



Communicable Diseases Intelligence

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VIRUS REPORTING SCHEME: A total of 1 631 reports were processed for this period.

Thirty six cases of Q fever were reported, 1 from South Australia, 3 from New South Wales and 32 from Queensland. Occupational exposure data were available for 11 of the Queensland cases,

- . 9 meatworkers:
 - 4 males from Beaudesert aged 16, 18, 21 and 37 respectively,
 - 1 male from Wondai aged 20,
 - 1 male from Beenleigh aged 33,
 - 1 male from Brisbane aged 16,
 - 1 male from Bowen aged 52, and
 - 1 female from Townsville aged 30.
- . 2 meat inspectors:
 - 2 males from Ipswich aged 20 and 21 respectively.

Herpes simplex type 2 virus was isolated from the saliva of a 32 year old male with Pneumocystis carinii pneumonia.

Cytomegalovirus was isolated from the urine of a one year old male whose mother, a health care worker in the hospital renal unit, was found to be an asymptomatic carrier of the virus.

Echovirus type 29 was isolated from :-

- . the faeces of a 21 year old, 20 week pregnant female who presented with fever and acute abdominal pain.
- . the post-mortem tissues derived from the spleen of a 3 month old female who died of Sudden Infant Death Syndrome (SIDS).

Adenovirus type 5 was isolated from the faeces of a one year old male with acute lymphoblastic leukaemia who was receiving chemotherapy treatment and who presented with a two week history of vomiting and diarrhoea.

A recent outbreak of an influenza-like illness was reported in an old age nursing home. Six female patients (aged 69, 79, 83, 84, 88 and 89 respectively) who had prolonged fever, showed serological evidence of acute respiratory syncytial virus (RSV) infection.

Chlamydia trachomatis was recovered from the cervical swabs of a 13 year old female who was referred to hospital for medical investigation of a sexual abuse.

AIDS SURVEILLANCE - AUSTRALIA

To 30 June 1987, 523 cases of AIDS fulfilling the criteria of case definition have been reported to the National Health and Medical Research Unit in AIDS Epidemiology and Clinical Research. The distribution of those patients by State or Territory of notification (Table 1), by age group (Table 2), by risk category (Table 3), and by clinical presentation (Table 4) are shown below:-

TABLE 1: AIDS patients by State or Territory of Notification

<u>State/ Territory</u>	<u>Cases</u>			<u>Deaths</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
NSW	348	13	361	198	10	208
VIC	84	1	85	37	1	38
QLD	35	4	39	24	2	26
WA	26	2	28	11	1	12
SA	5	-	5	2	-	2
NT	2	-	2	1	-	1
TAS	1	-	1	1	-	1
ACT	2	-	2	2	-	2
	<u>503</u>	<u>20</u>	<u>523</u>	<u>276</u>	<u>14</u>	<u>290</u>

TABLE 2: AIDS patients by age group

<u>Age (Years)</u>	<u>Cases</u>			<u>Deaths</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0 - 9	5	-	5	5	-	5
10 - 19	3	1	4	3	1	4
20 - 29	110	4	114	59	1	60
30 - 39	208	2	210	110	1	111
40 - 49	127	3	130	65	2	67
50 - 59	40	4	44	26	3	29
60 +	10	6	16	8	6	14
	<u>503</u>	<u>20</u>	<u>523</u>	<u>276</u>	<u>14</u>	<u>290</u>

TABLE 3: AIDS patients by risk category

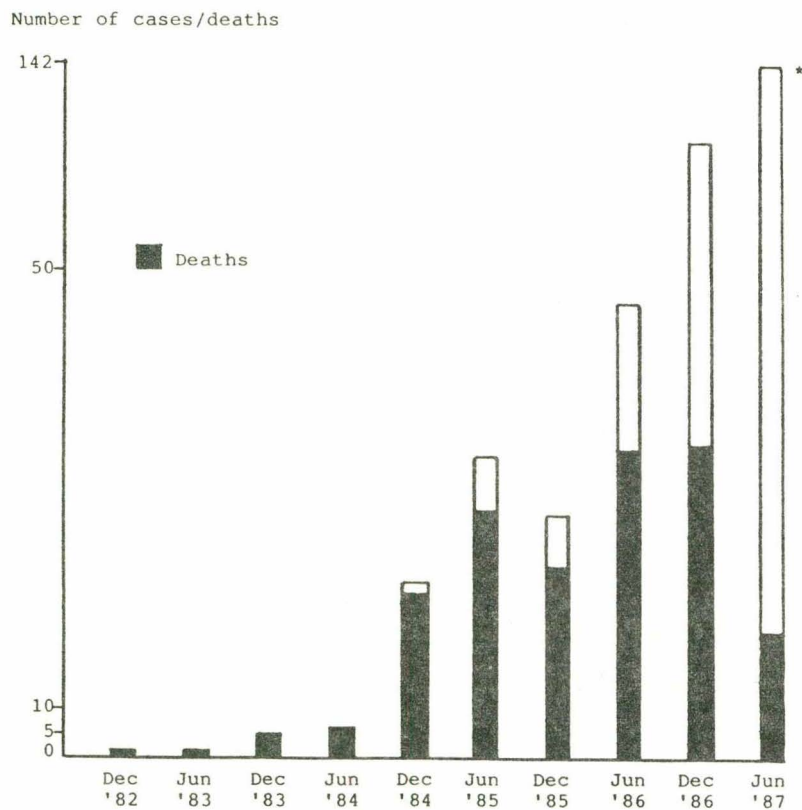
<u>RISK GROUPS</u>	<u>Cases</u>	<u>Deaths</u>
Homo-/Bi-Sexual	452	243
IV drug abuser	2	1
Homo-/Bi-sexual IV drug abuser	17	8
Blood transfusion recipient	36	30
Person with haemophilia	6	4
Heterosexual transmission	5	3
None of the above	5	1
	<u>523</u>	<u>290</u>

TABLE 4: AIDS patients by clinical presentation

<u>INITIAL DISEASE REPORTED</u>	<u>Cases</u>	<u>Deaths</u>
Opportunistic infection alone or with <i>P. carinii</i> pneumonia	382	222
Kaposi's sarcoma (KS) alone	102	47
KS + opportunistic disease	16	10
Lymphoma	23	11
	<u>523</u>	<u>290</u>

The six-monthly incidence of AIDS cases and deaths since July 1982 is depicted in Figure 1, showing the disease progress.

Figure 1: Half yearly incidence of AIDS cases and deaths showing disease progress.



* Data incomplete

AIDS UPDATE - INTERNATIONAL
(Based on WER No 27, 3 July 1987)

Global data - AIDS cases reported to WHO, by country, as of
1 July 1987.

Country/Area	Date of report	Number of cases	Country/Area	Date of report	Number of cases
Algeria	01.06.87	5	India	09.05.87	9
Angola	26.09.86	6	Indonesia	21.04.87	1
Anguilla	31.03.87	—	Ireland	31.03.87	19
Antigua and Barbuda	31.03.87	2	Israel	31.03.87	38
Argentina	31.03.87	78	Italy	31.03.87	664
Australia	20.05.87	481	Jamaica	11.05.87	16
Austria	31.03.87	72	Japan	16.06.87	43
Bahamas	31.12.86	86	Kenya	11.03.87	286
Bangladesh	14.04.87	—	Lebanon	03.06.87	3
Barbados	31.03.87	39	Lesotho	13.11.86	1
Belgium	31.03.87	230	Liberia	04.02.87	1
Belize	31.03.87	2	Luxembourg	31.03.87	7
Benin	13.11.86	2	Madagascar	25.04.87	—
Bermuda	31.03.87	55	Malawi	13.11.86	13
Bhutan	14.04.87	—	Malaysia	01.04.87	1
Bolivia	30.06.86	1	Maldives	14.04.87	1
Botswana	09.05.87	12	Malta	31.03.87	5
Brazil	30.04.87	1 695	Mauritania	13.11.86	—
British Virgin Islands	31.12.86	—	Mauritius	13.11.86	—
Bulgaria	31.03.87	1	Mexico	31.03.87	407
Burkina Faso	13.11.86	—	Montserrat	31.12.85	—
Burma	14.04.87	—	Mozambique	31.12.86	1
Burundi	31.03.87	128	Nepal	09.05.87	—
Cameroon	05.03.87	25	Netherlands	31.03.87	260
Canada	27.04.87	1 000	New Zealand	15.05.87	39
Cape Verde	30.04.87	4	Nicaragua	31.12.86	—
Cayman Islands	31.12.86	2	Nigeria	22.05.87	5
Central African Republic	13.11.86	202	Norway	31.03.87	45
Chad	13.11.86	1	Panama	31.03.87	14
Chile	31.03.87	28	Paraguay	31.03.87	10
China	02.04.87	2	Peru	30.06.86	9
China (Province of Taiwan)	26.01.86	1	Philippines	02.06.87	4
Colombia	31.03.87	57	Poland	31.03.87	2
Comoros	13.11.86	—	Portugal	31.03.87	54
Congo	13.11.86	250	Qatar	09.05.87	9
Costa Rica	31.12.86	20	Republic of Korea	01.04.87	1
Côte d'Ivoire	13.11.86	118	Romania	31.03.87	2
Cuba	31.12.86	3	Rwanda	30.11.86	705
Cyprus	01.06.87	3	Saint Christopher and Nevis	31.12.86	1
Czechoslovakia	31.03.87	7	Saint Lucia	31.12.86	3
Democratic People's Republic of Korea	09.05.87	—	Saint Vincent and the Grenadines	31.12.86	3
Denmark	31.03.87	150	Sao Tomé and Principe	01.12.86	—
Dominica	31.03.87	3	Senegal	13.11.86	—
Dominican Republic	31.03.87	200	Seychelles	13.11.86	—
Eastern Mediterranean Region	07.04.87	18	Singapore	01.04.87	1
Ecuador	31.03.87	18	South Africa	25.05.87	70
El Salvador	31.03.87	9	Spain	31.03.87	357
Ethiopia	28.04.87	—	Sri Lanka	14.04.87	2
Finland	31.03.87	19	Suriname	31.03.87	3
France	31.03.87	1 632	Swaziland	10.04.87	6
Metropolitan	31.03.87	1 632	Sweden	13.06.87	120
Overseas:	31.12.86	58	Switzerland	31.03.87	227
French Guiana	01.04.87	1	Thailand	27.04.87	6
French Polynesia	31.12.86	—	Togo	13.11.86	—
Guadeloupe	31.12.86	40	Trinidad and Tobago	31.12.86	134
Martinique	31.12.86	16	Tunisia	14.05.86	2
Reunion	10.06.87	1	Turkey	07.05.87	19
Gabon	25.04.87	1	Turks and Caicos Islands	31.12.86	2
Gambia	16.03.87	14	Uganda	28.02.87	1 138
German Democratic Republic	31.03.87	3	USSR	31.03.87	32
Germany, Federal Republic of	29.05.87	1 089	United Kingdom	30.05.87	791
Ghana	25.05.87	145	United Republic of Tanzania	18.04.87	1 130
Greece	31.03.87	41	United States of America	15.06.87	37 019
Grenada	31.03.87	4	d'Amérique	31.12.86	8
Guatemala	31.03.87	22	Uruguay	31.12.86	—
Guinea	13.11.86	—	Vanuatu	31.12.86	—
Guinea Bissau	13.11.86	—	Venezuela	31.12.86	69
Guyana	31.12.86	2	Yugoslavia	31.03.87	10
Haiti	31.03.87	851	Zambia	13.11.86	250
Honduras	31.03.87	20	Zimbabwe	21.01.87	57
Hong Kong	31.12.86	4			
Hungary	31.03.87	3			
Iceland	31.03.87	4			
			Total		53 121

AIDS SURVEILLANCE - EUROPE

(based on Report No 13 WHO Collaborating Centre on AIDS)

In the Report No 13 of the World Health Organization (WHO) collaborating Centre on AIDS detailing the AIDS situation in Europe as at 31 March 1987, 27 European countries participated in the AIDS surveillance by reporting their national data to the centre using the Centres for Disease Control (CDC), Atlanta, case definition (Table 1).

TABLE 1: TOTAL NUMBER OF AIDS CASES REPORTED IN 27 EUROPEAN COUNTRIES AND ESTIMATED PREVALENCE RATES PER 100,000 POPULATION 31 MARCH 1987

Country	Mar 86	June 86	Dec 86	Mar 87	Rate/ 100,000 pop.*
Austria	34	36	54	72	0.96
Belgium	160	171	207	230	2.32
Czechoslovakia	4	4	6	7	0.05
Denmark	80	93	131	150	2.94
Finland	11	11	14	19	0.39
France	707	859	1221	1632	2.97
German Dem. Rep.	0	0	1	3	0.02
Germany, Fed. Rep	459	538	826	999	1.64
Greece	14	22	35	41	0.41
Hungary	0	0	1	3	0.03
Iceland	2	2	4	4	2.00
Ireland	9	10	14	19	0.53
Israel	23	24	34	38	0.90
Italy	219	300	523	664	1.16
Luxemburg	3	3	6	7	1.75
Malta	-	5	5	5	1.25
Netherlands	120	146	218	260	1.79
Norway	21	24	35	45	1.07
Poland	0	0	1	2	0.01
Portugal	24	28	46	54	0.52
Romania	1	1	2	2	0.01
Spain	145	177	264	357	0.93
Sweden	50	57	90	105	1.27
Switzerland	113	138	192	227	3.49
United Kingdom	340	389	610	729	1.29
USSR	-	0	1	3	0.00
Yugoslavia	3	3	8	10	0.04
TOTAL	2542	3041	4549	5687	

*Source of population figures: INED, Paris, 1985

The AIDS prevalence at 31 March 1987 stood at 5687 cases with 1138 new cases having been notified since the previous report of 31 December 1986⁽¹⁾, corresponding to an average weekly incidence of 87 new cases.

The greatest increases were noted in:-

- . France - 411 new cases averaging 31-32 cases/week
- . Federal Republic of Germany - 173 new cases averaging 13-14 cases/week
- . Italy - 141 new cases averaging 10-11 cases/week
- . United Kingdom - 119 new cases averaging 9-10 cases/week
- . Spain - 93 new cases averaging 7-8 cases/week

Countries such as Austria, Belgium, Denmark, Netherlands, Sweden, Switzerland reported a weekly incidence of new AIDS cases ranging from 1 to 3.

USSR reported 19 clinical cases of human immunodeficiency virus (HIV) infection, 3 of which fitted the international surveillance case definition of AIDS.

The prevalence rates of AIDS cases per 100,000 population were calculated from the 1985 population estimates (Institut National d'Etudes Demographiques, INED, Paris). The highest rates were recorded in:-

- . Switzerland - 3.49 cases/100,000 population
- . France - 2.97 cases/100,000 population
- . Denmark - 2.94 cases/100,000 population

Comparatively, the rate in the United States was reported to be 14.02 AIDS cases per 100,000 population⁽²⁾. Care should be taken however, when determining the AIDS prevalence rate in a given population.

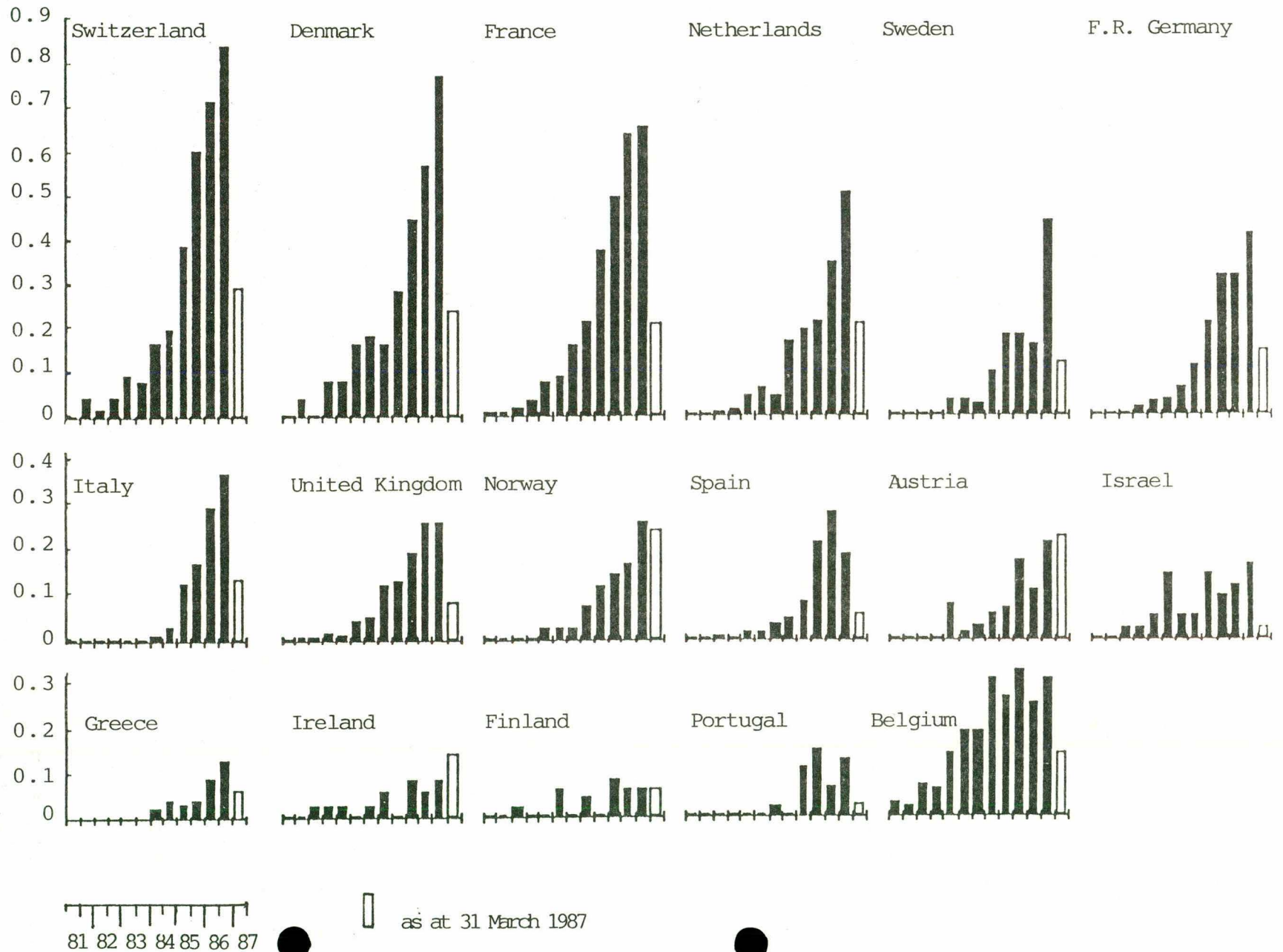
In the case of Belgium where the AIDS prevalence rate was reported to be as high at 2.32 cases/100,000 population, such rate is not representative of the situation in that country since 53% of the adult cases were non-residents, most of whom originated from Africa. When only residents are considered, the rate of AIDS cases becomes 1.17 cases/100,000 population.

Although the number of cases diagnosed between December 1986 and March 1987 is provisional due to the time required for notifications to reach the National Surveillance Centre, the trend of incidence rates per 100,000 population by half year of diagnosis (Figure 1) shows that some selected countries are facing an epidemic. A regular increase is not yet observed in countries with relatively few cases (Finland, Ireland) and countries reporting 10 cases or less, such as Czechoslovakia, German Democratic Republic, Iceland, Hungary, Luxemburg, Malta, Poland, Romania, USSR, Yugoslavia) are not shown on the Figure.

FIGURE 1 AIDS INCIDENCE RATES PER 100,000 POPULATION BY HALF YEAR OF DIAGNOSIS AS AT 31 MARCH 1987.

CDI 87/14

Incidence Rate per 100,000 Population.



The distribution of AIDS cases by clinical presentation and subsequent deaths for the 27 participating countries is shown in Table 2.

TABLE 2: AIDS CASES BY DISEASE CATEGORY AND NUMBER OF DEATHS -
31 MARCH 1987

DISEASE CATEGORY	CASES	(%)	DEATHS	CASE FATALITY RATE (%)
Opportunistic infection	3994	(70.2)	2089	(52.3)
Kaposi's sarcoma	873	(15.4)	286	(32.8)
Opportunistic infection plus Kaposi's sarcoma	647	(11.4)	370	(57.2)
Other	173	(3.0)	93	(53.8)
TOTAL	5687	(100.0)	2838	(49.9)

The overall case fatality rate of 50% has been determined on a half-yearly basis and the number of AIDS cases and the number of deaths for the 27 European countries are depicted in Table 3.

TABLE 3: AIDS CASES AND DEATHS BY HALF YEAR OF DIAGNOSIS AS AT
31 MARCH 1987

SEMESTER OF DIAGNOSIS	CASES	DEATHS	CASE FATALITY RATE (%)
Prior to 1981	21	14	66.7
1981 Jan-Jun	5	3	60.0
1981 Jul-Dec	16	13	81.3
1982 Jan-Jun	27	22	81.5
1982 Jul-Dec	53	47	88.7
1983 Jan-Jun	113	93	82.3
1983 Jul-Dec	155	126	81.3
1984 Jan-Jun	230	178	77.4
1984 Jul-Dec	386	295	76.4
1985 Jan-Jun	644	413	64.1
1985 Jul-Dec	945	512	54.2
1986 Jan-Jun	1175	554	47.1
1986 Jul-Dec	1346	393	29.2
1987 Jan-Mar	489	122	24.9
Unknown	82	53	64.6
TOTAL	5687	2838	49.9

The distribution of AIDS cases by age group and sex for the 27 European countries is detailed in Table 4.

TABLE 4: AIDS CASES BY AGE GROUP AND SEX AS AT 31 MARCH 1987

AGE GROUP	MALES	FEMALES	UNKNOWN	TOTAL
0-11 months	25	27	1	53
1-4 years	29	31	0	60
5-9 years	16	5	0	21
10-14 years	23	3	0	26
15-19 years	44	8	0	52
20-29 years	1207	277	0	1484
30-39 years	1985	129	0	2114
40-49 years	1195	42	0	1237
50-59 years	397	31	0	428
over 60 years	112	21	0	133
Unknown	71	5	3	79
TOTAL	5104	579	4	5687

For the purpose of this report WHO has classified cases aged under 15 years as paediatric cases and all cases aged 15 years and older are considered adult cases hence the total 5687 cases included:-

- . 162 Paediatric cases aged under 15 years, and
- . 5525 adult cases aged 15 years and older.

A. Paediatric cases:

Paediatric cases have only been reported in 15 European countries:-

Austria (4), Belgium (11), Denmark (1), France (41), Federal Republic of Germany (22), Ireland (3), Israel (1), Italy (35), Malta (1), The Netherlands (4), Portugal (1), Spain (17), Sweden (2), Switzerland (6) and United Kingdom (13).

These 162 European paediatric cases did not all originate from the countries belonging to the WHO European region. The distribution of AIDS paediatric cases by transmission group and geographic origin is shown in Table 5.

TABLE 5: AIDS - PAEDIATRIC CASES BY TRANSMISSION GROUP AND GEOGRAPHIC ORIGIN

TRANSMISSION GROUP	GEOGRAPHIC ORIGIN				TOTAL
	EUROPE	AFRICA	CARIBBEAN	OTHER	
MOTHER WITH AIDS OR AT INCREASED RISK OF AIDS					
- IV Drug abuser	49	0	0	0	49
- Transfusion recipient	3	0	0	1	4
- Heterosexual contact	12	8	11	1	32
- Other	1	4	1	1	7
- Unknown	0	8	0	0	8
HAEMOPHILIAC	28	0	0	0	28
TRANSFUSION RECIPIENT	25	2	0	1	28
OTHER	0	1	0	0	1
UNKNOWN	3	2	0	0	5
TOTAL	121	25	12	4	162

B. Adult cases:

Adult cases have been reported from all 27 European countries, however not all 5525 cases originated from the countries belonging to the WHO European region. The distribution of adult AIDS cases by transmission group and geographic origin is shown in Table 6.

TABLE 6: AIDS - ADULT CASES BY TRANSMISSION GROUP AND GEOGRAPHIC ORIGIN

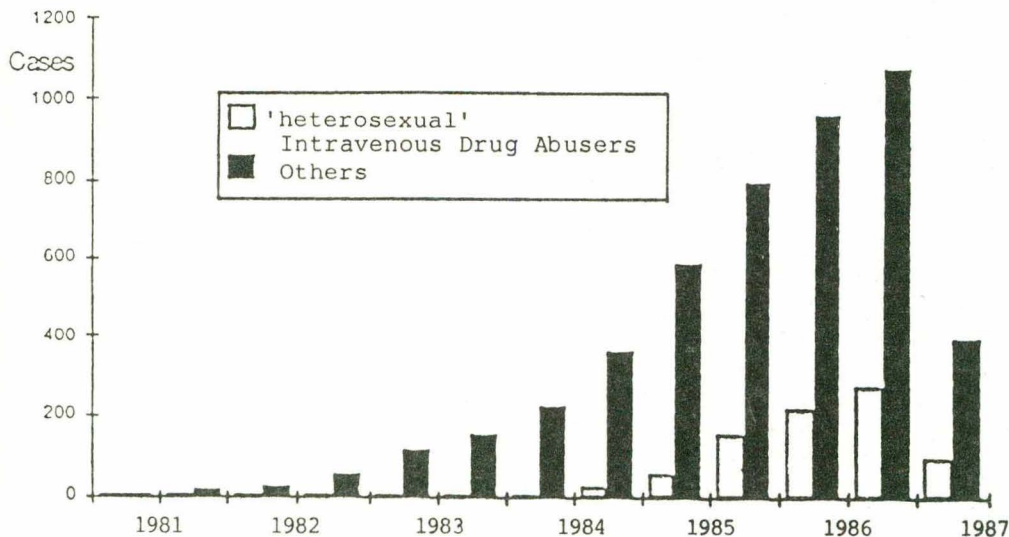
TRANSMISSION GROUP	GEOGRAPHIC ORIGIN				TOTAL	
	EUROPE	AFRICA	CARIBBEAN	OTHER	No	(%)
Homo-/Bi-sexual	3368	25	7	120	3520	(64)
IV drug abuser	821	2	2	1	826	(15)
Homo-/Bi-sexual IV drug abuser	128	2	0	7	137	(2)
Blood transfusion recipient	199	0	0	1	200	(4)
Person with haemophilia	156	12	2	1	171	(3)
Heterosexual transmission	129	101	5	1	236	(4)
None of the above	230	131	67	7	435	(8)
TOTAL	5031	273	83	138	5525	(100)

Preliminary analysis of the above table indicates a high prevalence of AIDS cases among intravenous drug abusers, presumed to be heterosexuals. The 826 AIDS cases among heterosexual intravenous drug abusers were reported by 15 countries:-

Austria (12), Belgium (1), Denmark (1), France (141), Federal Republic of Germany (64), Ireland (3), Israel (1), Italy (372), Luxemburg (1), Netherlands (8), Norway (2), Portugal (3), Spain (178), Switzerland (29) and United Kingdom (10).

Concern has been raised at the possibility that the number of AIDS cases is increasing regularly among this specific group of heterosexual intravenous drug abusers in the European region. The first case of AIDS in this group was diagnosed during the first half of 1981. The situation was stable until the first half of 1984, after which a marked increase is observed. Figure 2, comparing heterosexual intravenous drug abusers with all other groups seems to suggest that the epidemic now developing among intravenous drug abusers may be progressing more rapidly than was the case among the other groups (mostly homosexuals) at an equivalent stage. However, care needs to be taken when attempting to extrapolate trends from these tentative observations.

Figure 2 Heterosexual Intravenous Drug Abusers and other cases by half year of diagnosis - 31 March 1987.



Conclusion

By 31 March 1987, 5687 AIDS cases had been notified to the WHO Collaborating Centre on AIDS by 27 European countries, reporting an overall weekly incidence of 87 new cases. It was noted that the percentage of IV drug abusers accounts for 15% of the AIDS cases and continues to increase in the region. The comparison of this group with the others seems to indicate that patients are younger and include more females, and that the epidemic appears to be developing more rapidly in this group.

Such observation indicates that general policies for prevention of drug abuse and AIDS should be emphasised in the younger population, in particular women.

REFERENCES

1. WER (1987) 62(17):117-121
2. CDC AIDS activity Wkly Surveillance Rep. 30 March 1987

HUMAN IMMUNODEFICIENCY VIRUS (HIV) EXPOSURE IN HEALTH CARE WORKERS: A PROSPECTIVE STUDY

(Based on CDR 87/14, 19 June 1987)

In September 1984 seroconversion was reported in a nurse who sustained a needle-stick injury while caring for a patient with acquired immune deficiency syndrome (AIDS)⁽¹⁾. Although it was not possible at that time to estimate accurately the size of the groups at risk for the development of infection, it was believed that the number of persons capable of transmitting the infection greatly exceeded the number of cases. As many infected people would present for investigation and treatment to health care workers, it was decided that, in collaboration with the Association of Medical Microbiologists (AMM), the surveillance scheme for AIDS at the Communicable Disease Surveillance Centre (CDSC) - United Kingdom, would be extended to include the collection of reports of accidental injuries causing the exposure of health care workers to the blood or body fluids of patients infected with HIV.

Aim and objectives

The aim of the study was to search for evidence of transmission of HIV to health care workers by occupational exposure. The objectives were to identify health care workers seroconverting to HIV in an exposed cohort by serological testing as soon as possible after exposure and thereafter at intervals of 3 and 12 months and to document the appearance of opportunistic diseases fulfilling the criteria for the case definition of AIDS in those who seroconverted.

Definitions and descriptions

The original definition compiled by the Centers for Disease Control (CDC), Atlanta, USA - and the amended definition of 1985 were used^(2, 3). For the purpose of the study, persons were considered capable of transmitting infection if they had AIDS or had symptomatic or asymptomatic HIV infections.

Accidental exposure

The following injuries sustained during the care of persons capable of transmitting infection were considered to be exposures:

- . needle-stick or other sharp object injuries,
- . splashes to mucous membranes or broken skin,
- . inhalation of aerosols,
- . injuries sustained during post-mortem examinations, and
- . any other injuries which in the opinion of the consultant microbiologist acting as safety officer constituted a risk.

Occupationally acquired HIV infection

An occupationally acquired infection was considered to have occurred in a health care worker if there were no identifiable risk factors for the development of infection, and if antibody to HIV was not detected in serum immediately after occupational exposure but 3 or more months later, provided there were no other relevant exposures in the interim period.

Reporting

Reports of exposures were made in strict confidence and with the permission of the health care worker concerned by telephone or written confirmation from the reporting physician or deputy to the Director, or Consultant Epidemiologist responsible for the study at CDSC or through the Safety Committee of the AMM. On receipt of a report, postal questionnaires were used to collect basic epidemiological data, information relating to the exposure, and details of the patient to whose body fluids the health care worker was exposed. Although sometimes reported, names of individual health care workers were not requested and a phonetic alpha-numeric code was provided to protect identity, while ensuring elimination of duplicate reports. The questionnaire was completed by the reporting medical officer or deputy, who arranged for the laboratory examination of samples of sera from the health care worker as soon as possible after exposure and then at intervals of 3 and 12 months. Serological testing was performed at the Public Health Laboratory Services (PHLS) Virus Reference Laboratory.

Results

Between 1 January and 31 December 1986, 150 exposures were reported in

- . 41 male health care workers, and
- . 109 female health care workers.

Altogether, 95(63%) of these occurred within hospitals situated in the 4 Thames Health Regions.

The occupational groups are shown in the Table below:

TABLE: TYPES OF ACCIDENTAL EXPOSURES BY OCCUPATIONAL GROUP

	LABORATORY			OTHER	TOTAL
	NURSE	PHYSICIAN	WORKER		
Needle-stick	28	14	2	9	53
Other sharp object	11	7	0	5	23
Splashes	18	6	0	0	24
Aerosols	0	0	2	3	5
Other	34	5	4*	2	45
TOTAL	91 (61%)	32 (21%)	8 (5%)	19 (13%)	150

*2 did not usually work in the laboratory but were exposed there.

- The 19 "others" included:
 - physiotherapists,
 - radiographers,
 - occupational therapists,
 - medical orderlies, and
 - other ancillary staff.
- There were 76 needle-stick and other sharp object injuries, 60 of which were sustained by nurses and physicians.
- Altogether, 101 of the 150 injuries (67%) involved exposure to blood and 24 (16%) to urine.
- The remainder consisted mostly of splashes and aerosol inhalations involving saliva, vomitus, faeces, pus, ascitic fluid and sweat.

Specific exposures:

- . one surgeon stabbed himself with a spicule of bone during an operation,
- . one nurse pricked herself with a trocar used to drain peritoneal fluid,
- . one nurse cut herself with a scalpel which had been used to incise an abscess,
- . one nurse gave mouth-to-mouth resuscitation and two others who assisted were splashed with saliva, and
- . one nurse was bitten by an infected person.

The patients to whose secretions the health care workers were exposed to, were:

- 56 persons with opportunistic diseases fulfilling the criteria for AIDS,
- 88 other seropositive persons,
- 3 with haemophilia, and
- 3 intravenous drug abusers whose serological status was not yet confirmed at the time of reporting but who had symptoms suggestive of HIV infection.

Altogether, 109 health care workers were followed for more than one year and 41 for between one and twelve months. The median length of follow-up for this latter-group was 9 months. No seroconversions have been observed in the 150 health care workers.

Discussion

Even in such a small but selected study group, no seroconversions were observed. The preponderance of females (73%) may be explained by accidental exposures occurring in student nurses in the group. All the 123 exposures in nurses and physicians took place during direct patient care, 32(21%) of them in physicians compared with 91 (61%) in nurses. Junior doctors may be more aware than nurses of the routes of transmission of HIV, or they may be more reluctant to report accidental injuries, or may be less directly involved in patient care.

The predominance of reported exposures in the 4 Thames Regions is in accordance with the geographical distribution of reported cases of AIDS.

In the United States, one seroconversion occurred among 928 documented accidental exposures⁽⁴⁾. Three hundred and seventy one exposures (40%) took place in circumstances of direct patient care including 323 exposures which were similar to the 76 needle-stick and sharp object injuries in the present study and were considered to be preventable. Both studies suggest that re-capping of needles is a dangerous practice likely to put health care workers at risk of exposure.

It has been estimated that the chances of developing infection with HIV from a single, accidental, occupational exposure are less than 1% and much less than that of developing hepatitis B infection from a similar type of injury⁽⁵⁾. Indeed, one health care worker contracted hepatitis B infection following a needle-stick injury sustained during a transbronchial biopsy on a patient with AIDS and hepatitis B carriage, but no evidence of infection could be found 15 months later⁽⁶⁾.

Globally, 7 cases of occupationally-acquired infection have been documented:

- . a female nurse in the UK who sustained an "inoculation" type of needle-stick injury⁽¹⁾,
- . a female nurse in the United States who received a deep intramuscular needle-stick injury⁽⁷⁾,
- . a female nurse from Martinique who sustained a needle-stick injury without injection of blood⁽⁸⁾,
- . a female nurse from France who sustained a superficial needle-stick injury during a thoracentesis⁽⁹⁾, and
- . 3 female health workers described in CDI 87/11⁽¹⁰⁾.

All were exposed to the blood of patients with AIDS and none were found to have alternative risk factors to explain how they might otherwise have become infected. None has yet developed AIDS.

Four seropositive health care workers may have acquired the infection occupationally, although baseline sera were not available for any of them:

- . a female Danish surgeon who had worked in Kinshasa with multiple exposure to blood, died with AIDS in 1977⁽¹¹⁾;
- . a male hospital worker from the USA who sustained an injury from a needle used on an unknown patient and who did not appear to have other risk factors died with AIDS⁽¹²⁾;

- . a female health care worker in the United States sustained 2 needle-stick injuries from patients with AIDS, had no apparent risk factors and was subsequently found to be seropositive for HIV⁽¹³⁾; and
- . a male laboratory worker from the USA who had received several sharp object injuries with possible exposure to infected blood was found to be seropositive⁽¹³⁾.

A small group of persons who were not health care workers might be considered to have had 'accidental' domestic exposures:

- . a boy in Dominica developed antibodies to HIV after being given vitamin injections at home with the same inadequately sterilised syringe and needle use for his seropositive brother⁽¹⁴⁾;
- . the mother of an infected child with haemophilia who had frequent contact with the blood and other body fluids of her son but did not recall specific needle-stick injuries seroconverted to HIV⁽¹⁵⁾;
- . the brother of a boy who died with AIDS was found to be seropositive and is thought to have been bitten by his infected sibling⁽¹⁶⁾; and
- . a British woman with skin lesions on her hands provided home nursing care to a man with AIDS and subsequently died with AIDS⁽¹⁷⁾.

In none of these cases were there any other apparent risk factors, but the 2 women had had extensive unprotected exposure to infected blood and body fluids. In the case of the British woman, particularly, there was no knowledge or opportunity for prevention of cross-infection and the type of exposure was very different from that which might occur in a hospital where adequate facilities and training in safe nursing techniques would be available.

Guidelines for health care workers have been produced in various countries, emphasising that simple measures such as good hygiene and safe disposal of infected sharps and waste will provide protection, especially as the seroprevalence in some groups is likely to remain high for many years to come.

Conclusion

In this prospective study of 150 health care workers in the United Kingdom who had been accidentally exposed to the human immunodeficiency virus (HIV) no evidence of transmission was found⁽¹⁸⁾. Larger studies in the United States and anecdotal accounts in publications from other countries confirm that the risk of occupational infection is very low. Health care workers must adopt safe procedures at all times, however, to avoid exposure to infection.

REFERENCES

1. Lancet (1984) ii:1376-77
2. MMWR (1982) 31:
3. MMWR (1985) 34:373-6
4. NEJM (1986) 314:127-32
5. MMWR (1986) 35:
6. NEJM (1985) 312:56-7
7. NEJM (1986) 314:1115
8. Lancet (1986) ii:814
10. CDI (1987) 11:14-19
11. Lancet (1983) i:925
12. Lancet (1984) i:676
13. MMWR (1985) 34:575-8
14. Lancet (1986) ii:627
15. MMWR (1986) 35:76-9
16. Lancet (1986) ii:694
17. CDR (1985) 42:4
18. BMJ (1987) 294:1595-7

CORRIGENDUM:

The first sentence of the last paragraph on page 8 of CDI volume 87/12 should have read: "This reported cholera case seemed to indicate that the Burdekin River system was contaminated."

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

REPORTING PERIOD - 29-6-87 to 12-7-87 BULLETIN NUMBER 87/14
 VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES

VIRUS OR VIRAL ANTIGEN	ICPMR (NSW)/ WVH (ACT)	RAHC (NSW)	PHH/ POW (NSW)	FAIR- FIELD (VIC)	RCH (VIC)	IMVS (SA)	STATE LAB (QLD)	STATE LAB (WA)	Total	
0100 ADENOVIRUS NOT TYPED.....	9					10	1	13	3	36
0101 ADENOVIRUS TYPE 1.....				1		6	1			8
0102 ADENOVIRUS TYPE 2.....	2					2	5			9
0103 ADENOVIRUS TYPE 3.....	2			1			1			4
0105 ADENOVIRUS TYPE 5.....	1				2			1		4
0106 ADENOVIRUS TYPE 6.....							1			1
0107 ADENOVIRUS TYPE 7.....					3					3
0108 ADENOVIRUS TYPE 8.....	1									1
0199 ADENOVIRUS TYPING PENDING.....			4		4					8
0201 INFLUENZA A VIRUS.....					1					1
0301 PARAINFLUENZA VIRUS TYPE 1.....					3	1	1			5
0302 PARAINFLUENZA VIRUS TYPE 2.....					1	2		1		4
0303 PARAINFLUENZA VIRUS TYPE 3.....	1	1		3	4	2	1			12
0399 PARAINFLUENZA VIRUS TYPING PENDING.....					3					3
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)...	15	23	6	9	31	74	36	48		242
0500 RHINOVIRUS (ALL TYPES).....			1	4	17	9		3		34
0600 MYCOPLASMA PNEUMONIAE.....	11			4	4		19	3		41
0700 ORNITHOSIS-PSITTACOSIS.....	1			7			2			10
0803 COXSACKIEVIRUS A3.....			1							1
0824 COXSACKIEVIRUS A24.....				1						1
0901 COXSACKIEVIRUS B1.....								3		3
0902 COXSACKIEVIRUS B2.....						1				1
0903 COXSACKIEVIRUS B3.....	1			2	2	1				6
0904 COXSACKIEVIRUS B4.....	1	1								2
1003 ECHOVIRUS TYPE 3.....			1							1
1005 ECHOVIRUS TYPE 5.....	1					1				2
1007 ECHOVIRUS TYPE 7.....	1	1								2
1011 ECHOVIRUS TYPE 11.....				4	3					7
1018 ECHOVIRUS TYPE 18.....					2					2
1024 ECHOVIRUS TYPE 24.....								1		1
1029 ECHOVIRUS TYPE 29.....								2		2
1100 POLIOVIRUS NOT TYPED.....			6				2			8
1101 POLIOVIRUS TYPE 1.....	1									1
1102 POLIOVIRUS TYPE 2.....						1		1		2
1200 MUMPS VIRUS.....	2			1				3		6
1300 HERPES VIRUS GROUP-NOT TYPED.....	28			1			1	1		31
1301 HERPES SIMPLEX VIRUS NOT-TYPED.....		1								1
1302 EPSTEIN-BARR VIRUS (EB VIRUS).....	12			1	1		19	11		44
1303 VARICELLA-ZOSTER VIRUS.....	6		1	5			1	7		20
1306 HERPES SIMPLEX TYPE 1.....	34			37		6	51	23		151
1307 HERPES SIMPLEX TYPE 2.....	87			71		6	65	52		281
1399 HERPES VIRUS TYPING PENDING.....					4					4
1401 COXIELLA BURNETI.....	3					1	32			36
1502 PICORNA VIRUS-NOT TYPED.....	10		4		1		17			32
1521 MEASLES VIRUS.....				1			2			3
1522 RUBELLA VIRUS.....				2		1	7	1		11
1532 HEPATITIS B ANTIGEN.....	30		4		1	21	31	21		108
1535 HEPATITIS A ANTIBODY.....	7					8		5		20
1541 CHLAMYDIA A - C TRACHOMATIS.....	28	2		16	1	40	3	59		149
1556 CMV - CYTOMEGALOVIRUS.....	6	1		29	8	6	21	18		89
1564 ROTAVIRUS.....	16	2	3	8	15	36	9	10		99
1566 NORWALK AGENT.....	1									1
1599 ENTEROVIRUS TYPING PENDING.....		2	6		16					24
9992 ROSS RIVER VIRUS.....	2			1			48			51
9998 ARBO. GROUP B.							2			2
Total.....	320	34	37	209	147	224	383	277		1,631

PERIOD : 29-6-87 to 12-7-87 BULLETIN NO 87/14
 Viral Identifications by Clinical Information Table 1.
 Code 00,99 -No ill or data; 01,02,11,12 -Respiratory; E3 -Enceph-
 alitis; M3 -Meningitis; 04 -Paralysis; 05,13 -CNS other unspec.;
 07,49 -GI; 17,47 -Hepatic; 19 -CVS; 89 -Urinary; 06 -Skin/mucous.

VIRUS OR VIRAL ANTIGEN	No-ill or data	Respir- atory	Enceph- alitis	Mening- itis	Para- lysis	CNS other unspec	GI	Hepa- -tic	CVS	Urin- -ary	Skin/ mucs memb
0100 ADENOVIRUS NOT TYPED.....			1								
0101 ADENOVIRUS TYPE 1.....			2		1		2				2
0102 ADENOVIRUS TYPE 2.....	2		5				2				
0103 ADENOVIRUS TYPE 3.....			3								
0105 ADENOVIRUS TYPE 5.....			2				2				
0106 ADENOVIRUS TYPE 6.....			1								
0107 ADENOVIRUS TYPE 7.....			2				1				2
0301 PARAINFLUENZA VIRUS TYPE 1....			5								
0302 PARAINFLUENZA VIRUS TYPE 2....			4								
0303 PARAINFLUENZA VIRUS TYPE 3....			12								
0399 PARAINFLUENZA VIRUS TYPING PENDING.....			1								
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....	2	236	1				1				
0500 RHINOVIRUS (ALL TYPES).....			1								
0600 MYCOPLASMA PNEUMONIAE.....	7	34				1			1		
0700 ORNITHOSIS-PSITTACOSIS.....			8								
0803 COXSACKIEVIRUS A3.....			1								
0901 COXSACKIEVIRUS B1.....							1				
0903 COXSACKIEVIRUS B3.....			3		1		1				
0904 COXSACKIEVIRUS B4.....	1				1						
1003 ECHOVIRUS TYPE 3.....			1								
1005 ECHOVIRUS TYPE 5.....			1		1						
1007 ECHOVIRUS TYPE 7.....							2				
1011 ECHOVIRUS TYPE 11.....					5						
1018 ECHOVIRUS TYPE 18.....			1				1				
1024 ECHOVIRUS TYPE 24.....							1				
1102 POLIOVIRUS TYPE 2.....	1		1								
1200 MUMPS VIRUS.....	1										
1301 HERPES SIMPLEX VIRUS NOT-TYPED											1
1302 EPSTEIN-BARR VIRUS (EB VIRUS).	8	9						2			2
1303 VARICELLA-ZOSTER VIRUS.....	1	2									16
1306 HERPES SIMPLEX TYPE 1.....	4	6								5	87
1307 HERPES SIMPLEX TYPE 2.....	15	1									67
1399 HERPES VIRUS TYPING PENDING...											1
1401 COXIELLA BURNETI.....	4	5							1		2
1521 MEASLES VIRUS.....				1							2
1522 RUBELLA VIRUS.....	1	1									7
1532 HEPATITIS B ANTIGEN.....	33	2						61			
1535 HEPATITIS A ANTIBODY.....								14			
1541 CHLAMYDIA A - C.TRACHOMATIS...	3	1					1				1
1556 CMV - CYTOMEGALOVIRUS.....	6	21					1	5	1	6	1
1564 ROTAVIRUS.....	1						98				
1566 NORWALK AGENT.....							1				
9992 ROSS RIVER VIRUS.....	6	4	2		9	1					8
Total.....	96	377	4	9	1		115	82	3	11	199

PERIOD : 29-6-87 to 12-7-87 BULLETIN NO 87/14
 Viral Identifications by Clinical Information Table 2.
 Code 10 -Eye; 59 -Genital; 39 -Endo/sal gland;
 38 -RES; 29 -Muscle/joint; 69 -Congenital; P8 -PUO;
 G8 -Fever/malaise; 09 -Other; A1 -SIDS ...

VIRUS OR VIRAL ANTIGEN	Eye	Gen-ital	Endo/sal gland	RES	Muscle/joint	Con-genital	PUO	Fever/malaise	Other	SIDS
0100 ADENOVIRUS NOT TYPED.....								1		
0101 ADENOVIRUS TYPE 1.....								1		1
0103 ADENOVIRUS TYPE 3.....	1									
0105 ADENOVIRUS TYPE 5.....									1	
0107 ADENOVIRUS TYPE 7.....								1		
0108 ADENOVIRUS TYPE 8.....	1									
0201 INFLUENZA A VIRUS.....								1		
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....								7		
0600 MYCOPLASMA PNEUMONIAE.....			1				1	5	1	
0700 ORNITHOSIS-PSITTACOSIS.....			1					1	1	
0824 COXSACKIEVIRUS A24.....								1		
0901 COXSACKIEVIRUS B1.....							1	1		
0902 COXSACKIEVIRUS B2.....									1	
0903 COXSACKIEVIRUS B3.....						1				
1011 ECHOVIRUS TYPE 11.....								1	1	
1029 ECHOVIRUS TYPE 29.....								1		1
1101 POLIOVIRUS TYPE 1.....							1			
1200 MUMPS VIRUS.....			2	1						2
1302 EPSTEIN-BARR VIRUS (EB VIRUS).			12	1				13	7	
1303 VARICELLA-ZOSTER VIRUS.....		1			1			1	1	
1306 HERPES SIMPLEX TYPE 1.....	5	42					1	2	1	
1307 HERPES SIMPLEX TYPE 2.....		198							2	
1401 COXIELLA BURNETI.....					7			24	4	
1521 MEASLES VIRUS.....								1		
1522 RUBELLA VIRUS.....					2			1	2	
1532 HEPATITIS B ANTIGEN.....		1							10	
1535 HEPATITIS A ANTIBODY.....									6	
1541 CHLAMYDIA A - C. TRACHOMATIS...		143						1		
1556 CMV - CYTOMEGALOVIRUS.....	4	1	4			11	1	7	27	1
9992 ROSS RIVER VIRUS.....			4		30			15	2	
9998 ARBO. GROUP B.					2			1		
Total.....	11	386	24	2	42	12	5	87	69	3

Period 2 - 25 January 1987 - 21 February 1987

Bulletin..87/14....

Disease	N.S.W.	VIC.	Q.D.	S.A.	W.A.	TAS.	N.T.	A.C.T.	Total	Cumulative Total to Date for Year
Amoebiasis	1	1		2	1				5	8
Ankylostomiasis				3	1		NN		4	6
Anthrax	1								1	1
Arbovirus infection	14		17		6				37	63
Brucellosis			2						2	4
Campylobacter infections	104		NN	143	22	NN	14	NN	283	555
Chancroid			1	NN	1				2	2
Cholera									-	-
Congenital rubella syndrome			NN			NN		NN	-	-
Diphtheria							1		1	4
Donovanosis			1	NN			1		2	15
Giardiasis	37		NN	77	25	NN	NN	NN	139	228
Genital herpes	46		218	30	NN	NN	1	NN	295	380
Gonococcal ophthalmia neonatorum		NN			NN	NN	1	NN	1	1
Gonorrhoea	96		202	57	72	1	104	3	535	953
Hepatitis A (infectious)	14	12	7	15	15	3	6		72	134
Hepatitis B (serum)	33	17	23	7	33	1		1	115	242
Hepatitis - unspecified	4				NN	NN	5		9	17
Hydatid disease						1			1	1
Lassa fever			NN			NN		NN	-	-
Legionnaires disease	1		NN			NN		NN	1	2
Leprosy										1
Leptospirosis	2	4	5	2					13	* 26
Lymphogranuloma venereum				NN	NN	NN		NN	-	-
Marburg disease			NN			NN		NN	-	-
Malaria	7	14	17	5				4	47	89
									-	-
Meningococcal infections	3		1	1	1	NN			6	15

Disease	N.S.W.	VIC.	Q.D.	S.A.	W.A.	TAS.	N.T.	A.C.T.	Total	Cumulative Total to Date for Year
Non-specific urethritis	248		NN	52	NN	NN	NN	NN	300	534
Ornithosis		1							1	1
Pertussis (whooping cough)	11	1	NN	2	25	NN		NN	39	103
Plague									-	-
Poliomyelitis									-	-
Q. fever	12		15		1				28	51
Rabies				NN		NN		NN	-	-
Salmonella infections	88	9	27	32	32	23	16	3	230	* 447
Shigella infections	11	2	6	8	6		8		41	88
Smallpox									-	-
Syphilis	25		53	6	16	1	56		157	274
Tetanus				1					1	1
Trachoma		NN			6	NN	NN		6	10
Tuberculosis (all forms)	16	19	5	3	9	1	1	NN	54	125
Typhoid fever	5	1			1			2	9	16
Typhus (all forms)									-	-
Vibrio parahaemolyticus infections	1		NN			NN		NN	1	1
Yellow fever									-	-
Yersinia infections	5		NN			NN		NN	5	15

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:

Leptospirosis +1 South australia
 Salmonella Infec. +1 Tasmania

- 23 - CDI 87/14
NOTIFIABLE DISEASES REPORTED IN AUSTRALIA

Notifiable disease figures for 1-1-86 to 31-12-86

Bulletin...87/14.....

Disease	N.S.W.	VIC.	Q.D.	S.A.	W.A.	TAS.	N.T.	A.C.T.	TOTAL
Amoebiasis	9	10	10	14	7		1	3	54
Ankylostomiasis			6	26	6		2		40
Anthrax									-
Arbovirus infection	231	158	995	1	28		1		1 414
Brucellosis	1	1	10						12
Campylobacter infections	1 312		NN	1 455	86	NN	66	3	2 922
Chancroid	4		3	NN	5				12
Cholera									-
Congenital rubella syndrome	2		NN			NN		NN	2
Diphtheria							44		44
Donovanosis	1		63	NN	75		46		185
Giardiasis	375	4	NN	822	115	NN	NN	NN	1 316
Genital herpes	1 140	536	415		NN	NN	23	22	2 136
Gonococcal ophthalmia neonatorum	3	NN			NN	NN	2	NN	5
Gonorrhoea	1 399	1 085	1 158	680	1 572	40	579	72	6 585
Hepatitis A (infectious)	280	124	188	510	504	7	64	8	1 685
Hepatitis B (serum)	529	243	443	122	328	8	38	55	1 766
Hepatitis - unspecified	74	6	26	23	NN	NN	5	2	136
Hydatid disease	2	1	1	4	2	1		2	13
Lassa fever			NN			NN		NN	-
Legionnaires disease	25	11	NN	28	4	NN		NN	68
Leprosy	13	4	2		5		3		27
Leptospirosis	23	27	98	5	4	22			179
Lymphogranuloma venereum	2		1	NN	NN	NN	1	NN	4
Marburg disease			NN			NN		NN	-
Malaria	179	93	283	33	43	10	20	35	696
Meningococcal infections	12	10	8	7	13	NN	1		51

Disease	N.S.W.	VIC.	Q.D.	S.A.	W.A.	TAS.	N.T.	A.C.T.	TOTAL
Non-specific urethritis	4 271	3 594	194	NN	NN	NN	1	3	8 063
Ornithosis	2	7	2	25	4	1		2	43
Pertussis (whooping cough)	227	44	NN	164	161	NN	5	NN	601
Plague									-
Poliomyelitis						1			1
Q. fever	95	2	217	49	3	1			367
Rabies				NN		NN		NN	-
Salmonella infections	831	189	511	361	214	54	311	23	* 2 494
Shigella infections	154	32	133	71	134	2	307		833
Smallpox									-
Syphilis	1 450	62	564	141	252	1	1 113	11	3 594
Tetanus		1	2	1	1				5
Trachoma		NN	1		232	NN	NN		233
Tuberculosis (all forms)	360	255	169	78	118	19	26	16	1 041
Typhoid fever	26	10	3	1	3			2	45
Typhus (all forms)			11						11
Vibrio parahaemolyticus infections	5		NN	1		NN		NN	6
Yellow fever									-
Yersinia infections	65		NN	13		NN		NN	78

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.)

* Please note South Australia includes Paratyphoid fever in Salmonella.