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	0	2	4	0	6
1004	ECHOVIRUS TYPE 4	0	0	0	0	0	0	0	2	0	0	2
1006	ECHOVIRUS TYPE 6	0	0	0	0	0	0	0	0	1	0	1
1009	ECHOVIRUS TYPE 9	0	0	0	0	0	0	0	0	1	0	1
1027	ECHOVIRUS TYPE 27	0	0	0	0	0	0	0	0	1	0	1
1103	POLIOVIRUS TYPE 3	0	0	0	0	0	0	0	0	0	1	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	12	0	0	0	0	0	0	0	0	12
1301	HERPES SIMPLEX VIRUS - NOT TYP	1	39	0	0	0	0	0	0	1	0	41
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	20	2	0	0	0	2	2	0	26
1303	VARICELLA-ZOSTER VIRUS	0	0	1	0	0	0	0	0	2	0	3
1306	HERPES SIMPLEX TYPE 1	2	8	0	0	0	0	0	0	0	0	10
1307	HERPES SIMPLEX TYPE 2	0	33	0	0	0	0	0	0	1	0	34
1401	COXIELLA BURNETI	0	0	0	0	0	0	0	2	0	0	2
1502	PICORNIA VIRUS - NOT TYPED = E	0	0	1	0	0	0	0	0	0	0	1
1522	RUBELLA VIRUS	0	0	1	0	1	0	0	1	0	0	3
1532	HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	0	4	0	4
1541	CHLAMYDIA A - C. TRACHOMATIS	0	179	0	0	0	0	0	0	1	0	180
1556	CMV - CYTOMEGALOVIRUS	0	1	1	0	0	1	1	1	10	0	15
1564	ROTAVIRUS	0	0	0	0	0	0	0	0	1	0	1
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	0	1	0	1	0	0	2
9992	ROSS RIVER VIRUS	0	0	0	1	49	0	0	3	0	0	53
TOTAL		8	272	24	3	51	3	2	15	31	2	411