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Communicable Diseases Intelligence

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Contents:

Editor *Dr Robert Hall*

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

In this period (25 October to 7 November 1990) there were 1059 reports processed.

Q fever was reported on 6 occasions, one female and 5 males in the age range of 17 to 48 years. Occupational details were supplied for one case; the patient being an employee of a fertiliser factory manufacturing blood and bone fertiliser. It is not commonly stated that Q fever is an occupational hazard associated with blood and bone fertiliser production.

A late in the season outbreak of influenza A has been reported in a home for the elderly in Tasmania, the cases being confirmed during the investigation of an outbreak of flu-like illness. Four cases were notified, 3 males (72, 77 and 92-years-old) and 1 female (age not stated).

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

- Figures given may be subject to revision.

Coxsackievirus B2 was isolated from a one-week-old neonate suffering from sepsis and meningitis.

Coxsackievirus A9 was isolated from one-month-old twins, one of whom died. One was septic and hypothermic at the time a nasal aspirate was taken. The other twin was similarly affected prior to death and the isolate was made from post-mortem specimens which included the kidney and spleen.

NON-VIRAL PATHOGEN REPORTS

Sixteen reports of malaria (4 *Plasmodium falciparum*, 12 *P. vivax*) were received from the State Health Laboratory, Brisbane. Two patients were mentioned as having come from the Torres Strait area.

Pasteurella multocida was isolated from pus from a woman (age >75) who had an infected tendon sheath following a cat bite.

Streptococcus sanguis was isolated from two blood cultures of a child (male, 1-4 years old) who had mouth ulcers. *S. sanguis* is a common commensal bacterium of the buccal cavity and is frequently found in high levels in tooth plaque.

COMPOSITION OF THE AUSTRALIAN INFLUENZA VACCINE FOR 1991

The Australian Influenza Vaccine Committee decided in October 1990 that the composition of the influenza vaccine for the 1991 season would be:

A/Victoria/36/88 (H1N1)-like strain, 15 micrograms haemagglutinin

A/Beijing/353/89 (H3N2)-like strain, 15 micrograms haemagglutinin

B/Yamagata/16/88-like strain, 15 micrograms haemagglutinin.

The current vaccine contains an A/Victoria/36/88-like virus as the H1N1 component. The incidence of influenza type A H1N1 during the northern hemisphere winter was extremely low and there is no evidence that the circulating H1N1 virus strains throughout the world have changed significantly over the past year. No H1N1 strains were isolated in Australia in 1990 and the few isolated from Papua New Guinea were similar to A/Victoria/36/88.

Consequently the Committee agreed to retain this component of the vaccine with an A/Victoria/36/88-like virus.

The H3N2 component of the current vaccine is an A/Shanghai/11/87 -like virus. The majority of virus isolates from the Northern winter were A/Shanghai/11/87-like and A/England/427/88-like strains. Lower incidences of A/Guizhou/54/89-like, A/Shanghai/16/89-like and A/Beijing/353/89-like strains were also in evidence. The majority of isolates from Australia, New Zealand and Papua New Guinea are most closely related to either A/Beijing/353/89 or A/Shanghai/6/90.

In view of these findings the Committee agreed that the 1991 vaccine should contain an A/Beijing/353/89-like virus. It was noted that A/Beijing/352/89 is considered to be identical, so that the reassortant strain NIB-26 would be an acceptable vaccine strain.

The current vaccine contains a B/Yamagata/16/88-like strain. In the Northern hemisphere winter B/Victoria/2/87-like strains predominated in Europe and USA. B/Yamagata/16/88-like viruses were more widespread in Asia. The few influenza type B isolates from Australia and New Zealand over the past season have all been B/Yamagata-like strains.

Accordingly the Committee agreed that the type B component of the 1991 Australian vaccine should be a B/Yamagata/16/88-like virus.

Members agreed that the dosage level of 15 micrograms haemagglutinin for each component was adequate and should be retained for the 1991 Australian vaccine.

AUSTRALIAN HIV SURVEILLANCE REPORT: 5 OCTOBER 1990

The National Centre in HIV Epidemiology and Clinical Research reports that as at 7 September 1990, a total of 2081 cases of AIDS had been reported in Australia.

For the most recent reporting period, 11 August to 7 September (weeks 33-36), 20 new cases of AIDS were reported in Australia.

Table 1: New cases of AIDS and deaths from AIDS for the period 11 August to 7 September (weeks 33 - 36) 1990, by sex and State/Territory in which diagnosis was made.

State/ Territory	CASES			DEATHS		
	Male	Female	Total	Male	Female	Total
ACT	0	0	0	0	0	0
NSW	17	0	17	12	1	13
NT	0	0	0	0	0	0
QLD	0	0	0	0	0	0
SA	1	0	1	0	0	0
TAS	1	0	1	0	0	0
VIC	1	0	1	10	0	10
WA	0	0	0	1	0	1
Total	20	0	20	23	1	24

Table 2: Cumulative cases of AIDS and deaths from AIDS by sex and State/Territory where diagnosis was made, to 7 September 1990

State/ Territory	CASES			DEATHS		
	Male	Female	Total	Male	Female	Total
ACT	26	0	26	18	0	18
NSW	1270	37	1307	810	25	835
NT	4	0	4	2	0	2
QLD	140	6	146	90	4	94
SA	66	2	68	35	1	36
TAS	11	1	12	5	1	6
VIC	412	10	422	223	5	228
WA	89	7	96	51	3	54
Total	2018	63	2081	1234	39	1273

Table 3: Number of new diagnoses of HIV infection in the period 11 August to 7 September (weeks 33 - 36), 1990 and cumulative since the introduction of HIV antibody testing to 7 September 1990, by sex and State/Territory of notification.

State/ Territory	1990# Weeks 33 - 36			Cumulative to 7 September 90			
	M	F	TOTAL	M	F	NK	TOTAL
ACT	1	0	1	12	0	97	109
NSW+	12	2	14	5250	293	2908	8451
NT	0	0	0	51	3	0	54
QLD	5	0	5	889	35	0	924
SA*	-	-	-	333	27	0	360
TAS	1	0	1	48	3	0	51
VIC	18	1	19	2350	66	0	2416
WA	09	1	10	528	30	0	558
Total	46	4	50	9461	457	3005	12923

NK Sex not known
Dashes indicate that counts were unavailable for the period
+ Counts to 7 September 1990 for Reference Laboratory at Prince of Wales Hospital only, and to 30 June 1989 for Westmead and St Vincent's Hospital.
* Cumulative to 18 May 1990.

FOURTH NATIONAL CONFERENCE ON AIDS - ABSTRACTS

The following four abstracts have been taken from the proceedings of the 4th National Conference on AIDS held by the Department of Community Services and Health from 8-11 August 1990.

The Epidemic of HIV Disease in Australia: Where has it been and where is it going?

Dr John Kaldor

As measured by incident AIDS cases and on a per capita basis, the size of the Australian HIV epidemic ranks about sixth among developed countries. Over 1900 cases of the disease had been reported by the end to June, 1990, with roughly 60% occurring in New South Wales. The proportion of cases for which the mode of transmission was determined to be sexual contact between men has remained steady since the start of the epidemic, at close to 90%. This pattern is in contrast to most developed countries, in which there have been much more substantial increases in the proportion of cases attributed to needle sharing among intravenous drug users.

Because of the long period of time, now estimated to have a median of 10 years, between infection with HIV and progression to AIDS, current AIDS incidence may not be an accurate representation of current HIV infection rates. Information on the incidence and prevalence of HIV infection is very limited in Australia. Analyses of the results of voluntary HIV testing indicate a distribution of transmission categories which is similar to the AIDS cases. Studies of HIV prevalence among intravenous drug users support the conclusion that infection rates in this group remain far lower than in other developed countries. However, both of these sources of information have substantial limitations, and must be complemented in the future by a broader structure of surveillance mechanisms. Even if no new infections are occurring in Australia, it must be kept in mind that the epidemic of HIV disease in Australia is far from over. The most conservative estimates of the number of people with HIV infection and the number who will progress to AIDS suggest that the cumulative number of cases will increase over 4-fold in the second decade of the epidemic.

CONCLUSION: the results obtained so far are limited due to several factors, including definition of the sampling frame, small number of seropositive cases in some individual studies, lack of breakdown by demographic variables, and potential overlap of subjects among some of the studies. However, by obtaining further detail on published studies and including further studies as they become available, there is the potential to substantially improve estimates of seroprevalence in subgroups.

A National System of Surveillance for Antibody to Human Immunodeficiency Virus (HIV)

A M McDonald*; J M Kaldor; N Crofts and D A Cooper.

We report the first year's experience with national HIV surveillance.

METHODS: The primary sources of national HIV surveillance data are the State and Territory Health Authorities. Data are compiled in summary form every four weeks by the Health Authorities and forwarded to the National Centre. Tabulations of newly reported infections are published in the Australian HIV Surveillance Report four weeks after the four week period to which they pertain.

RESULTS: To date, over 12,000 cases of HIV 1 infection diagnosed before 30 June 1989 have been notified to the National Centre. Almost 70% of these notifications came from NSW. The transmission category of the majority of these cases is unknown. Outside NSW, 78% of infections are detected among homosexual or bisexual men.

Since 1 July 1989 there has been a 15% increase in the cumulative number of notifications of new infections (NSW not included). The majority of new diagnoses of HIV infection are detected among homosexuals or bisexual men.

DISCUSSION: Some underenumeration of diagnosed infection is likely, particularly in States and Territories where notification of new diagnoses on infection is not legally required. On the other hand overenumeration may also occur because of repeat counting of newly diagnosed cases.

The Database of Australian HIV Serology Surveys (DAHSS)

A Seroprevalence Registry

S Kidd*; J Kaldor and D Cooper.

OBJECTIVE: The goals of the Database of Australian HIV Serology Surveys (DAHSS) are to identify sources of HIV serology data, maintain study results in a computerised form, and act as a clearinghouse of information on the status of HIV prevalence in specific populations and regions of the country.

METHODS: As first step in the development of the database, bibliographic searches for HIV prevalence surveys in Australia have been conducted. A data report form has been filled out from information contained in each published report, and a more detailed breakdown of survey results by age, and other demographic variables is being requested.

RESULTS: To date, 20 published studies have been included in the DAHSS, and the breakdown of data available in major subgroups is as follows: seven studies of intravenous drug users, which detected 243 seropositive among a total of 3214 subjects tested; four studies of homosexual men with 2228 seropositive from a total of 9508 subjects tested; and four studies of heterosexuals with 47 seropositive from a total of 13,551 subjects tested.

CONCLUSION: the results obtained so far are limited due to several factors, including definition of the sampling frame, small number of seropositive cases in some individual studies, lack of breakdown by demographic variables, and potential overlap of subjects among some studies. However, by obtaining further detail on published studies and including further studies as they become available, there is the potential to substantially improve estimates of seroprevalence in subgroups.

Sentinel Testing for the Human Immunodeficiency Virus

H Kelly*; K Sesnan; J Keith and J Machin.

Since August 1989, sentinel testing for the antibody to the human immunodeficiency virus (HIV) has been performed at the Murray Street Clinic in Perth. This Clinic is dedicated to the diagnosis, management and control of sexually transmitted diseases (STDs) in Western Australia. If offers a free service to all members of the community. Every new patient or every patient seen here previously by presenting with a new episode of an STD after August 1989 was offered an HIV antibody test, independent of risk assessment.

Many clients also request an HIV antibody test as the reason for their consultation, and this is offered even if the client is assessed as being at low risk. Sentinel testing is aimed at detecting HIV infections in a self-selected sexually active group of the population and to alert the community to the spread of HIV into the heterosexual population. In the first 6 months of sentinel testing no case of an HIV infection in either a male or female assessed as being at low risk has been diagnosed. Over 3,000 HIV antibody tests have been done and 2,350 new patients have been seen at the clinic during this period. Only four have been newly diagnosed with HIV infection in the same time. For each of these four patients, a known risk factor could be identified prior to testing. In Western Australia overall, HIV infection is still largely a disease of homosexual and bisexual men with the other known risk factors accounting for only a minority of infections. The first six months of sentinel testing at the Murray street Clinic does not indicated a silent move of the human immunodeficiency virus into the group of sexually active people using the facilities of an STD clinic.

BLUE-GREEN ALGAE SPAWN SENTINEL DATA COLLECTION

(Contributed by: AS Cameron, C White, R Rohrsheim, Epidemiology Branch, South Australian Health Commission. RH Ross and HS Sidhu, Renmark Medical Clinic).

In January a bloom of the blue-green alga "Microcystis" in Lake Victoria (NSW) caused concern to South Australian health and water authorities. This species produces a peptide toxin which has been reported to cause gastro-intestinal upset and liver damage (1). The prospect of having to release Lake Victoria water to maintain River Murray flows meant that the untreated Renmark water supply could have become contaminated.

As it was almost impossible to predict the real effect on humans in the town of Renmark should the release of water proceed, a medical sentinel scheme was designed by the South Australian Health Commission and rapidly put in place by the town doctors.

Basing the scheme on the existing South Australian methodology (2) and taking the possible range of illness into account, a glossary of reportable conditions was drafted and reporting forms designed. Both were transmitted by facsimile to the doctors. The return of completed forms to Adelaide was by courtesy of the IMVS pathology courier service.

All doctors in the town, being members of one large medical practice, co-operated and records were kept at all branch surgeries. Ongoing data on age and sex of persons presenting with either of three conditions was collected over an eight week period.

The conditions were:

1. nausea and abdominal discomfort
2. mild diarrhoea
3. overt gastroenteritis

As luck would have it, the potentially toxic water was not released but a resume of findings is presented because of the lack of similar reports in Australia.

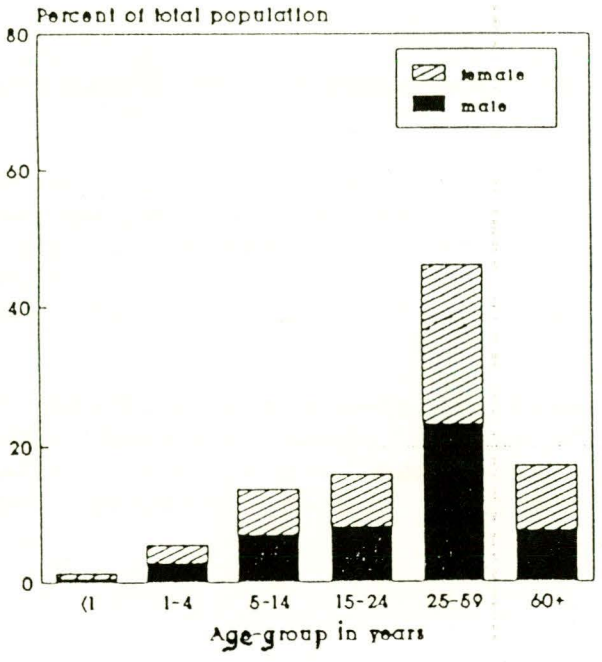
The proportion of doctor-patient encounters relating to all gastro-intestinal related complaints was 1.2% which equates with the cumulated experience in metropolitan practices (2) where the proportion of doctor-patient contacts for non-specific gastro-enteritis ranges form 0.6% to 1.2%. The majority of presentations were for nausea and abdominal discomfort (24)- see Table 4. Next most common were complaints of mild diarrhoea (19) followed by overt gastroenteritis (12).

There was a clear change in incidence with time over the eight weeks of recording, with most cases presenting in the first three weeks and constituting from 1.5% to 2% of the general practice workload. Rates of presentation dropped eventually to 0.6% of all doctor-patient contacts. The reason for the change in proportion of encounters for gastro-intestinal related complaints is not clear. Although the collection included the first weeks at school, the numbers of school-age children presenting with these complaints was remarkably small.

Figure 1. shows the rates of presentation by age and sex for the State and the Renmark populace. It can be seen that males and the age groups <1, 5 to 14 and 15 to 25 years were over-represented.

This note is presented to illustrate a system for monitoring doctor-patient encounters, for a condition in a community, that can be established within days, is capable of rapid analysis, and could form the basis for timely public health action.

Figure 1. Estimated SA population by age group and sex



Reported gastroenteritis cases by age group and sex

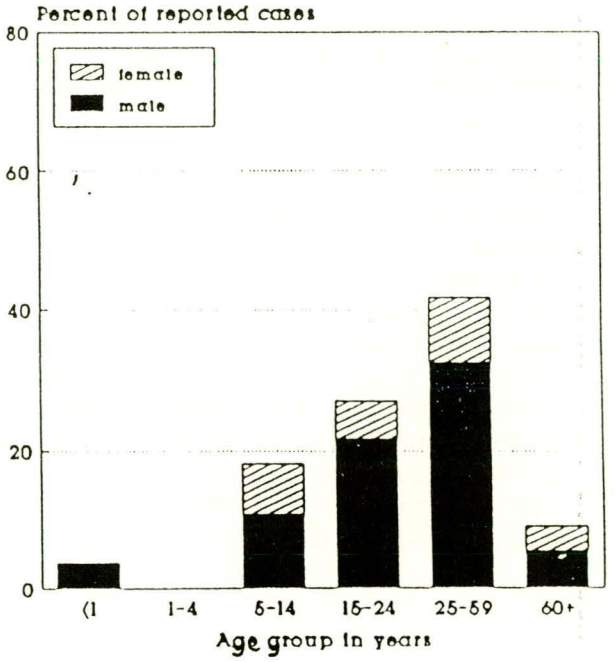


Table 4: Renmark Sentinel Data Collection 1990

WEEK	CONDITIONS: NAUSEA AND STOMACH ACHE		MILD DIARRHOEA		GASTRO-ENTERITIS		TOTAL	ENCOUNTERS
6	8	(1.0)*	5	(0.6)	1	(0.1)	14 (1.8)	786
7	7	(0.9)	5	(0.7)	3	(0.4)	15 (2.0)	743
8	3	(0.4)	4	(0.5)	4	(0.5)	11 (1.5)	748
9								
10	2	(0.3)	2	(0.3)	1	(0.1)	5 (0.7)	714
11	4	(0.5)			2	(0.3)	6 (0.8)	771
12								
13			3	(0.5)	1	(0.2)	4 (0.6)	670
TOTAL	24		19		12		55	4432

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MEASLES OUTBREAK IN BENALLA, VICTORIA

(J Carnie, Health Department Victoria)

Measles became notifiable in Victoria under new Infectious Diseases Legislation in May 1990. Since that time there have been sporadic cases of measles reported from many different areas of the State. However, from late August to the end of October 1990, 39 cases have been reported from Benalla Shire in the North-East of the State (population 5000 in 1988).

There were 15 males and 24 female measles cases and the age distribution is presented in Table 1. Of these 39 cases, it is known that 20 had been previously immunised and 15 had not been immunised. Information on immunisation status is still being sought in 4 cases.

Table 5. Age distribution of Measles cases, Benalla Shire

AGE GROUP	M	F
Under 1 year	-	-
1 - 4 years	-	7
5 - 9 years	3	4
10 - 14 years	9	9
15 - 19 years	3	3
20 - 24 years	-	-
25 - 29 years	-	1
30 + years		
Total	15	24

The age distribution of those immunised is presented in Table 2.

Table 6. Age distribution of measles immunisation, Benalla Shire

AGE GROUP	M	F
Under 1 year	-	-
1 - 4 years	-	3
5 - 9 years	2	3
10 - 14 years	5	4
15 - 19 years	2	1
20 - 24 years	-	-
25 - 29 years	-	-
30 + years	-	-
Total	9	11

Investigations are continuing and it is planned to conduct a special immunisation programme in the area (using MMR vaccine) in order to reach those unimmunised primary and secondary school children. However, it is known that the current immunisation coverage of children under 3 years of age, in Benalla, is quite good (over 90% immunised).

"MEASLES" OUTBREAKS IN WESTERN AUSTRALIA

(Dr J Gill, Health Department of Western Australia)

An immunisation promotion programme launched in 1985 resulted in an increase in measles immunisation coverage of Year 1 primary school children from 77% in 1985 to 91% in 1988. Mandatory notification of measles was gazetted in August 1986, and since then an average of 16 cases have been reported annually. Previous data from hospital short-stay patients showed a two to four yearly cycle of epidemics with the last epidemic noted in 1984. From March 1990, surveillance of outbreaks and epidemic control measures have been introduced with an aim to eliminate measles by 1995. Epidemic control measures include immunisation of susceptible contacts and exclusion of susceptible classmates for 13 days unless vaccinated within three days of the occurrence of a case.

Two measles outbreaks have been notified recently in Western Australia.

The first outbreak occurred in Karratha, a North West mining town, starting on 20 May 1990, with the last case on 10 August 1990. Six cases were notified over this period, five were below one year of age (two months, three months (2), seven months and ten months) and one five years of age. All the children under one were not vaccinated because they were ineligible, but the five year old had been vaccinated at 12 months of age. All the cases had a fever, maculopapular rash and a dry cough, with coryza only in those under one year. None had conjunctivitis. In one three-month-old child serology testing was carried out two weeks after onset. The CFT titre was less than 10, indicating that it was not a case of measles.

The doctors attending the children did suspect the possibility of rubeola infantum, but notified the cases as measles as they met the clinical case definition, viz:

(i) A generalised maculopapular rash starting three to four days after onset of fever, lasting three or more days.

(ii) Temperature of 38.3°C or greater.

(iii) One of the following:

- (a) cough
- (b) coryza
- (c) conjunctivitis

A second outbreak was reported from a primary school in the South Eastern Metropolitan area (14 July 1990 to 6 August 1990). The outbreak became known when cases in the school were reported by the school nurse. This was a period when school tern had just started and there are anecdotal, but unconfirmed reports of a further 18 cases that had occurred during the previous school holidays.

Eleven cases were officially reported, 10 from the school and one toddler. The age range of cases were:

1 - 4 years: 1
5 - 9 years: 8
10 - 12 years: 2

Of the 11 cases, 10 had been immunised against measles between 12 to 18 months of age. Only one laboratory specimen (from a six-year-old girl, who had been immunised at 12 months of age) was submitted about 12 days after onset. The CFT titre for measles was 80, but measles FA IgM was not detected, evidence that the child had not suffered recent measles infection.

COMMENT

Many viral rashes can mimic measles. In both these outbreaks laboratory specimens argued against the occurrence of measles.

A national policy must be considered for laboratory confirmation of clinical cases, especially when elimination of the disease is being attempted. In earlier times this would not have been of great importance, but as we move toward the elimination of measles, it is vital that we upgrade the requirements for evidence of the presence of measles. Consideration must be given to changing the national policy on case definition or proof of elimination of measles will be impossible.

CDI EDITORIAL COMMENT

This report illustrates the difficulties faced when efforts are being made to eradicate diseases such as measles. Under these circumstances reliable sero-diagnosis is of increasing importance, both for diagnostic and epidemiological reasons. Practitioners are urged to confirm clinical diagnoses with appropriate serology.

MEASLES IN THE UNITED STATES OF AMERICA, FIRST 20 WEEKS 1990

(Based on MMWR 1990;39[21]:361-363)

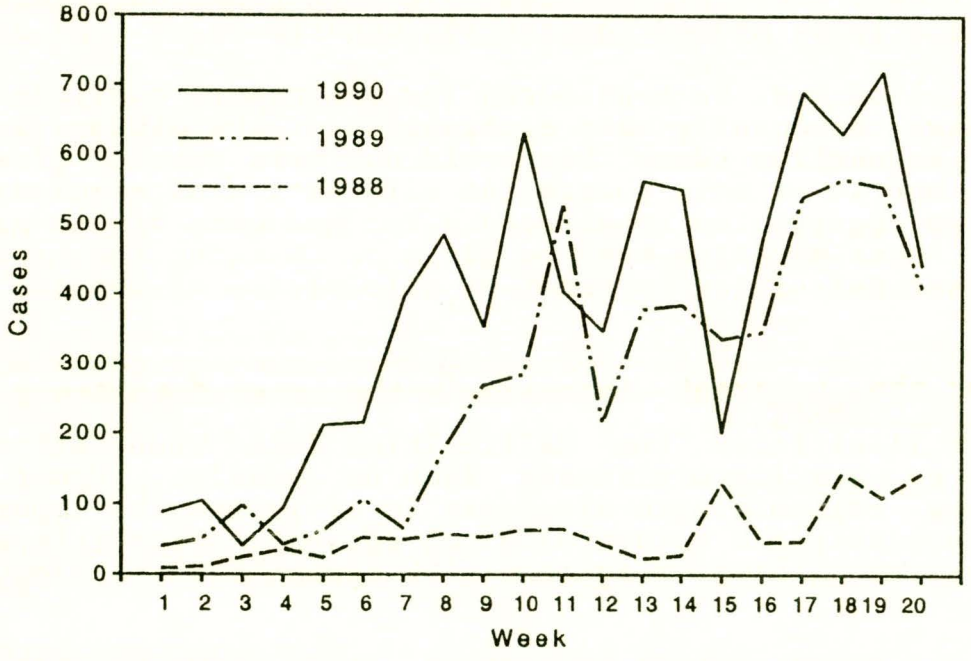
For the first 20 weeks of 1990 (1 January - 19 May), a provisional total of 7653 measles cases was reported, a 39.6% increase over the 5484 cases reported for the same period in 1989 (Figure 2). Cases have been reported from 48 states and the District of Columbia.

Detailed information has been provided on 5180 (67.7%) of the 7653 cases. Of these 5180 patients, 2187 (42.2%) were children < 5 years of age, including 675 (13.0% of total) < 12 months of age.

Vaccination status was reported for 5178 patients and of these, 1483 (28.6%) were appropriately vaccinated, and 3695 (71.3%) were unvaccinated. Among the unvaccinated patients, routine vaccination was indicated for 1839 (49.8% [35.5% of total]). Routine vaccination was not indicated for 1252 (24.2%) patients. Although most of these were children < 16 months of age (86.7%), 604 (11.7%)

patients were unvaccinated for other reasons (e.g., religious or philosophical exemptions). At least 88 measles outbreaks are known to be occurring in 25 states. These outbreaks involve preschool-aged children (seven outbreaks); school-aged children (five); college students (10); and other groups (66), such as migrant farm workers and Amish populations. The largest outbreak is occurring in Dallas, where an estimated 2900 confirmed and suspected cases have been reported since December 1, 1989. This outbreak involves primarily unvaccinated preschool-aged children. Outbreaks among preschool-aged children are also continuing in Chicago, Los Angeles, and Milwaukee. Since 1 January, 35 suspected measles-associated deaths have been reported. Most deaths occurred in unvaccinated preschool-aged children.

Figure 2: Reported measles cases, by week - United States, first 20 weeks 1088, 1989, and 1990.



MMWR Editorial Note: The provisional total of 17,850 measles cases reported in 1989 was the largest number reported since 1978. This marked increase in disease incidence has continued through early 1990. The 1990 total is likely to be an underestimate; reports from high-incidence areas (e.g., Dallas and Los Angeles) indicate that 2-3 times more cases have occurred than have been officially reported through local and state health departments to the Centers for Disease Control, Atlanta.

In addition to the increased incidence of measles in all age groups during 1989-1990, the age distribution of cases has changed from that observed in previous years. From 1988 to 1989 the proportion of patients < 5 years of age increased from 28.6% to 36.7%. For the first 20 weeks of 1990, 42.3% of patients were in this age group. In comparison, a median of 28.5% of patients reported during 1980-1988 were in this age group. Conversely, the proportion of school-aged persons with measles decreased.

During 1980-1988, a median of 53.3% of reported cases were in persons 5-19 years of age, compared with 46.4% in 1989; more than half of the patients in this age group were 15-19 years old. In the pre-vaccine era, > 50% of reported measles patients were 5-9 years old; in 1989-1990, this age group represented approximately 10% of total measles cases.

As in 1988, basically two types of outbreaks occurred in 1989: those among unvaccinated preschool-aged children and those among highly vaccinated (>90%) school- and college-aged populations. During 1985-1988, most cases were reported from outbreaks involving predominantly school-aged children; a median of 47 outbreaks involving predominantly school-aged children occurred annually, accounting for a median of 51% of all reported measles cases. Also during this period, a median of eight outbreaks involving predominantly preschool-aged children occurred annually, accounting for a median of 20% of reported cases (3). Although the number and size of both types of outbreaks increased in 1989, the relative impact of these outbreaks changed. In 1989, 45% of all cases were reported from outbreaks involving predominantly preschool-aged children, while only 32% occurred in outbreaks involving predominantly school-aged children.

The 41 deaths in 1989 were the largest number reported in one year since 1971, when 90 deaths and 75,290 measles cases were reported. Measles-associated deaths were primarily occurring among unvaccinated preschool-aged children and adult groups known to be at increased risk for both complications of measles and death (4). Reasons for the apparent increase in the case-fatality rate are unclear but may include:

1) the higher proportion of cases occurring among younger age groups;
2) underreporting of less severe cases, particularly in the large outbreaks involving predominantly preschool-aged children; and
3) potential undiagnosed underlying disease in these persons.

The increase in unvaccinated persons with measles reported for 1989 primarily reflected the increasing number of cases reported among unvaccinated inner-city preschool-aged children; to a lesser extent, this trend reflected an increase in cases among children younger than the recommended age for vaccination and among persons with religious or philosophical exemptions to vaccination (5,6). Prevention of outbreaks among preschool-aged children will require intensive efforts to increase age-appropriate vaccination levels in inner-city preschool-aged children and to decrease the age of vaccination to 12 months in some high-risk areas (7).

In addition to the increase in cases among unvaccinated persons, a large number of cases were reported among persons who were appropriately vaccinated. Approximately 2%-5% of persons who receive a single dose of measles vaccine at 15 months of age or older will not develop protective immunity (i.e. vaccine failure). If measles virus circulates at relatively low levels, as occurred from 1981 through 1988, then the risk of measles among persons who

fail to respond to a single dose of vaccine will be small and these persons will accumulate in the population. Consequently, when measles virus is introduced into environments where large numbers of vaccinated persons congregate (e.g. schools or colleges), the relatively few susceptible persons may be sufficient to sustain transmission and outbreaks may occur. In order to reduce this pool of susceptible persons resulting from vaccine failure, the Immunisation Practices Advisory Committee (ACIP) has recommended a second dose of vaccine for groups of persons at high risk for measles, including new entrants to schools and colleges and other institutions for post-high school education (7). If fully implemented, this strategy should eventually eliminate measles outbreaks in these settings. In the meantime, aggressive outbreak control in school-based outbreaks with revaccination of persons at risk will continue to be necessary (7).

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CDI NOTICE TO READERS: SYNOPSIS OF ZOONOSES IN AUSTRALIA

Readers are reminded that copies of the 'Synopsis of Zoonoses in Australia' 2nd edition (1988) are freely available from the Commonwealth Department of Community Services and Health.

The 260 page book contains entries for the various diseases under the following groupings:
- -Bacterial diseases
- -Mycotic diseases
- -Viral and Rickettsial diseases
- -Parasitic diseases

It also includes a section on potential zoonoses and is fully indexed. Copies can be obtained by writing to the :

Publications Officer
Communicable Diseases Section
Department of Community Services and Health
GPO Box 9848
CANBERRA ACT 2601

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 25/10/90 TO 07/11/90

CODE 019 - FAIRFIELD HOSPITAL, MELBOURNE (VIC)
CODE 065 - STATE HEALTH LABORATORY SERVICES, PERTH (WA)
CODE 066 - PRINCESS MARGARET HOSPITAL, PERTH (WA)
CODE 110 - INSTITUTE OF MEDICAL & VETERINARY SCIENCE, ADELAIDE (SA)
CODE 111 - ROYAL CHIDLDRENS HOSPITAL, MELBOURNE (VIC)
CODE 112 - INSTITUTE OF CLINICAL PATHOLOGY & MEDICAL RESEARCH, WESTMEAD (NSW)
CODE 113 - PRINCE HENRY/PRINCE OF WALES HOSPITALS, SYDNEY (NSW)
CODE 114 - ROYAL ALEXANDRA HOSPITAL FOR CHILDREN, CAMPERDOWN (NSW)
CODE 115 - STATE HEALTH LABORATORY, BRISBANE (QLD)

		019	065	066	110	111	112	113	114	115	TOTAL
0100	ADENOVIRUS NOT TYPED	0	3	4	3	0	3	3	0	4	20
0101	ADENOVIRUS TYPE 1	1	0	0	0	8	2	0	0	0	11
0102	ADENOVIRUS TYPE 2	2	0	0	0	8	0	1	0	0	11
0103	ADENOVIRUS TYPE 3	0	0	0	0	3	0	0	0	0	3
0104	ADENOVIRUS TYPE 4	0	0	0	0	0	2	0	0	0	2
0105	ADENOVIRUS TYPE 5	0	0	0	0	0	1	1	0	0	2
0106	ADENOVIRUS TYPE 6	0	0	0	0	1	0	0	0	0	1
0107	ADENOVIRUS TYPE 7	1	0	0	0	0	0	0	0	0	1
0108	ADENOVIRUS TYPE 8	3	0	0	0	0	0	0	0	0	3
0109	ADENOVIRUS TYPE 9	0	0	0	0	0	1	0	0	0	1
0111	ADENOVIRUS TYPE 11	0	0	0	0	0	5	0	0	0	5
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	4	0	4	0	0	8
0201	INFLUENZA A VIRUS	7	10	0	5	1	0	4	0	0	27
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	0	0	0	2	0	0	0	0	2
0303	PARAINFLUENZA VIRUS TYPE 3	3	0	0	0	3	1	1	0	1	9
0400	RESPIRATORY SYNCYTIAL VIRUS (R	5	1	6	19	2	0	0	1	0	34
0500	RHINOVIRUS (ALL TYPES)	8	1	0	0	5	1	0	2	0	17
0600	MYCOPLASMA PNEUMONIAE	2	3	0	2	9	4	1	0	0	21
0700	ORNITHOSIS-PSITTACOSIS	3	0	0	1	0	0	0	0	0	4
0809	COXSACKIEVIRUS A9	0	2	0	0	0	4	0	0	0	6
0816	COXSACKIEVIRUS A16	0	0	0	0	0	1	0	0	0	1
0902	COXSACKIEVIRUS B2	0	0	0	0	1	0	0	0	0	1
0903	COXSACKIEVIRUS B3	0	0	0	2	0	0	0	0	0	2
0904	COXSACKIEVIRUS B4	0	0	0	0	6	0	0	0	0	6
0905	COXSACKIEVIRUS B5	0	0	0	1	0	0	0	0	0	1
1004	ECHOVIRUS TYPE 4	1	0	0	0	0	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	0	0	0	0	1	1	0	0	0	2
1014	ECHOVIRUS TYPE 14	0	0	0	0	0	1	0	0	0	1
1019	ECHOVIRUS TYPE 19	0	0	0	1	0	0	0	0	0	1
1022	ECHOVIRUS TYPE 22	1	0	0	0	0	1	0	2	0	4
1100	POLIOVIRUS NOT TYPED	0	0	0	0	10	0	4	0	0	14
1102	POLIOVIRUS TYPE 2	0	0	0	1	0	2	0	0	0	3
1200	MUMPS VIRUS	0	0	0	0	0	1	1	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	0	0	0	0	0	0	3	0	0	3
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	1	5	0	0	18	0	0	2	26
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	3	7	0	17	1	0	0	4	0	32
1303	VARICELLA-ZOSTER VIRUS	5	8	0	0	0	7	4	0	0	24
1306	HERPES SIMPLEX TYPE 1	35	18	0	19	1	6	5	0	33	117
1307	HERPES SIMPLEX TYPE 2	30	51	0	22	0	19	14	0	32	168
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	1	0	0	0	0	1
1401	COXIELLA BURNETII	1	3	0	0	0	2	0	0	0	6
1502	PICORNIA VIRUS - NOT TYPED = E	0	3	0	0	0	0	14	0	3	20
1521	MEASLES VIRUS	6	0	0	0	0	1	1	0	0	8
1522	RUBELLA VIRUS	15	1	0	1	2	0	3	1	0	23
1532	HEPATITIS B ANTIGEN	17	12	0	6	0	27	10	0	29	101
1535	HEPATITIS A ANTIBODY	0	0	0	0	0	2	0	0	0	2
1536	HEPATITIS C VIRUS	0	9	0	0	0	0	0	2	0	11
1541	CHLAMYDIA A - C. TRACHOMATIS	0	55	0	10	0	11	1	0	4	81
1556	CMV - CYTOMEGALOVIRUS	33	5	2	0	2	4	7	1	7	61
1564	ROTAVIRUS	2	0	4	59	0	18	39	7	0	129
1565	CALICI VIRUS	0	0	0	0	0	1	0	0	0	1
1566	NORWALK AGENT	0	0	0	0	0	1	0	0	0	1
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	2	0	5	2	0	9
9993	ASTROVIRUS	0	0	0	0	0	2	0	0	0	2
9994	SMALL VIRUS (LIKE) PARTICLE	1	0	0	0	0	1	0	2	0	4
9995	DENGUE	0	2	0	0	0	0	0	0	0	2
TOTAL		185	195	21	169	73	151	126	24	115	1059

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 25/10/90 TO 07/11/90

NSW: ICPMR; PHH/POW; RACH; ST GEORGE HOSP, KOGARAH; ROYAL NEWCASTLE HOSP.
VIC: FAIRFIELD; RCH; MDU, UNI MELB.
QLD: STATE LAB, BRIS; TOOWOOMBA PATH LAB; ROYAL BRIS HOSP; DR TB LYNCH, PATHOLOGIST, ROCKHAMPTON.
WA: STATE LAB, PERTH; PMH.
SA: IMVS.
TAS: ROYAL HOBART HOSP; DIAGNOSTIC SERVICES, LAUNCESTON; LAUNCESTON GEN HOSP; DIAGNOSTIC SERVICES, HOBART; HOBART PATH; MERSEY GEN HOSP, LATROBE.
ACT: WVH.

		NSW	VIC	QLD	WA	SA	TOTAL
0100	ADENOVIRUS NOT TYPED	6	0	4	7	3	20
0101	ADENOVIRUS TYPE 1	2	9	0	0	0	11
0102	ADENOVIRUS TYPE 2	1	10	0	0	0	11
0103	ADENOVIRUS TYPE 3	0	3	0	0	0	3
0104	ADENOVIRUS TYPE 4	2	0	0	0	0	2
0105	ADENOVIRUS TYPE 5	2	0	0	0	0	2
0106	ADENOVIRUS TYPE 6	0	1	0	0	0	1
0107	ADENOVIRUS TYPE 7	0	1	0	0	0	1
0108	ADENOVIRUS TYPE 8	0	3	0	0	0	3
0109	ADENOVIRUS TYPE 9	1	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	5	0	0	0	0	5
0199	ADENOVIRUS TYPING PENDING	4	4	0	0	0	8
0201	INFLUENZA A VIRUS	4	8	0	10	5	27
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	2	0	0	0	2
0303	PARAINFLUENZA VIRUS TYPE 3	2	6	1	0	0	9
0400	RESPIRATORY SYNCYTIAL VIRUS (R	1	7	0	7	19	34
0500	RHINOVIRUS (ALL TYPES)	3	13	0	1	0	17
0600	MYCOPLASMA PNEUMONIAE	5	11	0	3	2	21
0700	ORNITHOSIS-PSITTACOSIS	0	3	0	0	1	4
0809	COXSACKIEVIRUS A9	4	0	0	2	0	6
0816	COXSACKIEVIRUS A16	1	0	0	0	0	1
0902	COXSACKIEVIRUS B2	0	1	0	0	0	1
0903	COXSACKIEVIRUS B3	0	0	0	0	2	2
0904	COXSACKIEVIRUS B4	0	6	0	0	0	6
0905	COXSACKIEVIRUS B5	0	0	0	0	1	1
1004	ECHOVIRUS TYPE 4	0	1	0	0	0	1
1011	ECHOVIRUS TYPE 11	1	1	0	0	0	2
1014	ECHOVIRUS TYPE 14	1	0	0	0	0	1
1019	ECHOVIRUS TYPE 19	0	0	0	0	1	1
1022	ECHOVIRUS TYPE 22	3	1	0	0	0	4
1100	POLIOVIRUS NOT TYPED	4	10	0	0	0	14
1102	POLIOVIRUS TYPE 2	2	0	0	0	1	3
1200	MUMPS VIRUS	2	0	0	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	3	0	0	0	0	3
1301	HERPES SIMPLEX VIRUS - NOT TYP	18	0	2	6	0	26
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	4	4	0	7	17	32
1303	VARICELLA-ZOSTER VIRUS	11	5	0	8	0	24
1306	HERPES SIMPLEX TYPE 1	11	36	33	18	19	117
1307	HERPES SIMPLEX TYPE 2	33	30	32	51	22	168
1399	HERPES VIRUS TYPING PENDING	0	1	0	0	0	1
1401	COXIELLA BURNETII	2	1	0	3	0	6
1502	PICORNIA VIRUS - NOT TYPED = E	14	0	3	3	0	20
1521	MEASLES VIRUS	2	6	0	0	0	8
1522	RUBELLA VIRUS	4	17	0	1	1	23
1532	HEPATITIS B ANTIGEN	37	17	29	12	6	101
1535	HEPATITIS A ANTIBODY	2	0	0	0	0	2
1536	HEPATITIS C VIRUS	2	0	0	9	0	11
1541	CHLAMYDIA A - C. TRACHOMATIS	12	0	4	55	10	81
1556	CMV - CYTOMEGALOVIRUS	12	35	7	7	0	61
1564	ROTAVIRUS	64	2	0	4	59	129
1565	CALICI VIRUS	1	0	0	0	0	1
1566	NORWALK AGENT	1	0	0	0	0	1
1599	ENTEROVIRUS TYPING PENDING	7	2	0	0	0	9
9993	ASTROVIRUS	2	0	0	0	0	2
9994	SMALL VIRUS (LIKE) PARTICLE	3	1	0	0	0	4
9995	DENGUE	0	0	0	2	0	2
TOTAL		301	258	115	216	169	1059

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

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1

PERIOD 25/10/90 TO 07/11/90

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

		1	2	3	4	6	7	8	9	10	11	TOTAL
0100	ADENOVIRUS NOT TYPED	1	8	0	0	0	7	0	0	0	0	16
0101	ADENOVIRUS TYPE 1	0	8	0	0	0	1	0	0	0	0	9
0102	ADENOVIRUS TYPE 2	0	7	0	0	0	0	0	0	0	0	7
0103	ADENOVIRUS TYPE 3	0	1	0	0	0	0	0	0	0	1	2
0105	ADENOVIRUS TYPE 5	0	0	0	0	0	2	0	0	0	0	2
0106	ADENOVIRUS TYPE 6	0	1	0	0	0	0	0	0	0	0	1
0107	ADENOVIRUS TYPE 7	0	1	0	0	0	0	0	0	0	0	1
0109	ADENOVIRUS TYPE 9	0	0	0	0	0	1	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	2	0	0	0	0	1	0	0	0	0	3
0199	ADENOVIRUS TYPING PENDING	0	5	0	0	0	1	0	0	0	0	6
0201	INFLUENZA A VIRUS	5	18	0	0	1	0	0	0	0	0	24
0303	PARAINFLUENZA VIRUS TYPE 3	0	9	0	0	0	0	0	0	0	0	9
0400	RESPIRATORY SYNCYTIAL VIRUS (R	2	31	0	0	0	0	0	0	0	0	33
0500	RHINOVIRUS (ALL TYPES)	0	15	0	0	0	0	0	0	0	0	15
0600	MYCOPLASMA PNEUMONIAE	2	15	0	0	0	0	0	0	0	1	18
0700	ORNITHOSIS-PSITTACOSIS	0	4	0	0	0	0	0	0	0	0	4
0809	COXSACKIEVIRUS A9	0	4	0	0	0	0	0	0	0	0	4
0816	COXSACKIEVIRUS A16	0	0	0	0	0	0	0	0	0	1	1
0903	COXSACKIEVIRUS B3	0	0	0	1	0	1	0	0	0	0	2
0904	COXSACKIEVIRUS B4	0	2	0	1	1	0	0	0	0	0	4
0905	COXSACKIEVIRUS B5	0	0	0	0	0	1	0	0	0	0	1
1004	ECHOVIRUS TYPE 4	0	0	0	1	0	0	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	0	1	0	1	0	0	0	0	0	0	2
1014	ECHOVIRUS TYPE 14	1	0	0	0	0	0	0	0	0	0	1
1019	ECHOVIRUS TYPE 19	0	0	0	0	0	1	0	0	0	0	1
1022	ECHOVIRUS TYPE 22	1	2	0	0	0	0	0	0	0	1	4
1100	POLIOVIRUS NOT TYPED	0	7	1	0	0	4	0	0	0	0	12
1102	POLIOVIRUS TYPE 2	2	1	0	0	0	0	0	0	0	0	3
1200	MUMPS VIRUS	1	0	1	0	0	0	0	0	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	1	0	1	0	0	0	0	0	1	0	3
1301	HERPES SIMPLEX VIRUS - NOT TYP	5	1	0	0	0	0	1	0	0	8	15
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	2	2	0	0	0	0	0	0	0	0	4
1303	VARICELLA-ZOSTER VIRUS	4	0	1	0	0	0	0	0	0	17	22
1306	HERPES SIMPLEX TYPE 1	0	16	0	0	0	0	1	0	2	68	87
1307	HERPES SIMPLEX TYPE 2	0	0	0	0	0	0	0	0	0	72	72
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	1	1
1401	COXIELLA BURNETII	3	0	0	0	0	0	0	0	0	0	3
1502	PICORNIA VIRUS - NOT TYPED = E	2	3	0	0	1	13	0	0	0	0	19
1521	MEASLES VIRUS	1	1	0	0	0	0	0	0	0	4	6
1522	RUBELLA VIRUS	9	0	1	0	0	0	0	0	0	4	14
1532	HEPATITIS B ANTIGEN	41	0	0	0	0	0	48	0	0	1	90
1535	HEPATITIS A ANTIBODY	0	0	0	0	0	0	2	0	0	0	2
1536	HEPATITIS C VIRUS	1	0	0	0	0	0	6	0	0	0	7
1541	CHLAMYDIA A - C. TRACHOMATIS	8	1	0	0	0	0	0	0	0	0	9
1556	CMV - CYTOMEGALOVIRUS	4	10	0	1	1	1	0	2	3	1	23
1564	ROTAVIRUS	0	0	0	0	0	129	0	0	0	0	129
1565	CALICI VIRUS	0	0	0	0	0	1	0	0	0	0	1
1566	NORWALK AGENT	0	0	0	0	0	1	0	0	0	0	1
1599	ENTEROVIRUS TYPING PENDING	0	2	0	1	0	4	0	0	0	0	7
9993	ASTROVIRUS	0	0	0	0	0	2	0	0	0	0	2
9994	SMALL VIRUS (LIKE) PARTICLE	1	0	0	0	0	3	0	0	0	0	4
TOTAL		99	176	5	6	4	174	58	2	6	180	710

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2

PERIOD 25/10/90 TO 07/11/90

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	17	18	19	20	21	TOTAL
0100	ADENOVIRUS NOT TYPED	3	0	0	0	0	0	1	0	0	4
0101	ADENOVIRUS TYPE 1	0	0	0	0	0	1	1	0	0	2
0102	ADENOVIRUS TYPE 2	0	0	0	0	0	2	1	0	1	4
0103	ADENOVIRUS TYPE 3	1	0	0	0	0	0	0	0	0	1
0104	ADENOVIRUS TYPE 4	2	0	0	0	0	0	0	0	0	2
0108	ADENOVIRUS TYPE 8	3	0	0	0	0	0	0	0	0	3
0111	ADENOVIRUS TYPE 11	0	0	0	0	0	0	0	2	0	2
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	0	0	2	0	0	2
0201	INFLUENZA A VIRUS	0	0	0	0	0	0	3	0	0	3
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	0	0	0	0	0	2	0	0	2
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	0	0	0	0	0	0	0	1	1
0500	RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	1	0	1	2
0600	MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	2	1	0	3
0809	COXSACKIEVIRUS A9	0	0	0	0	0	2	0	0	0	2
0902	COXSACKIEVIRUS B2	0	0	0	0	0	0	1	0	0	1
0904	COXSACKIEVIRUS B4	0	0	0	0	0	0	2	0	0	2
1100	POLIOVIRUS NOT TYPED	0	0	0	0	0	0	2	0	0	2
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	10	0	0	0	1	0	0	0	11
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	18	7	0	0	3	0	0	28
1303	VARICELLA-ZOSTER VIRUS	0	0	0	0	0	0	0	2	0	2
1306	HERPES SIMPLEX TYPE 1	5	20	0	0	0	0	1	4	0	30
1307	HERPES SIMPLEX TYPE 2	0	96	0	0	0	0	0	0	0	96
1401	COXIELLA BURNETII	0	0	0	0	0	0	2	1	0	3
1502	PICORNIA VIRUS - NOT TYPED = E	0	0	0	0	0	0	1	0	0	1
1521	MEASLES VIRUS	0	0	0	0	0	0	1	1	0	2
1522	RUBELLA VIRUS	0	0	1	0	2	0	1	5	0	9
1532	HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	11	0	11
1536	HEPATITIS C VIRUS	0	0	0	0	0	0	0	4	0	4
1541	CHLAMYDIA A - C. TRACHOMATIS	0	72	0	0	0	0	0	0	0	72
1556	CMV - CYTOMEGALOVIRUS	1	0	0	0	2	1	4	29	1	38
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	1	1	0	2
9995	DENGUE	0	0	0	0	0	2	0	0	0	2
TOTAL		15	198	19	7	4	9	32	61	4	349