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Communicable Diseases Intelligence

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Contents:

VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTING SCHEME: A total of 1 054 reports were processed for this period.

Seventeen cases of Q fever were reported, 3 from New South Wales, 14 from Queensland. Occupational exposure data were only available for 9 Queensland cases:

. 3 male meatworkers (one from Roma aged 34 and one from Dalby aged 17 and one from Bildela);

. one male station hand aged 26 from from Roma;

. two male graziers, one aged 36 from Muttaburra and one from Taroom;

. one male transport worker aged 31 from Cairns;

. one male manager aged 33 from Towoomba; and

. one farmers wife from Monto.

None of the seventeen patients were involved in the Q fever vaccine field trial conducted in South Australia.

Cytomegalovirus (CMV) was isolated from:

. urine and/or saliva of 5 male HIV antibody positive patients who had completed 46 or 48 weeks of AZT treatment, they were aged, 33, 50, 37, 45 and 50 respectively.

. urine of 2 male HIV antibody positive patients aged 24 and 41 with CMV retinitis after DHPG therapy.

The Bulletin is compiled and distributed by the Public Health Section, Communicable Diseases Branch, Department of Community Services and Health.

. sputum of a male AIDS patient on AZT.

. urine of a 3 month old female with intussusception.

. lung biopsy of a 4 month old male who died of Sudden Infant Death Syndrome (SIDS).

. urine of a newborn, whose mother had a CMV infection in the third trimester of pregnancy.

HIV ANTIBODY TESTING OF DONORS OF SEMEN, ORGANS AND TISSUES

(Based on MMWR, Vol 37, No 4, 5 February 1988)

The following recommendations regarding storage and use of semen were prepared by the Food and Drug Administration and the Centers for Disease Control with the endorsement of the American Association of Tissue Banks, the American Fertility Society, and the American College of Obstetricians and Gynecologists.

The United States Public Health Service recommended in 1985 that blood or serum from prospective donors of organs, tissues or semen should be tested for the presence of antibody to human immunodeficiency virus (HIV) [1]. Organs, tissues and semen from HIV antibody positive persons must be considered as potentially infectious. Despite these recommendations evidence of the transmission of HIV infection has occured through:

. an allogeneic skin graft in April 1987 [3] and

. a cadaveric organ donor (May 1987) who had received multiple blood transfusions and was found to be HIV antibody positive after the organs were transplanted [4].

The transmission of viral hepatitis B was also reported in two cases (1986 and 1987) of artificial insemination with donated semen [5,6].

The American Medical Association at its meeting in June 1987, adopted a recommendation that testing for antibody to HIV be performed for all donors of blood, organs or tissues intended for transplantation and for donors of semen or ova [7]. The American Association of Tissue Banks and the American Fertility Society, have published standards and guidelines designed to prevent or minimize the possibility of transmitting disease through artifical insemination or allotransplants [8,9].

Based on current knowledge the following recommendations are made with respect to organ and tissue transplantation and artificial insemination:

. Prospective donors of organs, tissues, and semen should be tested for antibody to HIV [1,6];

. Donors who have received blood transfusions should have HIV testing carried out on a serum sample taken prior to the receipt of blood transfusions to avoid situations in which multiple transfusions might result in antibody loss due to haemodilution [6];

. Organs and tissues from prospective donors found seropositive for HIV antibody should not be used except when the transplantation of an indispensable organ is necessary to save a patients' life. The potential recipient or the appropriate family members should be informed of the risks of acquiring HIV infection.

In the past, fresh sperm has been routinely recommended for use in artificial insemination and may still be appropriate when semen is from a donor in a mutually monogamous marriage/relationship with the recipient. However it is now considered prudent to freeze samples from all other donors and store them in that state for a minimum of 6 months. Before frozen semen is used for artificial insemination, a blood sample taken at the time the semen was collected and a second blood sample taken a minimum of 6 months later should be tested for HIV antibody. Responsible medical personnel must be certain that the blood samples are from the same donor, and the donor's identity must be assured. Frozen semen should be used only if both of the tests are negative.

These specific safeguards should be observed in addition to the preliminary precautions that the donor had:

. no history of risk factors for HIV infection and;

. a physical examination, properly documented by a licensed physician at the time of donation, that showed no obvious evidence of HIV infection.

The American Fertility Society has already modified its guidelines in accordance with these recommendations[10] and these revised guidelines have been accepted by the American College of Obstetricians and Gynecologists. The American Association of Tissue Banks is in the process of similarly revising its standards.

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AIDS UPDATE - UNITED KINGDOM

(Based on CDR, 88/05, page 3, 5 February 1988)

To 31 January 1988, 1283 cases of AIDS meeting the surveillance case definition for AIDS have been reported to the PHLS Communicable Disease Surveillance Centre. The distribution of those cases by country and region of report (Table 1), by risk category (Table 2) and by indicator disease at diagnosis are shown below:

TABLE 1: AIDS cases by country and region of report.

	Cases	Deaths
ENGLAND		
Northern	31	22
Yorkshire	20	15
Trent	22	8
East Anglia	18	12
N W Thames	572	284
N E Thames	239	141
S E Thames	115	69
S W Thames	45	28
Wessex	30	15
Oxford	23	12
South Western	22	18
West Midlands	21	16
Mersey	17	12
North Western	40	29
WALES	19	15
SCOTLAND	44	21
NORTHERN IRELAND	5	3
TOTALS	1283	720

TABLE 2: AIDS cases by risk category - at 31 January 1988

Risk Group	Number of Cases Male	Female	Total	Number of Deaths
Homo-/Bi-sexual	1079	-	1079	597
IV drug user	16	5	21	13
Homo-/Bi-sexual IV drug user	21	-	21	8
Blood transfusion recipient*	88	10	98	72
Heterosexual activity#	27	17	44	20
Child of at risk /infected parent	5	8	13	6
None of the above	6	1	7	4
TOTAL	1242	41	1283	720

* includes cases with haemophilia (72 males, 1 female, 54 deaths)

\# This includes 35 persons (24 males, 11 females, 13 deaths) presumed to have been infected abroad.

TABLE 3: AIDS patients by clinical presentation.

INITIAL DISEASE REPORTED	CASES
P. carinii pneumonia (PCP)	620
Kaposi's sarcoma (KS) alone	267
KS+ PCP	51
Other indicator disease	345
	1283

AIDS UPDATE - INTERNATIONAL

(Based on WER No.06, 5 February 1988)

Global data - AIDS cases reported to WHO, by country, as of 31 January 1988.

Country/Area	Date of report	Number of cases
Africa		
Algeria	01.06.87	5
Angola	26.09.86	6
Benin	18.05.87	3
Botswana	10.10.87	13
Burkina Faso	30.06.87	26
Burundi	15.10.87	569
Cameroon	05.03.87	25
Cape Verde	30.04.87	4
Central African Republic	31.10.86	254
Chad	13.11.86	1
Comoros	13.11.86	—
Congo	13.11.86	250
Côte d'Ivoire	20.11.87	250
Djibouti	01.10.87	—
Egypt	06.07.87	1
Ethiopia	04.12.87	19
Gabon	06.07.87	13
Gambia	16.03.87	14
Ghana	25.05.87	145
Guinea	12.11.87	4
Guinea-Bissau	20.11.87	16
Kenya	10.11.87	964
Lesotho	27.11.87	2
Liberia	12.06.87	2
Madagascar	25.04.87	—
Malawi	13.11.86	13
Mali	08.09.87	—
Mauritania	13.11.86	—
Mauritius	15.09.87	1
Mozambique	08.12.87	4
Nigeria	22.05.87	5
Reunion	10.06.87	1
Rwanda	30.11.86	705
Sao Tomé and Principe	01.12.86	—
Senegal	13.10.87	27
Seychelles	13.11.86	—
Sierra Leone	03.11.87	—
South Africa	10.12.87	93
Sudan	23.08.87	12
Swaziland	01.07.87	7
Togo	13.11.86	—
Tunisia	06.12.87	11
Uganda	31.10.87	2 369
United Republic of Tanzania	17.10.87	1 608
Zaire	30.06.87	335
Zambia	09.12.87	536
Zimbabwe	28.08.87	380
Total		**8 693**
Americas		
Anguilla	31.03.87	2
Antigua and Barbuda	30.06.87	3
Argentina	30.09.87	120
Bahamas	16.10.87	163
Barbados	30.09.87	52
Belize	30.09.87	4
Bermuda	30.09.87	75
Bolivia	16.10.87	4
Brazil	27.09.87	2 325
British Virgin Islands	31.03.87	—
Canada	14.12.87	1 423
Cayman Islands	31.03.87	2
Chile	30.09.87	56
Colombia	30.09.87	153
Costa Rica	30.09.87	39
Cuba	16.10.87	6
Dominica	30.09.87	5
Dominican Republic caine	16.10.87	352
Ecuador	30.09.87	52
El Salvador	03.10.87	16
French Guiana	16.10.87	93
Guadeloupe	30.06.87	51
Grenada	16.10.87	7
Guatemala	30.09.87	30
Guyana	30.09.87	5
Haiti	30.09.87	912
Honduras	15.09.87	51
Jamaica	30.09.87	30
Martinique	31.06.87	27
Mexico	16.10.87	713
Montserrat	30.09.87	—
Nicaragua	18.09.87	19
Panama	30.09.87	22
Paraguay	30.06.87	14
Peru	30.09.87	44
Saint Christopher and Nevis	30.09.87	1
Saint Lucia	30.09.87	6
Saint Vincent and the Grenadines	30.09.87	7
Suriname	30.09.87	6
Trinidad and Tobago	30.11.87	206
Turks and Caicos Islands	30.06.87	4
United States of America	28.12.87	49 743
Uruguay	30.09.87	14
Venezuela	30.09.87	101
Total		**56 958**
Asia		
Bangladesh	14.04.87	—
Bhutan	14.04.87	—
Brunei Darussalam	08.09.87	—
Burma	14.04.87	—
China	08.09.87	2
China (Province of Taiwan)	26.01.86	1
Cyprus	01.06.87	3
Democratic People's Republic of Korea	09.05.87	—
Eastern Mediterranean Region	10.09.87	36
Hong Kong	17.11.87	6
India	09.05.87	9
Indonesia	21.04.87	1
Israel	30.09.87	43
Japan	14.12.87	59
Jordan	06.12.87	3
Lebanon	03.06.87	3
Malaysia	08.09.87	1
Maldives	30.06.87	—
Mongolia	30.09.87	—
Nepal	09.05.87	—
Philippines	30.10.87	10
Qatar	09.05.87	9
Republic of Korea	08.09.87	1
Singapore	30.06.87	2
Sri Lanka	14.04.87	2
Thailand	12.10.87	12
Turkey	30.06.87	21
Viet Nam	08.09.87	—
Total		**224**
Europe		
Albania	31.08.87	—
Austria	30.09.87	120
Belgium	30.09.87	280
Bulgaria	06.10.87	3
Czechoslovakia	30.09.87	7
Denmark	30.09.87	202
Finland	30.09.87	22
France	30.09.87	2 523
German Democratic Republic	30.09.87	4
Germany, Federal Republic of	30.11.87	1 588
Greece	30.09.87	78
Hungary	30.09.87	6
Iceland	30.09.87	4
Ireland	30.09.87	25
Italy	30.09.87	1 104
Luxembourg	30.09.87	8
Malta	30.09.87	7
Netherlands	30.09.87	370
Norway	30.09.87	64
Poland	30.06.87	3
Portugal	30.09.87	81
Romania	30.09.87	2
Spain	30.09.87	624
Sweden	07.12.87	156
Switzerland	30.09.87	299
USSR	05.08.87	4
United Kingdom	04.12.87	1 170
Yugoslavia	30.09.87	21
Total		**8 775**
Oceania		
Australia	07.12.87	681
Cook Islands	08.09.87	—
Fiji	08.09.87	—
French Polynesia	08.09.87	1
Kiribati	26.10.87	—
Mariana Islands	05.08.87	—
New Caledonia and Dependencies	08.09.87	—
New Zealand	14.12.87	59
Papua New Guinea	08.09.87	—
Samoa	08.09.87	—
Solomon Islands	08.09.87	—
Tonga	06.10.87	1
Tuvalu	08.09.87	—
Vanuatu	08.09.87	—
Total		**742**
World total		**75 392**

LISTERIA SEPTICAEMIA WITH CELLULITIS - A CASE REPORT

(Contributed by W.D. Rawlinson, D.A. Daley and C. MacLeod, Bacteriology Department, ICPMR, Westmead Hospital, Westmead NSW)

A 40 year old anaesthetist presented with:

- intermittent rigors and worsening malaise, and
- a 2 week history of pain in the right groin,

despite therapy over the previous 3 weeks with flucloxacillin, penicillin G and cotrimoxazole.

Medical history revealed that the patient had:

- a comminuted fracture of the right femur 20 years ago, and
- 5 episodes of recurring cellulitis of the distal right leg in the preceding 16 years; all these previous episodes were of less than 2-weeks duration and responded to oral antibiotics.

All physical and laboratory investigations were unremarkable with the exception of a single blood culture taken on presentation, which revealed short Gram-positive bacilli after 18 hours of incubation. Subsequent laboratory investigations identified the organism as Listeria monocytogenes. Other cultures of direct aspirates of the area of cellulitis were negative.

Notwithstanding the results of blood cultures, antibiotic therapy with 4g of intravenous flucloxacillin per day was initiated on presentation. As the patient had shown clinical response after 5 days of intravenous administration, the treatment was changed to 2g orally for a further 14 days. The cellulitis resolved and was completely healed one week after the cessation of antibiotic therapy.

Comment

Cellulitis is an unusual presentation of listeraemia and in this case could have been the manifestation of a distinct concomitant infection. Previous episodes of cellulitis in this patient were not accompanied by septicaemia and L. monocytogenes was not isolated from direct aspirates of the cellulitic lesions.

The Listeria cultured from blood showed typical sensitivity to ampicillin, penicillin (MIC $\leq$ 0.25 mg/L), flucloxacillin and erythromycin but was resistant to cotrimoxazole, gentamicin and tobramycin. The patient responded rapidly to intravenous then oral flucloxacillin and remained well when reviewed six months later.

CDI Editorial Note

Symptomatic listeriosis in adults usually occurs at the extremes of life or in individuals with underlying conditions affecting their immune system[1,2]. Infection with L. monocytogenes following accidental skin inoculation from infected animals has also been reported[3]. The relevant clinical manifestations during symptomatic illness in the adult, are:

. Meningoencephalitis - meningitis is the most frequent form of listeriosis in humans and L. monocytogenes is one of the leading causes of CNS infection in immunocompromised individuals[2]. Listeria meningitis usually presents as an acute febrile illness that cannot be differentiated clinically from other purulent meningitides.

. Septicaemia - immunocompromised adults with Listeria septicaemia usually present with severe illness, high fever, and prostration. Symptoms are nonspecific and include fatigue, malaise, nausea and vomiting. Abdominal pain and diarrhoea are not uncommon. In some instances extensive seeding of the liver with abscesses produces an acute hepatitic presentation with massive elevation of transaminases[4].

In adults, the prognosis depends on the underlying conditions. Septicaemia without CNS involvement carries a lower mortality rate (11%) than meningoencephalitis (30%). Adolescents and young adults without severe underlying disease usually recover uneventfully from meningitis[5], but half of all surviving adults suffer neurologic sequelae, including cranial nerve and major limb palsies, mental deficits, and aphasia[6].

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TYPHOID VACCINES

The mechanism(s) of protective immunity in typhoid fever have not been well characterised. This knowledge has been limited by the lack of an animal model, as man is the only natural host of Salmonella typhi[1].

Studies of the immunopathology of typhoid fever from clinicopathological observation in patients and volunteers has given some clues to the immune processes required for recovery from typhoid fever.

S. typhi is a highly invasive organism that rapidly and efficiently penetrates the intestinal mucosa where the bacteria elicit a chemotactic response that is characterised by an influx of macrophages. These macrophages ingest (but do not inactivate) the bacteria and carry them into the general circulation via lymph drainage from the mesenteric nodes.[2] It is thought that the S. typhi bacteria reside in macrophages throughout the organs of the reticulo-endothelial system during the incubation period (10-14 days) until the onset of clinical typhoid fever[2].

Specific secretory IgA (sIgA) seems to be the first line of defence against the invasiveness of S. typhi bacteria into the gut[1]. Antibody to the Vi antigen seems to be beneficial in combatting the bacteria in the circulation where they remain for a short while free of phagocytes[1]. Systemic antibodies to the somatic (0) and flagellar (H) antigens of S. typhi have not been found to play a role in the prevention and recovery from disease[1].

The elimination of intracellular bacteria seems to be an important immune process in the recovery from S. typhi infection and this seems to be mediated by cell mediated immune mechanisms[1].

It has been shown that the protective effect of natural immunity following infection with S. typhi can be overcome in volunteers by increasing the infective dose at subsequent exposure[4]. Immunity to S. typhi is thus not absolute but relative in nature. A number of non-specific factors seem to play a role in the resistance to S. typhi infection. These include natural barriers (eg gastric acidity), genetic factors and others. Infection is also dependent on the numbers of organisms ingested, the ID_{50} being 10^7 organisms.

Three types of vaccines are currently available and offer some immune protection against S. typhi infection provided the infective dose does not exceed 10^7 organisms.

I Inactivated parenteral vaccines

There are two inactivated vaccines available, one is heat-inactivated phenol-preserved S. typhi Ty 2 and the other is acetone-inactivated S. typhi Ty 2[11].

These vaccines may be given subcutaneously or intradermally and each dose contains $1x10^9$ inactivated bacteria.

Field trials with these two vaccines conducted in different typhoid endemic areas gave efficacies of 79-93% for the acetone-inactivated S. typhi Ty 2 and 47-77%[11] for the heat-inactivated phenol preserved S. typhi Ty 2. The heat inactivated vaccine is most widely used in developing countries due to low cost.

Both the acetone-inactivated and the heat-inactivated phenol-preserved vaccines stimulated specific systemic humoral responses as well as systemic cell mediated immunity. The specific secretory-IgA (S-IgA) response was difficult to determine as a large percentage of vaccinees had detectable levels of this antibody prior to vaccination[11].

These parenteral inactivated whole cell vaccines however, cause significant adverse reactions (fever, malaise, severe local reactions) in at least 20-25% of recipients[12].

II Oral Vaccine

An oral vaccine containing live attenuated S. typhi strain Ty 21a (S. typhi Gal mutant) in enteric coated capsules. This attenuated S. typhi Ty21a strain is a mutant of S. typhi deficient in the enzyme UDP-4-galactose epimerase. In the presence of adequate amounts of galactose this organism, unable to metabolise galactose, accumulates bacteriotoxic levels of galactose-containing metabolites and ultimately undergoes spontaneous lysis. However in the presence of a limited supply of galactose the organism develops a smooth lipopolysacharide coat believed to be antigenically relevant for eliciting an immune response. In the intestine where galactose is normally present the bacteria are unable to survive for long and the vaccine strain cannot be detected in stools 3 days after oral ingestion.[3]

This vaccine can be self administered, 1 capsule (containing 10^9 organisms) is swallowed whole on each of days 1,3 and 5, one hour prior to a meal[3].

Variable protection rates have been reported with the vaccine in placebo controlled randomised field trials. In Alexandria, Egypt using a liquid formulation of the vaccine the efficacy reported over 3 years of surveillance was 96% (range 77-99%). In Santiago, Chile using the enteric coated capsules (3 doses taken as above) the vaccine efficacy was reported to average 67% over a 3 year period (range 47-79%)[3]. This difference in vaccine efficacy may be due to a number of factors including vaccine formulation, genetic constitution of recipient populations and the prevalence of S. typhi in these study groups[3].

The S. typhi Ty 21a oral vaccine stimulated intestinal immunity (sIgA) better than both parenteral vaccines but evoked less systemic antibody response. The S. typhi Ty 21 oral vaccine also stimulated a systemic cell-mediated immune response comparable with that of the acetone inactivated vaccine.

Adverse reactions to the S. typhi Ty 21a oral vaccine are infrequent and generally mild and include constipation, abdominal cramps, diarrhoea, nausea, vomiting, anorexia and fever[3].

These mild adverse reactions as well as the ease of administration make this preparation a preferable vaccine for travellers and for mass immunisation, though the efficacy was no better than the heat/phenol inactivated vaccines.

III Vi Antigen Vaccine

It has been shown that strains of S. typhi containing Vi antigen (a polysacharide capsular antigen) have given higher disease rates in volunteers than strains without the Vi antigen. A Vi capsular polysacharide (CPS) vaccine was developed by extracting the Vi antigen with detergent.

This Vi CPS vaccine was trialled in school children in Eastern Transvaal (South Africa). A single intramuscular injection of Vi CPS vaccine gave a protective efficacy of 64% (range 36-79%). A significant rise of Vi antibodies was seen following vaccination[4].

Minimal side effects only were observed with the Vi CPS vaccine, these included transient headache, nausea, fever, erythema and induration at site of injection. These side effects were much milder than those observed with the whole-cell inactivated vaccines[4].

Further studies on the immunity induced by Vi CPS needs to be carried out and the duration of immunity beyond 21 months remains to be determined.

Comment

The exact mechanisms of protective immunity induced by S. typhi Ty 21a and the heat/phenol inactivated vaccines have not been well characterised.

The parenteral inactivated whole cell vaccines and the oral vaccine stimulate specific systemic humoral and cell mediated immune responses with the oral vaccine stimulating an increase in specific secretory IgA.[1].

The Vi CPS vaccine produces high titres of anti-Vi IgG antibody[4]. However the protective efficacy of the Vi CPS vaccine is no better than that afforded by the S. Typhi Ty 21a vaccine which does not contain Vi antigen or the heat/phenol inactivated parenteral vaccines (which have varying levels of Vi antigen).

The vaccines currently available do not afford the protection that is expected in vaccination programs (90-95%). Live attenuated vaccines however still remain the ultimate goal where mass immunisation is concerned.

In addition to immunisations vaccinees should be counselled to exercise care in selecting food and water for consumption in countries where typhoid is prevalent (Asia, Africa, South America and the Pacific Islands)[3].

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AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

TOTAL VIRAL ISOLATIONS BASED ON DATE OF COLLECTION
PERIOD - FORTNIGHTLY
VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES

Period 22-2-88 to 6-3-88.

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 - PHH POW(NSW)
7. CODE 114 - RAHC(NSW)
8. CODE 115 - STATE LAB(QLD)

		019	065	110	111	112	113	114	115	TOTAL
0100	ADENOVIRUS NOT TYPED	7	4	1	6	0	4	1	7	30
0101	ADENOVIRUS TYPE 1	0	0	0	2	0	0	0	0	2
0102	ADENOVIRUS TYPE 2	0	0	1	4	0	0	0	0	5
0103	ADENOVIRUS TYPE 3	1	0	4	0	0	0	2	0	7
0104	ADENOVIRUS TYPE 4	2	0	3	0	0	0	0	0	5
0105	ADENOVIRUS TYPE 5	0	0	1	1	0	0	0	0	2
0106	ADENOVIRUS TYPE 6	0	0	1	0	0	0	0	0	1
0108	ADENOVIRUS TYPE 8	1	1	0	0	0	0	0	0	2
0130	ADENOVIRUS TYPE 30	1	0	0	0	0	0	0	0	1
0137	ADENOVIRUS TYPE 37	0	1	0	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	3	0	0	0	0	3
0201	INFLUENZA A VIRUS	1	0	0	0	0	1	0	0	2
0203	INFLUENZA B VIRUS	0	0	3	0	0	0	0	0	3
0301	PARAINFLUENZA VIRUS TYPE 1	0	0	0	1	0	0	0	2	3
0303	PARAINFLUENZA VIRUS TYPE 3	0	0	2	2	0	0	1	2	7
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	3	0	0	0	0	0	3	6
0500	RHINOVIRUS (ALL TYPES)	4	0	2	16	0	0	0	5	27
0600	MYCOPLASMA PNEUMONIAE	13	2	8	3	0	3	1	22	52
0700	ORNITHOSIS-PSITTACOSIS	2	0	1	0	0	1	0	1	5
0809	COXSACKIEVIRUS A9	2	0	0	3	0	0	0	0	5
0816	COXSACKIEVIRUS A16	2	0	0	0	0	0	0	0	2
0821	COXSACKIEVIRUS A21	1	0	0	0	0	0	0	0	1
0902	COXSACKIEVIRUS B2	2	1	2	0	1	0	0	0	6
0903	COXSACKIEVIRUS B3	0	0	1	1	0	0	0	0	2
0905	COXSACKIEVIRUS B5	0	0	0	2	0	0	0	0	2
1015	ECHOVIRUS TYPE 15	0	0	1	0	0	0	0	0	1
1016	ECHOVIRUS TYPE 16	0	1	0	0	0	0	0	0	1
1018	ECHOVIRUS TYPE 18	0	1	0	0	0	0	0	0	1
1022	ECHOVIRUS TYPE 22	0	0	1	0	0	0	0	0	1
1024	ECHOVIRUS TYPE 24	0	1	0	0	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	0	0	0	1	0	1	0	1	3
1102	POLIOVIRUS TYPE 2	0	1	0	0	0	0	0	0	1
1200	MUMPS VIRUS	0	0	0	0	0	2	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	3	2	0	0	6	1	0	0	12
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	3	0	0	0	0	5	0	8
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	1	6	4	0	0	2	1	15	29
1303	VARICELLA-ZOSTER VIRUS	2	7	1	0	0	1	1	0	12
1306	HERPES SIMPLEX TYPE 1	50	23	22	23	0	0	1	54	173
1307	HERPES SIMPLEX TYPE 2	53	46	14	0	0	0	0	90	203
1399	HERPES VIRUS TYPING PENDING	0	1	0	6	0	0	0	0	7
1401	COXIELLA BURNETI	0	0	0	0	0	1	0	13	14
1502	PICORNIA VIRUS - NOT TYPED = E	0	0	0	0	0	8	0	7	15
1515	CONTAGIOUS PUSTULAR DERMATITIS	0	1	0	0	0	0	0	0	1
1521	MEASLES VIRUS	9	0	1	0	0	0	0	0	10
1522	RUBELLA VIRUS	5	0	1	1	0	0	0	4	11
1532	HEPATITIS B ANTIGEN	0	29	12	0	0	10	1	20	72
1535	HEPATITIS A ANTIBODY	0	5	7	0	0	0	0	3	15
1541	CHLAMYDIA A - C. TRACHOMATIS	0	72	48	0	0	2	0	22	144
1556	CMV - CYTOMEGALOVIRUS	31	7	5	6	0	3	0	12	64
1562	REOVIRUS (ALL TYPES)	0	0	1	0	0	0	0	0	1
1564	ROTAVIRUS	0	1	8	8	0	0	0	0	17
1599	ENTEROVIRUS TYPING PENDING	0	0	0	4	0	4	2	0	10
9902	POXVIRUS GROUP NOT TYPED	1	0	0	0	0	0	0	0	1
9992	ROSS RIVER VIRUS	9	9	0	0	0	0	0	16	34
9994	SMALL VIRUS (LIKE) PARTICLE	1	0	0	0	0	0	2	0	3
9995	DENGUE	0	0	0	0	0	0	0	1	1
9998	ARBO. GROUP B. (UNSPECIFIED)	0	0	0	0	0	0	1	3	4
TOTAL		204	228	156	93	7	44	19	303	1054

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1.

Period 22-2-88 to 6-3-88.

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 TRA CT
11. CODE 06 ... - SKIN MUCOUS

		1	2	3	4	6	7	8	9	10	11	TOTAL
0100	ADENOVIRUS NOT TYPED	1	8	0	0	0	16	0	0	1	1	27
0101	ADENOVIRUS TYPE 1	0	1	0	0	0	0	0	0	0	0	1
0102	ADENOVIRUS TYPE 2	0	4	0	0	0	0	0	0	0	0	4
0103	ADENOVIRUS TYPE 3	0	3	0	0	0	1	0	0	0	0	4
0104	ADENOVIRUS TYPE 4	1	0	0	0	0	0	0	0	0	0	1
0105	ADENOVIRUS TYPE 5	0	1	0	0	0	1	0	0	0	0	2
0106	ADENOVIRUS TYPE 6	0	1	0	0	0	0	0	0	0	0	1
0130	ADENOVIRUS TYPE 30	0	0	0	0	0	0	0	0	0	1	1
0199	ADENOVIRUS TYPING PENDING	0	2	0	0	0	0	0	0	0	0	[redacted]
0201	INFLUENZA A VIRUS	0	2	0	0	0	0	0	0	0	0	[redacted]
0203	INFLUENZA B VIRUS	0	3	0	0	0	0	0	0	0	0	3
0301	PARAINFLUENZA VIRUS TYPE 1	0	2	0	0	0	0	0	0	0	0	2
0303	PARAINFLUENZA VIRUS TYPE 3	2	5	0	0	0	0	0	0	0	0	7
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	6	0	0	0	0	0	0	0	0	6
0500	RHINOVIRUS (ALL TYPES)	0	24	1	0	0	0	0	0	0	0	25
0600	MYCOPLASMA PNEUMONIAE	8	30	0	0	0	0	0	0	0	2	40
0700	ORNITHOSIS-PSITTACOSIS	0	4	0	1	0	0	0	0	0	0	5
0809	COXSACKIEVIRUS A9	0	0	0	5	0	0	0	0	0	0	5
0816	COXSACKIEVIRUS A16	0	0	0	0	0	0	0	0	0	2	2
0821	COXSACKIEVIRUS A21	0	0	0	1	0	0	0	0	0	0	1
0902	COXSACKIEVIRUS B2	1	0	1	0	0	0	0	0	0	0	2
0903	COXSACKIEVIRUS B3	0	1	0	1	0	0	0	0	0	0	2
0905	COXSACKIEVIRUS B5	0	0	0	1	0	0	0	0	0	0	1
1015	ECHOVIRUS TYPE 15	1	0	0	0	0	0	0	0	0	0	1
1016	ECHOVIRUS TYPE 16	0	1	0	0	0	0	0	0	0	0	1
1022	ECHOVIRUS TYPE 22	0	1	0	0	0	0	0	0	0	0	1
1024	ECHOVIRUS TYPE 24	0	0	1	0	0	0	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	0	0	0	0	0	3	0	0	0	0	3
1102	POLIOVIRUS TYPE 2	0	0	0	0	0	1	0	0	0	0	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	0	0	0	0	0	0	0	0	7	7
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	0	2	0	0	0	0	0	0	6	8
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	4	4	0	0	0	0	0	0	0	0	8
1303	VARICELLA-ZOSTER VIRUS	0	0	1	0	0	0	0	0	0	8	9
1306	HERPES SIMPLEX TYPE 1	2	16	1	0	0	0	1	0	0	94	[redacted]
1307	HERPES SIMPLEX TYPE 2	5	0	0	0	0	0	0	0	0	76	[redacted]
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	6	6
1401	COXIELLA BURNETI	1	2	0	0	0	0	0	0	0	0	3
1502	PICORNIA VIRUS - NOT TYPED = E	0	3	0	0	1	11	0	0	0	0	15
1515	CONTAGIOUS PUSTULAR DERMATITIS	0	0	0	0	0	0	0	0	0	1	1
1521	MEASLES VIRUS	2	1	0	0	0	0	0	0	0	5	8
1522	RUBELLA VIRUS	1	0	0	0	0	0	0	0	0	9	10
1532	HEPATITIS B ANTIGEN	31	0	0	0	0	0	38	0	1	0	70
1535	HEPATITIS A ANTIBODY	0	0	0	0	0	0	11	0	0	0	11
1541	CHLAMYDIA A - C. TRACHOMATIS	2	0	0	0	0	0	0	0	0	0	2
1556	CMV - CYTOMEGALOVIRUS	3	17	0	0	0	1	2	0	4	1	28
1562	REOVIRUS (ALL TYPES)	1	0	0	0	0	0	0	0	0	0	1
1564	ROTAVIRUS	0	0	0	0	0	17	0	0	0	0	17
1599	ENTEROVIRUS TYPING PENDING	0	3	1	2	0	2	0	1	0	0	9
9902	POXVIRUS GROUP NOT TYPED	0	0	0	0	0	0	0	0	0	1	1
9992	ROSS RIVER VIRUS	5	0	0	0	0	0	0	0	0	8	13
9994	SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	2	0	0	0	1	3
9995	DENGUE	1	0	0	0	0	0	0	0	0	0	1
9998	ARBO. GROUP B. (UNSPECIFIED)	0	1	1	0	0	0	0	0	0	0	2
TOTAL		72	146	9	11	1	55	52	1	6	229	582

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2.

Period 22-2-88 to 6-3-88.

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	0	0	0	1	0	0	0	0	2	0	3
0101	ADENOVIRUS TYPE 1	1	0	0	0	0	0	0	0	0	0	1
0102	ADENOVIRUS TYPE 2	0	0	0	0	0	0	1	0	0	0	1
0103	ADENOVIRUS TYPE 3	1	0	0	0	0	0	0	0	2	0	3
0104	ADENOVIRUS TYPE 4	4	0	0	0	0	0	0	0	0	0	4
0108	ADENOVIRUS TYPE 8	2	0	0	0	0	0	0	0	0	0	2
0137	ADENOVIRUS TYPE 37	0	1	0	0	0	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	1	0	0	0	0	0	0	0	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	0	0	0	0	0	0	0	1	0	0	1
0500	RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	0	0	1	1	2
0600	MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	1	8	3	0	12
0902	COXSACKIEVIRUS B2	0	0	1	0	0	0	1	0	2	0	4
0905	COXSACKIEVIRUS B5	0	0	0	0	0	0	0	1	0	0	1
1018	ECHOVIRUS TYPE 18	0	0	0	0	0	0	1	0	0	0	1
1200	MUMPS VIRUS	0	0	0	0	0	0	0	1	1	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	0	4	0	0	0	0	0	1	0	0	5
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	6	3	2	0	1	9	0	0	21
1303	VARICELLA-ZOSTER VIRUS	0	0	1	0	0	0	0	1	1	0	3
1306	HERPES SIMPLEX TYPE 1	6	49	0	0	0	0	0	1	3	0	59
1307	HERPES SIMPLEX TYPE 2	0	121	0	0	0	0	0	0	1	0	122
1399	HERPES VIRUS TYPING PENDING	1	0	0	0	0	0	0	0	0	0	1
1401	COXIELLA BURNETI	0	0	0	0	0	0	0	11	0	0	11
1521	MEASLES VIRUS	0	0	0	0	0	0	0	0	2	0	2
1522	RUBELLA VIRUS	0	0	0	0	0	0	0	0	1	0	1
1532	HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	0	2	0	2
1535	HEPATITIS A ANTIBODY	0	0	0	0	0	0	0	0	4	0	4
1541	CHLAMYDIA A - C. TRACHOMATIS	0	141	0	0	0	0	0	0	1	0	142
1556	CMV - CYTOMEGALOVIRUS	0	2	1	0	0	2	0	6	24	1	36
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	1	1
9992	ROSS RIVER VIRUS	0	0	0	0	18	0	0	3	0	0	21
9998	ARBO. GROUP B. (UNSPECIFIED)	0	0	0	0	0	0	0	0	2	0	2
TOTAL		16	318	9	4	20	2	5	43	52	3	472

NOTIFIABLE DISEASES REPORTED IN AUSTRALIA

Period 8 - 12 July 1987 to 8 August 1987

Bulletin.....

Disease	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	N.T.	A.C.T.	Total	Cumulative Total to Date for Year
Amoebiasis			2		1			1	4	34
Ankylostomiasis			1	2			NN		3	35
Anthrax									-	1
Arbovirus infection	1		27						28	973
Brucellosis	1			1					2	11
Campylobacter infections	103		NN	169	27	NN	4		303	2 013
Chancroid				NN					-	5
Cholera	1								1	2
Congenital rubella syndrome			NN			NN		NN	-	-
Diphtheria									-	23
Donovanosis				NN	4		2		6	69
Giardiasis	48		NN	73	18	NN	NN	NN	139	* 941
Genital herpes	79		12	32	NN	NN	1	NN	124	1 299
Gonococcal ophthalmia neonatorum	1	NN			NN	NN		NN	1	257
Gonorrhoea	41		27	27	72	4	44	4	219	3 411
Hepatitis A (infectious)	20	5	7	8	8	1	11	1	61	407
Hepatitis B (serum)	28	17	15	4	24	1	3	4	96	* 1 099
Hepatitis – unspecified	1		8		NN	NN			9	111
Hydatid disease	1	1				1			3	10
Lassa fever			NN			NN		NN	-	-
Legionnaires disease	4		NN			NN		NN	4	78
Leprosy					1				1	15
Leptospirosis		1	7						8	99
Lymphogranuloma venereum				NN	NN	NN		NN	-	-
Marburg disease			NN			NN		NN	-	-
Malaria	5	2	48	3			4	1	63	* 424
Meningococcal infections	1	1				NN			2	45

Disease	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	N.T.	A.C.T.	Total	Cumulative Total to Date for Year
Non-specific urethritis	186			40	NN	NN	NN	NN	226	3 681
Ornithosis					1				1	8
Pertussis (whooping cough)	5	2	NN	5	2	NN		NN	14	221
Plague									-	-
Poliomyelitis									-	-
Q. fever	9		23	1					33	269
Rabies				NN		NN		NN	-	-
Salmonella infections	43	10	32	28	7	3	16		139	1 904
Shigella infections	10	4	5	4	7		10		40	419
Smallpox									-	-
Syphilis	34	1	14	2	24		65		140	1 340
Tetanus		1							1	5
Trachoma		NN		1	1	NN	NN		2	102
Tuberculosis (all forms)	14	24	9	4	8		3	2	64	627
Typhoid fever		1							1	35
Typhus (all forms)			2						2	4
Vibrio parahaemolyticus infections	1		NN			NN		NN	1	3
Yellow fever									-	-
Yersinia infections	4		NN	2		NN		NN	6	74

NN - Not Notifiable

(Note: Data collected under the Notifiable 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:

Giardiasis	+1	South Australia
Hepatitis B	+1	South Australia
Malaria	+3	South Australia
Typhoid		Typographical error Period 7. Total for the year should be 34 NOT 4.

NOTIFIABLE DISEASES REPORTED IN AUSTRALIA

Period 9 - 9 August 1987 to 5 September 1987 Bulletin.....

Disease	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	N.T.	A.C.T.	Total	Cumulative Total to Date for Year
Amoebiasis	1				1			1	3	37
Ankylostomiasis				2			NN		2	37
Anthrax									-	1
Arbovirus infection	4	1	117						122	1 095
Brucellosis									-	11
Campylobacter infections	68		NN	138	24	NN	7		237	2 250
Chancroid				NN					-	5
Cholera									-	2
Congenital rubella syndrome			NN			NN		NN	-	-
Diphtheria							2		2	25
Donovanosis				NN	2		7		9	78
Giardiasis	26		NN	62	22	NN	NN	NN	110	1 051
Genital herpes	53	3	1	26	NN	NN	1	6	90	1 389
Gonococcal ophthalmia neonatorum		NN			NN	NN		NN	-	257
Gonorrhoea	64	5	12	36	42	3	41		203	* 3 626
Hepatitis A (infectious)	25	8	3	6	27		11		80	* 491
Hepatitis B (serum)	23	17	45		30	3	5	3	126	* 1 227
Hepatitis – unspecified	9					NN		1	10	* 123
Hydatid disease	1			2	1				4	14
Lassa fever			NN			NN		NN	-	-
Legionnaires disease	2		NN			NN		NN	2	80
Leprosy	1				1				2	17
Leptospirosis	4	3	2						9	108
Lymphogranuloma venereum				NN	NN	NN		NN	-	-
Marburg disease			NN			NN		NN	-	-
Malaria	5	10	5	3	1		3	1	28	452
									-	-
Meningococcal infections	5	2			4	NN			11	* 57

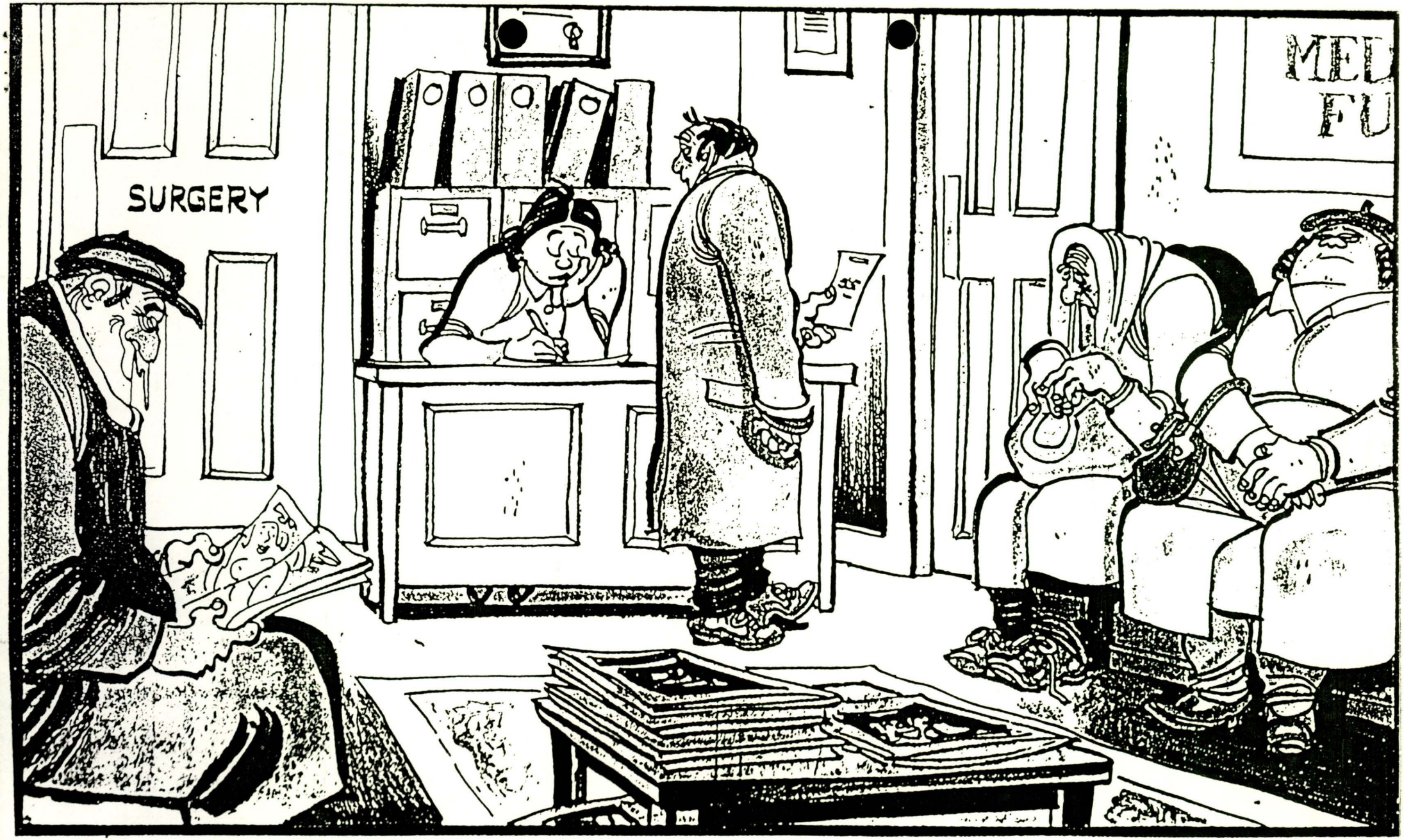
Disease	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	N.T.	A.C.T.	Total	Cumulative Total to Date for Year
Non-specific urethritis	175			48	NN	NN	NN	NN	223	3 904
Ornithosis									-	8
Pertussis (whooping cough)		2	NN	2	3	NN	1	NN	8	229
Plague									-	-
Poliomyelitis									-	-
Q. fever	6	1	11	2					20	289
Rabies				NN		NN		NN	-	-
Salmonella infections	26	12	16	26	12	1	14		107	2 011
Shigella infections	7		5	2	6		9		29	448
Smallpox									-	-
Syphilis	57	3	1	5	18		82	1	167	* 1 532
Tetanus									-	5
Trachoma		NN			82	NN	NN		82	184
Tuberculosis (all forms)	40	17	13	5	9	1	3	1	89	* 720
Typhoid fever	1	1							2	37
Typhus (all forms)	2								2	6
Vibrio parahaemolyticus infections			NN			NN		NN	-	3
Yellow fever									-	-
Yersinia infections	5		NN	2		NN		NN	7	81

NN - Not Notifiable

(Note: Data collected under the Notifiable 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.)

* Adjustments to the Cumulative Total since last report:

Gonorrhoea	+12	South Australia
Hepatitis A	+ 4	South Australia
Hepatitis B	+ 2	South Australia
Hepatitis Unspec.	+ 2	South Australia
Meningococcal	+ 1	South Australia
Syphilis	+25	South Australia
Tuberculosis	+ 4	South Austrlaia



What's a virus? That's a medical term for 'your guess is as good as mine'.