



# Communicable Diseases Intelligence

**Bulletin number**

89/2

**Issue date:** 30 January 1989**Contents:****Editor***Dr Robert Hall*

- . *AIDS update - International.*
- . *Influenza activity - Worldwide.*
- . *Relationship of syphilis to drug use and prostitution, Pennsylvania, USA.*
- . *Notifiable Diseases, Periods 7 & 8.*
- . *Cold chain studies of measles/mumps vaccine in Australia.*

**VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTING SCHEME:** A total of 1774 reports were processed during this period.

Fifteen cases of Q fever (14 males, 1 female) were reported during this period. Ages ranged from 21 to 67 years. No occupational exposure details were provided.

Influenza A virus subtype H3N2 was isolated from the nasal aspirate of a 4-month-old-male who was admitted with severe pneumonitis. The patient subsequently died of cardiac and renal failure. The virus was typed as A/VIC/7/87-like. The child had not travelled overseas recently and was not in contact with anyone from overseas.

CMV was isolated from the throat swabs and urine of a one-month-old male with congenital toxoplasmosis.

Parainfluenza type 3 was isolated from the nasal aspirate of two one-month-old female twin sisters, who presented with apnoea and cyanosis following upper respiratory tract infection.

Coxsackievirus B4 was isolated from the faeces of a nine-month-old female with gastroenteritis with failure to thrive.

Twenty-seven cases of echovirus type 30 were received during this period, making a progressive total of 187 cases. This is the highest number of cases reported to the CDI in any one year (previously 183 isolates in 1978).

Fifteen cases of echovirus type 9 were reported (WA, 2; NSW, 3; SA, 1; VIC, 9).

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**AIDS UPDATE - INTERNATIONAL**

(Based on WER 1989;64: 1-4)

Country/Area	Number of cases	Date of report
<b>Africa</b>		
Algeria	13	26.03.88
Angola	85	30.09.88
Benin	15	30.06.88
Botswana	34	31.03.88
Burkina Faso	26	30.06.87
Burundi	1 408	30.06.88
Cameroon	62	03.08.88
Cape Verde	4	30.04.87
Central African Republic		
	432	15.06.88
Chad	11	20.10.88
Comoros	1	20.08.88
Congo	1 250	31.12.87
Côte d'Ivoire	250	20.11.87
Djibouti	1	19.11.88
Egypt	6	30.07.88
Equatorial Guinea		
	—	16.05.88
Ethiopia	74	30.09.88
Gabon	18	31.03.88
Gambia	52	29.08.88
Ghana	227	31.10.88
Guinea	10	22.07.88
Guinea-Bissau	29	15.06.88
Kenya	2 732	30.06.88
Lesotho	2	26.08.88
Liberia	2	11.03.88
Libyan Arab Jamahiriya		
	—	31.12.87
Madagascar	—	25.04.87
Malawi	2 586	30.06.88
Mali	29	14.01.88
Mauritania	—	31.07.88
Mauritius	1	27.07.88
Morocco	18	20.09.88
Mozambique	19	12.10.88
Niger	9	14.10.87
Nigeria	13	03.11.88
Reunion	3	28.04.88
Rwanda	987	31.03.88
Sao Tomé and Príncipe		
	1	11.02.88
Senegal	149	30.11.88
Seychelles	—	13.11.86
Sierra Leone	5	18.08.88
Somalia	—	31.12.87
South Africa	150	26.10.88
Sudan — Soudan	81	15.11.88
Swaziland	14	16.06.88
Togo	2	15.06.88
Tunisia	21	30.07.88
Uganda	5 508	01.08.88
United Republic of Tanzania		
	3 055	31.07.88
Zaire	335	30.06.87
Zambia	1 056	30.09.88
Zimbabwe	119	30.04.88
<b>Total</b>	<b>20 905</b>	
<b>Americas</b>		
Anguilla	1	30.06.88
Antigua and Barbuda		
	3	30.06.88
Argentina	197	30.06.88
Bahamas	236	30.09.88
Barbados	67	30.09.88
Belize	9	30.09.88
Bermuda	92	30.09.88
Bolivia	8	30.06.88
Brazil	4 436	01.10.88
British Virgin Islands		
	—	30.06.88
Canada	2 181	28.11.88
Cayman Islands	4	30.06.88
Chile	100	30.09.88
Colombia	308	30.09.88
Costa Rica	79	30.09.88
Cuba	34	30.06.88
Dominica	6	30.06.88
Dominican Republic		
	566	30.06.88

Country/Area — Pays/Territoire	Number of cases Nombre de cas	Date of report Date de notification
<b>Americas (cont'd) —</b>		
Ecuador	45	30.06.88
El Salvador	43	30.09.88
French Guiana	113	31.03.88
Grenada	16	30.09.88
Guadeloupe	74	31.12.87
Guatemala	46	30.09.88
Guyana	40	30.09.88
Haiti	1 661	30.09.88
Honduras	186	30.09.88
Jamaica	72	30.09.88
Martinique	38	31.12.87
Mexico	1 642	30.09.88
Montserrat	—	30.09.88
Nicaragua	1	30.06.88
Panama	64	30.06.88
Paraguay	8	30.09.88
Peru	122	30.09.88
Saint Kitts and Nevis		
	14	30.09.88
Saint Lucia	11	31.03.88
Saint Vincent and the Grenadines —		
	13	30.06.88
Suriname	11	30.09.88
Trinidad and Tobago		
	336	30.09.88
Turks and Caicos Islands		
	5	30.06.88
United States of America		
	80 538	14.12.88
Uruguay	34	30.09.88
Venezuela	263	30.09.88
<b>Total</b>	<b>93 723</b>	
<b>Asia</b>		
Afghanistan	—	14.11.88
Bahrain	—	11.07.88
Bangladesh	—	15.06.88
Bhutan	—	14.04.87
Brunei Darussalam		
	—	08.09.87
Burma	—	14.04.87
China	3	30.09.88
China (Province of Taiwan)		
	1	26.01.86
Cyprus	5	30.07.88
Democratic People's Republic of Korea		
	—	10.05.88
Democratic Yemen		
	—	25.09.88
Hong Kong	13	18.11.88
India	9	09.05.87
Indonesia	3	30.07.88
Iran (Islamic Republic of)		
	—	31.12.87
Iraq	—	31.12.87
Israel	67	30.09.88
Japan	90	31.08.88
Jordan	3	01.07.88
Kuwait	1	31.12.87
Lebanon	5	31.12.87
Malaysia	4	27.09.88
Maldives	—	30.06.87
Mongolia	—	30.09.88
Nepal	—	15.06.88
Oman	6	30.04.88
Pakistan	6	25.09.88
Philippines	17	17.10.88
Qatar	21	25.09.88
Republic of Korea		
	4	10.09.88
Singapore	4	31.01.88
Sri Lanka	1	12.10.88
Syrian Arab Republic		
	4	30.07.88
Thailand	8	01.07.88
Turkey	10	30.09.88
Viet Nam	—	08.09.87
Yemen	—	31.12.87
<b>Total</b>	<b>285</b>	

Country/Area	Number of cases	Date of report
<b>Europe</b>		
Albania	—	30.09.88
Austria	220	31.10.88
Belgium	408	30.09.88
Bulgaria	3	30.09.88
Czechoslovakia	12	30.09.88
Denmark	345	30.11.88
Finland	37	30.09.88
France	4 874	30.09.88
German Democratic Republic		
Germany, Federal Republic of	6	30.09.88
Greece	2 580	31.10.88
Hungary	151	30.09.88
Iceland	15	31.10.88
Ireland	7	30.09.88
Italy	64	30.09.88
Luxembourg	2 556	30.09.88
Malta	13	30.09.88
Monaco	12	30.09.88
Netherlands	1	31.12.87
Norway	676	30.11.88
Poland	95	29.11.88
Portugal	4	31.10.88
Romania	181	31.10.88
San Marino	9	30.09.88
Spain	—	15.10.88
Sweden	1 850	30.09.88
Switzerland	235	31.10.88
USSR	605	30.09.88
United Kingdom	4	30.09.88
Yugoslavia	1 862	31.10.88
	58	30.09.88
<b>Total</b>	<b>16 883</b>	

Country/Area	Number of cases	Date of report
<b>Oceania</b>		
Australia	1 079	07.11.88
Cook Islands	—	08.09.87
Fiji	—	08.09.87
French Polynesia		
Kiribati	1	31.01.88
Mariana Islands	—	18.01.88
New Caledonia and Dependencies	—	05.08.87
New Zealand	—	08.09.87
Papua New Guinea	93	04.11.88
Samoa	6	03.11.88
Solomon Islands	—	18.10.88
Tonga	—	08.09.87
Tuvalu	1	06.10.87
Vanuatu	—	08.09.87
	—	30.09.88
<b>Total</b>	<b>1 180</b>	
<b>World total</b>	<b>132 976</b>	

### INFLUENZA ACTIVITY UPDATE - WORLDWIDE

(Based on MMWR Vol. 37, No. 51 & 52, 6 January 1989)

Since November 1988, influenza virus activity has been shifting from the southern to the northern hemisphere. Consequently, influenza virus activity is:

- . increasing in Canada, Trinidad, the United States, Japan and Europe;
- . and decreasing in South America, Oceania and Southern Asia.

### EUROPE

Influenza virus type A (H1N1):

- . An epidemic has been reported in France, beginning in the northern and central regions and spreading in December to all regions, affecting primarily children and young adults.
- . Activity has spread to Italy, Switzerland, United Kingdom, and West Germany, with large outbreaks in some of these countries.
- . In Norway, the virus was first isolated in Oslo.

Influenza virus type A (H3N2):

- . Isolates have been reported from France, Sweden and the Netherlands.
- . Outbreak activity was identified in the southeast regions of Norway.

Influenza type A virus of unknown subtype has been reported from Finland.

## ASIA

- . In much of southeast Asia influenza activity has declined, with only sporadic isolates of unknown types occurring during September and October in Thailand and Taiwan.
- . As indicated by absenteeism in schools, activity has increased rapidly in Japan where influenza type A (H1N1) outbreaks have occurred among school children following the first isolation of influenza type B in October.
- . Influenza B was also isolated in Hong Kong and Singapore in September and October.
- . Activity has been lower than last year in the People's Republic of China where, of 17 isolates from sporadic cases, 11 were type A (H1N1), 2 were type A (H3N2), and 4 were type B.

## AMERICAS AND OCEANIA

- . No new influenza cases have been reported from Oceania and South America since September. An island-wide outbreak of influenza A (H1N1) virus occurred in Trinidad during September, and one isolate of influenza type B was also recovered.
- . Canada reported its first isolates of 1988-89 influenza season with type A (H1N1) virus activity in late November and early December. Most isolates were from Alberta, but others were reported from Manitoba and British Columbia.
- . The United States have reported:
  - influenza type B isolates from 14 states (several outbreaks have occurred in schools) and
  - influenza type A (H3N1) virus and type A (H1N1) virus activity from a few locations.

## CDI Editorial Comment

In Australia, peak influenza activity occurred between June and August 1988. Since then a steady decrease in activity has been observed. Since the beginning of October, eight influenza isolates have been reported (2 influenza A not typed, 2 type A (H3N2) and 4 type B). An additional 53 serologically confirmed cases have been reported.

## RELATIONSHIP OF SYPHILIS TO DRUG USE AND PROSTITUTION - CONNECTICUT AND PHILADELPHIA, PENNSYLVANIA, USA

(Based on MMWR 1988;37:755-8,764)

Since 1984, in many areas of the United States, reported rates of syphilis have greatly increased (1). Between 1984 and 1987, annual rates of syphilis (primary and secondary) increased 70% in the state of Connecticut and 74% in the city of Philadelphia (Figure 1). These trends have continued in 1988; in the first quarter of this year, annual rates increased by 70% in Connecticut and by 25% in Philadelphia compared with 1987 annual rates. Investigations were conducted at these two sites to identify factors associated with this increase.

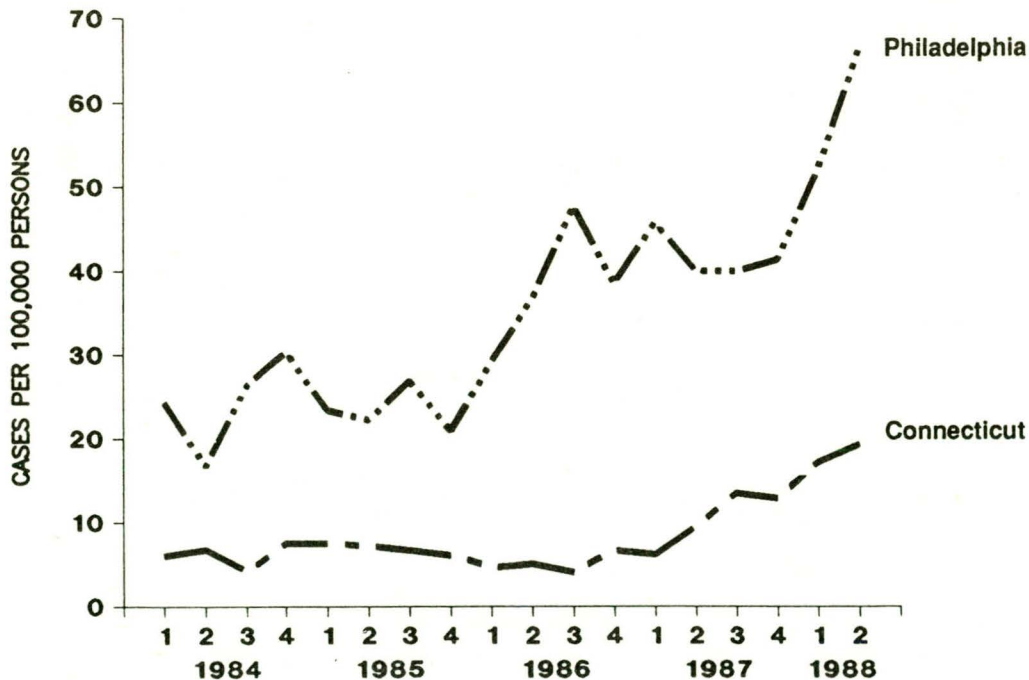
In Philadelphia and Connecticut, over 80% of all newly diagnosed patients with early syphilis are interviewed and counselled. Cases are detected through reporting by public clinics and private health-care providers and through

laboratory screening. During the interviews, information is collected about patients' lifestyles to help locate sexual contacts. In Philadelphia and Connecticut, records from these interviews were abstracted and analysed for the years 1985-1987. In Connecticut, all interviews of persons with primary and secondary syphilis were abstracted; in Philadelphia, a sample of interviews was chosen that involved persons with primary, secondary, and latent syphilis present for less than 1 year.

At both sites during the 3-year period, the proportion of men with syphilis who reported sexual contact with men decreased substantially. In Connecticut, the proportion of men with syphilis who reported being homosexual or bisexual decreased from 38% (48/126) in 1985 to 11% (21/197) in 1987; in Philadelphia, the percentage declined from 53% (49/93) to 18% (25/137) during this 3-year period.

In contrast, recorded use of illicit drugs and reported prostitution or contact with a prostitute among heterosexual syphilis patients increased greatly during this period. Among females at both study sites, the proportion reporting to be prostitutes increased more than threefold and the proportion reporting use of drugs increased more than sixfold (Figure 2). Heterosexual male syphilis patients showed similar but smaller increases in recorded drug use. Prostitute contact by this group occurred more frequently in Connecticut than in Philadelphia but increased at both sites.

Figure 1: Cases of primary and secondary syphilis, by quarter - Connecticut and Philadelphia, 1984-1988.



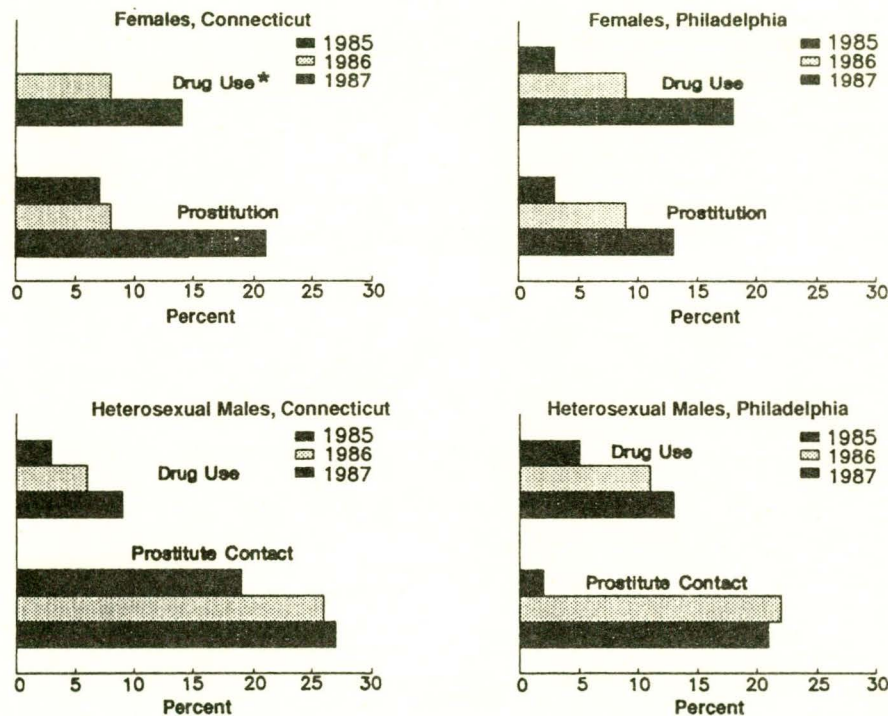
MMWR Editorial Note:

Although prostitution has long been associated with syphilis (and other sexually transmitted diseases) (2), it appears to have been relatively unimportant in the overall epidemiology of syphilis in the United States during the last 2 decades (3,4).

Drug use has only recently been associated with the spread of syphilis (1). Since drug use and prostitute contact were not recorded systematically on case interview forms, the true frequency of these behaviours among syphilis patients is probably underestimated. This underreporting of these behaviours, if combined with changing interviewers' perceptions, could bias the findings in Connecticut and Philadelphia. However, the consistency between the two sites and the magnitude of the increase in reporting of prostitution and drug use suggest that the trends observed in Connecticut and Philadelphia reflect real changes in the epidemiology of syphilis.

The decrease in the proportion of male syphilis patients who are homosexual/bisexual has been noted in California and New York City (5), in outbreaks in Manitoba (6) and Florida (7), and in a sample of states with recent increases in syphilis (8). In the Florida outbreak, prostitutes were also found to be an important risk group. The results of the studies in Connecticut and Philadelphia support these other findings and suggest that the emergence of syphilis among prostitutes, drug users, and their sexual contacts may be a widespread national phenomenon.

Figure 2: Reported illicit drug use and prostitution among syphilis patients, by category and year - Connecticut and Philadelphia, 1985-1987



\*The percentage of syphilis patients who reported drug use for 1985 was 0.

The possibility of an increase in syphilis among persons in these risk groups has important implications for the control of syphilis and other sexually transmitted diseases, including human immunodeficiency virus (HIV) infections. Prostitutes tend to have large numbers of anonymous sexual partners who are difficult to locate by traditional methods of partner

notification. Prostitutes who also frequently use intravenous (IV) drugs and, in some parts of the country, those with a history of IV-drug use have high rates of infection with HIV (9). Recent studies have suggested that sexually transmitted diseases that cause genital ulcers, such as syphilis, greatly increase the likelihood that HIV infection, when present, will be transmitted (10-12). To limit the spread of syphilis, which may also help limit the spread of HIV, public health officials may need to modify current control methods to better identify and treat syphilis-infected prostitutes, drug users, and their sexual contacts (1).

REFERENCES

1. CDC. Syphilis and congenital syphilis - United States, 1985-1988. MMWR 1988; 37:486-9.
2. Brandt AM. The syphilis epidemic and its relation to AIDS. Science 1988;239: 375-80.
3. Willcox RR. Prostitution and venereal disease. Br J Vener Dis 1962;38:37-42.
4. Perine PL, Handsfield HH, Holmes KK, Blount JH. Epidemiology of the sexually transmitted diseases. Ann Rev Public Health 1985;6:85-106.
5. CDC. Increases in primary and secondary syphilis - United States. MMWR 1987;36:393-7.
6. Lee CB, Brunham RC, Sherman E, Harding GKM. Epidemiology of an outbreak of infectious syphilis in Manitoba. Am J Epidemiol 1987;125:277-83.
7. CDC. Early syphilis - Broward County, Florida. MMWR 1987;36:221-3.
8. CDC. Continuing increase in infectious syphilis - United States. MMWR 1988; 37:35-8.
9. CDC. Human immunodeficiency virus infection in the United States: a review of current knowledge. MMWR 1987;36 (suppl S-6):8.
10. Cameron DW, D'Costa LJ, Ndinya-Achola JO, Piot P, Plummer FA. Incidence and risk factors for female to male transmission of HIV [Abstract]. IV International Conference on AIDS. Book 1. Stockholm, June 12-16, 1988:275.
11. Simonsen JN, Cameron DW, Gakinya MN, et al. Human immunodeficiency virus infection among men with sexually transmitted diseases: experience from a center in Africa. N Engl J Med 1988;319:274-8.
12. Holmberg SD, Stewart JA, Gerber AR, et al. Prior herpes simplex virus type 2 infection as a risk factor for HIV infection. JAMA 1988;259:1048-50.

COLD CHAIN STUDIES OF MEASLES/MUMPS VACCINE IN AUSTRALIA

(Based on NBSL Lab Info Bull Vol. 1 No. 4, December 1988 - Pub. 0031)

The combined measles/mumps vaccine is the vaccine of choice for the routine immunisation of children aged between 12 and 15 months. This vaccine consists of a mixture of live attenuated measles (Schwartz strain or Edmonston B strain) and mumps (Jeryl Lynn strain or Urabe Am 9 strain) viruses. One such vaccine, the Merck Sharp and Dohme product M-M-VAX, a sterile lyophilised preparation containing an attenuated line of measles virus (derived from Ender's attenuated Edmonston strain and grown in cell cultures of chick embryo) and mumps virus (the Jeryl Lynn B level strain grown in cell cultures of chick embryo), has been in use in Australia since 1982 and distributed nationally as part of the NH&MRC recommended childhood immunisation schedule since 1983.

The biological characteristics of the vaccine include:

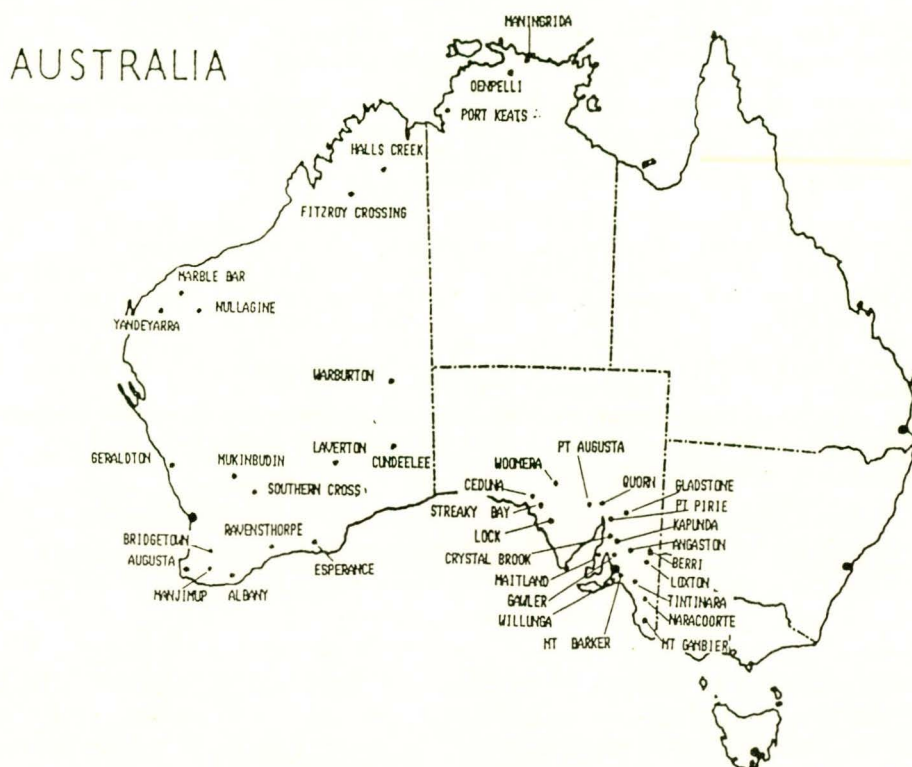
- . heat lability;
- . a 24 month shelf life;
- . a requirement for storage at 2-8°C to maintain satisfactory potency throughout its shelf period;
- . the inactivation of both vaccine components at similar rates when subjected to improper storage temperatures (ie incubating vaccine at 37°C for 7 days in accelerated stability testing results in losses in titre of about

0.6 log 10 for both components) - hence either virus component could be used as an indicator of improper storage; and

- a minimum required titre per dose of 3.0 log 10 CCID<sub>50</sub> for the measles and 4.3 log 10 CCID<sub>50</sub> for the mumps components respectively (NBSL assesses each batch of vaccine for virus content as it comes into Australia).

The National Biological Standards Laboratory (NBSL) expressed concern about the transport and storage conditions of some vaccines within Australia and initiated a vaccine sampling survey to monitor the potency of vaccines distributed in South Australia, Western Australia and the Northern Territory (Figure 1).

Figure 1: Vaccine sampling locations



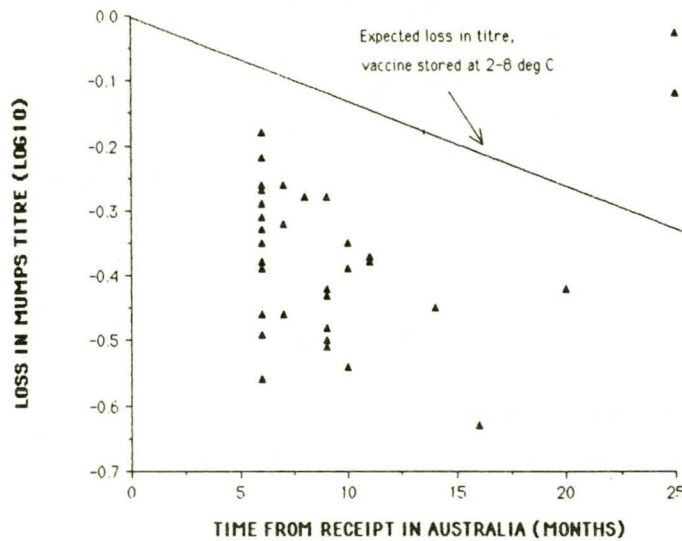
Three studies were conducted to determine the extent of vaccine potency lost under field conditions.

Study 1:

- examined 40 vaccine samples which were despatched from 40 outlying areas of the locations indicated in Figure 1, with a WHO type vaccine transport indicator card which monitored temperature fluctuations during transit to NBSL;
- identified 4 samples (10%) which were exposed to temperatures exceeding 10°C during transport to NBSL, but in this instance the temperature exposures were insufficient to significantly affect the vaccine potency;
- ascertained that all 40 samples had mumps titres in excess of the required minimum titre of 4.3 log 10 CCID per dose. The losses in titre under field conditions were observed ranging from 0.03 log 10 to 0.63 log 10 with losses > 0.2 log 10 being statistically significant, compared with the expected inactivation rate of the mumps component for vaccine stored at 2-8°C (a straight line

derived by linear regression analysis of data from 5 vaccine batches assayed after storage at 2.8°C at NBSL), (Figure 2); and

Figure 2: Stability of recovered M-M-VAX samples



- indicated that the losses in titre of the recovered samples significantly exceeded that expected for properly stored vaccine; however these losses did not correlate with particular vaccine batches or storage time from their receipt in Australia.

Study 2:

- assessed vaccine samples taken from Darwin and Alice Springs for potency of the measles component because of a reported measles epidemic in the Northern Territory;
- identified 2 out of 16 vaccine samples (12.5%) with measles titre slightly below the required minimum of 3.0 log<sub>10</sub> CCID<sub>50</sub> per dose (Table 1);

Table 1. Measles component titre of M-M-VAX vaccines (Lot C4644) sampled from Northern Territory

SAMPLE	TIME SINCE RECEIPT IN AUSTRALIA (MONTHS)	MEASLES TITRE GMCT* (LOG10 CCID50/DOSE)	LOSS IN TITRE (LOG10)
NBSL ACCEPTANCE ASSAY	0	3.83	
Alice Springs Rural Clinic Stock	18	3.22	0.61
Alice Springs Pharmacy	18	3.09	0.74
Golburn Is.	21	3.32	0.51
Croker Is.	21	3.16	0.67
Daly R.	21	3.16	0.67
Garden Point	21	3.14	0.69
Oenpelli	21	3.16	0.67
Port Keats	21	3.29	0.54
Batchelor	21	3.11	0.72
Adelaide R.	21	3.19	0.64
Maningrida	21	3.08	0.75
Papunya	23	2.78	1.05
Ti Tree Clinic	23	3.06	0.77
Yendumu	23	3.09	0.74
Alics Springs Pharmacy	23	3.13	0.70
Kalkarang	23	3.16	0.67
Katherine Hospital	23	2.93	0.90

\* Geometric Mean Corrected Titre

NB. These samples had been stored between 18 and 23 months since receipt in Australia.

- determined a mean loss in measles titre of 0.71 log<sub>10</sub> for batch C4644, compared with the expected titre loss of 0.3 log<sub>10</sub> for properly stored vaccine (NBSL data).

### Study 3:

- assayed the mumps virus content of 5 batches of vaccines kept at 2.8°C for up to 10 months prior to sampling, in CSL central cold stores, compared with samples of the same batches stored at -25°C since receipt at NBSL;
- estimated the mumps component inactivation rate to be 0.3 log<sub>10</sub> ( $\pm$  0.15) per year, based on linear regression analysis (Table 2).

Table 2: Comparison of mumps component titre of M-M-VAX stored at 2.8°C in CSL with those stored at -25°C at NBSL

Batch No.	Time in Aust. at MSD/CSL (months)	Titre (log <sub>10</sub> NBSL Stored -25°C)	CCID50/dose CSL Store 2-8°C	Difference (log <sub>10</sub> )
1	9.8	5.10 ( $\pm$ 0.04*)	4.85 ( $\pm$ 0.11)	-0.25 (P <0.001)
2	7.7	5.00 ( $\pm$ 0.08)	4.90 ( $\pm$ 0.04)	-0.10 (P <0.02)
3	7.3	5.08 ( $\pm$ 0.05)	4.82 ( $\pm$ 0.13)	-0.26 (P <0.001)
4	6.4	5.03 ( $\pm$ 0.04)	4.85 ( $\pm$ 0.10)	-0.18 (P <0.01)
5	3.7	4.53 ( $\pm$ 0.10)	4.46 ( $\pm$ 0.11)	-0.07 (0.2 < P < 0.3)

\* 95% confidence limits to mean.

- indicated that the losses in mumps titre were small (of the same order as observed for vaccine stored at 2.4°C at NBSL) and time dependent.

These studies demonstrated that:

- losses in titre of M-M-VAX vaccine occurred both during storage at CSL and after shipment to regional and district centres in Australia;
- two of 16 samples (12.5%) were sub-potent after having been stored for 23 months of the 24-month shelf life;
- the rates of inactivation in the field exceeded those observed for vaccine which is properly stored at 2-8°C in either CSL or NBSL;
- transport and storage conditions following despatch from CSL are not satisfactory (although the source of this inadequacy cannot be identified);
- in the absence of identified substantial breaks in the 'cold chain' these titres are considered sufficient for vaccine to still exceed the required titre after 2 years of storage at 2-8°C;
- it is necessary to carefully monitor the conditions of storage and transport of vaccine throughout Australia by using the WHO type 'cold chain' monitors.

Australia has, since the commencement of these studies, adopted the WHO requirements for stability of measles and mumps vaccines, which require vaccine to exceed the required minimum titre of 3.0 and 4.3 log 10 CCID<sub>50</sub> per dose for measles and mumps respectively after heating the vaccine for 7 days at 37°C. In practice this means that the acceptance titres of vaccines are >3.6 and >4.9 log 10 CCID<sub>50</sub> per dose respectively.

CDI Editorial Comment

It is obvious from these studies that the loss of vaccine potency (as measured by titres of end viral component) is accelerated under field conditions compared with the expected rate of inactivation observed under optimal storage conditions. In terms of vaccine quality control such losses are of concern and indicate the need for vigilance in maintaining appropriate storage temperature for the transport of vaccines.

It is not known whether, such losses have any implications in terms of a reduction in the immunogenicity and efficacy of measles/mumps vaccines when administered to a target population. Subsequent reports of reduced seroconversion rates for Hepatitis B immunisation from the Northern Territory in 1987 have been attributed to the inadequacy of 'cold chain' monitoring during transport of Hep B vaccine.



DISEASE	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL	CUMULATIVE TOTAL
Malaria	3	1	14				1	3	22	211
Measles	2	NN	3			NN	NN		5	58
Meningococcal infections	1	1	1	2	3	NN	1		9	50
Non-specific urethritis	112	NN		NN	NN	NN	3	NN	115	1499
Ornithosis			52	1					53	138
Pertussis (whooping cough)	2	2	NN	4	2	NN			10	74
Plague										
Poliomyelitis										
Q fever	8		11	4					23	217
Rabies						NN		NN		
Salmonella infections	57	9	71	23	23	2	11	2	198	2020
Shigella infections	4	1	8	2	3		23	1	42	356
Smallpox										
Syphilis	22	2	52	11	26	2	59	1	175	1138
Tetanus										2
Trachoma		NN	NN	3	103	NN	NN		106	143
Tuberculosis (all forms)	34	17	9	7	9	1	8		85	620 *
Typhoid fever	1	1	1		2			1	6	25
Typhus (all forms)										4
Vibrio parahaemolyticus infection		NN	NN			NN		NN		2
Yellow fever										
Yersinia infections	10		NN	3		NN		NN	13	107

NN - Not notifiable

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

\* ADJUSTMENT TO THE CUMULATIVE TOTAL SINCE LAST REPORT

Cholera	+1 Western Australia	Period 1	Tuberculosis	+4 South Australia	Period 1
	+1 New South Wales	Period 5		+4 South Australia	Period 2
				+1 South Australia	Period 6



DISEASE	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL	CUMULATIVE TOTAL
Malaria	4	3	5	2	4		1	9	28	239
Measles	2	NN	7			NN	NN		9	67
Meningococcal infections	2		4	2		NN	2	1	11	61
Non-specific urethritis	614	NN		NN	NN	NN	7	NN	621	2120
Ornithosis			79						79	217
Pertussis (whooping cough)	1	2	NN	6		NN		NN	9	83
Plague										
Poliomyelitis										
Q fever	5		13						18	235
Rabies						NN		NN		
Salmonella infections	69	4	59	36	19	5	23		215	2235
Shigella infections	8	2	12	6	5	1	11		45	401
Smallpox										
Syphilis	44	2	10	5	1		33		95	1233
Tetanus										2
Trachoma		NN	NN		1	NN	NN		1	144
Tuberculosis (all forms)	12	21	3		12		1	2	51	671
Typhoid fever	4				1				5	30
Typhus (all forms)			1						1	5
Vibrio parahaemolyticus infection		NN	NN			NN		NN		2
Yellow fever										
Yersinia infections	6		NN	6		NN		NN	12	119

NN - Not notifiable

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

AUSTPALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1.

PERIOD 5/1/89 TO 18/1/89

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

	1	2	3	4	5	6	7	8	9	10	11	TOTAL
0100 ADENOVIRUS NOT TYPED	0	7	0	0	0	0	18	0	0	0	1	26
0101 ADENOVIRUS TYPE 1	0	8	0	0	0	0	2	0	0	0	0	10
0102 ADENOVIRUS TYPE 2	1	6	0	0	0	0	1	0	0	0	0	8
0103 ADENOVIRUS TYPE 3	0	1	0	0	0	0	2	0	0	0	0	3
0104 ADENOVIRUS TYPE 4	0	1	0	0	0	0	0	0	0	0	0	1
0105 ADENOVIRUS TYPE 5	0	2	0	0	0	0	1	0	0	0	0	3
0107 ADENOVIRUS TYPE 7	0	0	0	0	0	0	1	0	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	0	5	1	0	0	1	0	0	0	0	0	7
0201 INFLUENZA A VIRUS	1	1	0	0	0	0	0	0	0	0	0	2
0202 INFLUENZA A VIRUS SUBTYPE H3N2	0	1	0	0	0	0	0	0	0	0	0	1
0301 PARAINFLUENZA VIRUS TYPE 1	0	3	0	0	0	0	0	0	0	0	0	3
0302 PARAINFLUENZA VIRUS TYPE 2	0	3	0	0	0	0	0	0	0	0	0	3
0303 PARAINFLUENZA VIRUS TYPE 3	0	87	0	1	0	0	0	0	0	0	2	90
0399 PARAINFLUENZA VIRUS TYPING PEN	0	1	0	0	0	0	0	0	0	0	0	1
0400 RESPIRATORY SYNCYTIAL VIRUS (R	1	10	0	0	0	0	0	0	0	0	0	11
0500 RHINOVIRUS (ALL TYPES)	1	74	0	0	0	1	0	1	0	0	1	78
0600 MYCOPLASMA PNEUMONIAE	1	63	0	0	0	0	0	0	0	0	0	64
0803 COXSACKIEVIRUS A3 0803	0	3	0	0	0	0	0	0	0	0	0	3
0904 COXSACKIEVIRUS B4	0	5	0	2	0	0	2	0	0	0	1	10
0905 COXSACKIEVIRUS B5	0	0	0	1	0	0	1	0	0	0	0	2
1004 ECHOVIRUS TYPE 4	1	2	0	1	0	0	0	0	0	0	0	4
1009 ECHOVIRUS TYPE 9	0	2	1	8	0	0	1	0	0	0	1	13
1022 ECHOVIRUS TYPE 22	0	1	0	0	0	0	0	0	0	0	0	1
1029 ECHOVIRUS TYPE 29	0	0	0	0	0	1	0	0	0	0	0	1
1030 ECHOVIRUS TYPE 30	0	1	0	20	0	0	3	0	0	0	0	24
1100 POLIOVIRUS NOT TYPED	0	0	0	1	0	0	4	0	0	0	0	5
1101 POLIOVIRUS TYPE 1	0	0	0	0	0	0	1	0	0	0	0	1
1200 MUMPS VIRUS	0	0	2	0	0	0	0	0	0	0	0	2
1300 HERPES VIRUS GROUP - NOT TYPED	0	0	1	0	0	0	0	0	0	0	3	4
1301 HERPES SIMPLEX VIRUS - NOT TYP	28	0	0	0	0	0	0	0	0	1	18	47
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	3	0	0	0	0	0	0	0	0	0	0	3
1303 VARICELLA-ZOSTER VIRUS	2	2	1	0	0	0	1	0	0	0	19	25
1306 HERPES SIMPLEX TYPE 1	3	13	0	0	0	2	1	0	0	0	96	115
1307 HERPES SIMPLEX TYPE 2	2	1	0	0	0	1	0	0	0	0	102	106
1399 HERPES VIRUS TYPING PENDING	0	3	0	0	0	0	0	0	0	0	8	11
1401 COXIELLA BURNETII	11	1	0	0	0	0	0	1	0	0	0	13
1502 PICORNIA VIRUS - NOT TYPED = E	2	18	0	1	0	6	16	0	0	1	1	45
1521 MEASLES VIRUS	0	0	0	0	0	0	0	0	0	0	2	2
1522 RUBELLA VIRUS	1	0	0	0	0	0	0	0	0	0	6	7
1531 HEPATITIS B VIRUS (CHANGE TO 1	0	0	0	0	0	0	0	4	0	0	0	4
1532 HEPATITIS B ANTIGEN	44	0	0	0	0	0	2	75	1	0	0	122
1535 HEPATITIS A ANTIBODY	2	0	0	0	0	0	0	21	0	0	0	23
1541 CHLAMYDIA A - C. TRACHOMATIS	15	1	0	0	0	0	0	0	0	0	1	17
1556 CMV - CYTOMEGALOVIRUS	5	16	0	0	1	0	2	2	0	2	0	28
1564 ROTAVIRUS	2	0	0	0	0	0	38	0	0	0	0	40
1565 CALICI VIRUS	0	0	0	0	0	0	1	0	0	0	0	1
1566 NORWALK AGENT	0	2	0	0	0	0	0	0	0	0	0	2
1599 ENTEROVIRUS TYPING PENDING	0	7	1	8	0	1	7	0	0	0	0	24
9992 POSS RIVER VIRUS	19	18	0	0	0	0	0	0	0	0	16	53
9994 SMALL VIRUS (LIKE) PARTICLE	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL	146	369	7	43	1	13	105	104	1	4	278	1071

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES  
BASED ON DATE OF REPORTING

PERIOD 5/1/89 TO 18/1/89

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

	019	065	110	111	112	113	114	115	TOTAL
0100 ADENOVIRUS NOT TYPED	0	6	4	0	2	11	0	10	33
0101 ADENOVIRUS TYPE 1	2	1	2	4	2	0	0	0	11
0102 ADENOVIRUS TYPE 2	3	1	0	5	1	0	0	0	10
0103 ADENOVIRUS TYPE 3	0	2	1	0	0	0	0	0	3
0104 ADENOVIRUS TYPE 4	1	0	0	0	0	0	0	0	1
0105 ADENOVIRUS TYPE 5	0	2	0	2	0	0	0	0	4
0107 ADENOVIRUS TYPE 7	0	0	0	0	1	0	0	0	1
0108 ADENOVIRUS TYPE 8	1	0	0	0	0	0	0	0	1
0113 ADENOVIRUS TYPE 13	0	0	0	0	1	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	0	0	0	8	0	0	0	0	8
0201 INFLUENZA A VIRUS	1	1	0	0	0	1	0	0	3
0202 INFLUENZA A VIRUS SUBTYPE H3N2	0	0	0	0	0	0	1	0	1
0301 PARAINFLUENZA VIRUS TYPE 1	0	2	0	1	0	0	0	0	3
0302 PARAINFLUENZA VIRUS TYPE 2	0	0	1	2	0	0	0	0	3
0303 PARAINFLUENZA VIRUS TYPE 3	10	5	14	35	6	1	3	21	95
0399 PARAINFLUENZA VIRUS TYPING PEN	0	0	0	0	0	0	0	1	1
0400 RESPIRATORY SYNCYTIAL VIRUS (R	3	4	5	0	0	0	0	0	12
0500 RHINOVIRUS (ALL TYPES)	8	6	35	20	1	0	0	11	81
0600 MYCOPLASMA PNEUMONIAE	5	3	40	27	2	0	0	0	77
0700 CRNITHOSIS-PSITTACOSIS	1	0	0	0	0	0	0	0	1
0803 COXSACKIEVIRUS A3 0803	0	0	0	4	0	0	0	0	4
0903 COXSACKIEVIRUS B3	0	0	0	0	0	0	1	0	1
0904 COXSACKIEVIRUS B4	4	2	2	1	2	0	1	0	12
0905 COXSACKIEVIRUS B5	1	0	0	0	0	1	0	0	2
1004 ECHOVIRUS TYPE 4	1	1	3	0	0	0	0	0	5
1009 ECHOVIRUS TYPE 9	9	2	1	0	2	1	0	0	15
1022 ECHOVIRUS TYPE 22	0	0	1	0	0	0	0	0	1
1029 ECHOVIRUS TYPE 29	0	0	1	0	0	0	0	0	1
1030 ECHOVIRUS TYPE 30	17	4	0	4	1	0	1	0	27
1100 POLIOVIRUS NOT TYPED	0	0	0	3	0	4	0	0	7
1101 POLIOVIRUS TYPE 1	0	0	1	0	0	0	0	0	1
1200 MUMPS VIRUS	0	0	0	1	4	1	0	0	6
1300 HERPES VIRUS GROUP - NOT TYPED	0	1	0	0	0	2	0	1	4
1301 HERPES SIMPLEX VIRUS - NOT TYP	10	1	0	0	102	0	1	0	114
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	0	7	22	0	0	1	0	0	30
1303 VARICELLA-ZOSTER VIRUS	6	7	1	0	3	5	0	8	30
1306 HERPES SIMPLEX TYPE 1	60	24	21	0	3	8	0	62	178
1307 HERPES SIMPLEX TYPE 2	73	63	28	0	13	25	0	60	262
1399 HERPES VIRUS TYPING PENDING	0	0	0	13	0	0	0	0	13
1401 COXIELLA BURNETI	2	0	1	0	11	1	0	0	15
1502 PICORNIA VIRUS - NOT TYPED = E	0	5	0	0	0	5	0	35	45
1521 MEASLES VIRUS	0	0	0	3	0	0	0	0	3
1522 RUBELLA VIRUS	0	1	7	2	0	1	0	0	11
1531 HEPATITIS B VIRUS (CHANGE TO 1	4	0	0	0	0	0	0	0	4
1532 HEPATITIS B ANTIGEN	21	10	20	1	42	9	0	27	130
1535 HEPATITIS A ANTIBODY	3	9	4	1	5	1	0	0	23
1541 CHLAMYDIA A - C. TRACHOMATIS	14	42	77	2	24	1	0	29	189
1556 CHV - CYTOMEGALOVIRUS	29	8	3	1	6	5	1	16	69
1564 ROTAVIRUS	11	8	17	0	1	2	1	0	40
1565 CALICI VIRUS	0	0	0	0	1	0	0	0	1
1566 NORWALK AGENT	0	0	0	2	0	0	0	0	2
1599 ENTEROVIRUS TYPING PENDING	0	0	0	16	0	7	1	0	24
9992 ROSS RIVER VIRUS	83	71	0	0	0	0	0	0	154
9994 SMALL VIRUS (LIKE) PARTICLE	0	1	0	0	0	0	0	0	1
TOTAL	383	300	312	158	236	93	11	281	1774

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2.

PERIOD 5/1/89 TO 18/1/89

- |                                      |                             |
|--------------------------------------|-----------------------------|
| 12. CODE 10 - EYE                    | 17. CODE 69 - CONGENITAL    |
| 13. CODE 59 - GENITAL                | 18. CODE P8 - PUO           |
| 14. CODE 39 - ENDOCRINE/SALIVARY GL. | 19. CODE G8 - FEVER/MALAISE |
| 15. CODE 38 - RETICULO-ENDOTHELIAL   | 20. CODE 09 - OTHER         |
| 16. CODE 29 - MUSCLE/JOINT           | 21. CODE A1 - SIDS          |

	12	13	14	15	16	17	18	19	20	21	TOTAL
0100 ADENOVIRUS NOT TYPED	3	0	0	0	0	0	2	1	1	0	7
0101 ADENOVIRUS TYPE 1	0	0	0	0	0	0	0	1	0	0	1
0102 ADENOVIRUS TYPE 2	0	0	0	0	0	0	0	2	0	0	2
0105 ADENOVIRUS TYPE 5	0	0	0	0	0	0	0	0	1	0	1
0108 ADENOVIRUS TYPE 8	1	0	0	0	0	0	0	0	0	0	1
0113 ADENOVIRUS TYPE 13	0	0	0	0	0	0	0	0	1	0	1
0199 ADENOVIRUS TYPING PENDING	0	0	0	0	0	1	0	0	0	0	1
0201 INFLUENZA A VIRUS	0	0	0	0	0	0	0	1	0	0	1
0303 PARAINFLUENZA VIRUS TYPE 3	0	0	0	0	0	0	1	2	1	1	5
0400 RESPIRATORY SYNCYTIAL VIRUS (R	0	0	0	0	0	0	0	0	1	0	1
0500 RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	0	2	1	0	3
0600 MYCOPLASMA PNEUMONIAE	0	0	1	0	1	0	0	6	5	0	13
0700 ORNITHOSIS-PSITTACOSIS	0	0	0	0	0	0	1	0	0	0	1
0803 COXSACKIEVIRUS A3 0803	0	0	0	0	0	0	0	1	0	0	1
0903 COXSACKIEVIRUS B3	0	0	0	0	0	0	0	0	1	0	1
0904 COXSACKIEVIRUS B4	0	0	0	0	0	0	0	1	0	1	2
1004 ECHOVIRUS TYPE 4	0	0	0	0	0	0	1	0	0	0	1
1009 ECHOVIRUS TYPE 9	0	0	0	0	0	0	0	1	1	0	2
1030 ECHOVIRUS TYPE 30	0	0	0	0	0	0	0	0	2	1	3
1100 POLIOVIRUS NOT TYPED	0	0	0	0	0	0	0	0	0	2	2
1200 MUMPS VIRUS	0	0	2	0	0	0	0	1	1	0	4
1301 HERPES SIMPLEX VIRUS - NOT TYP	0	61	0	0	0	1	0	2	3	0	67
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	21	1	1	0	0	2	2	0	27
1303 VARICELLA-ZOSTER VIRUS	0	1	0	1	0	0	0	1	2	0	5
1306 HERPES SIMPLEX TYPE 1	10	47	1	0	1	0	0	3	1	0	63
1307 HERPES SIMPLEX TYPE 2	0	155	0	0	0	0	0	1	0	0	156
1399 HERPES VIRUS TYPING PENDING	0	1	0	0	0	0	0	1	0	0	2
1401 COXIELLA BURNETI	0	0	0	0	0	0	0	1	1	0	2
1521 MEASLES VIRUS	0	0	0	0	0	0	0	1	0	0	1
1522 RUBELLA VIRUS	0	0	0	0	1	1	0	1	1	0	4
1532 HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	1	7	0	8
1541 CHLAMYDIA A - C. TRACHOMATIS	4	168	0	0	0	0	0	0	0	0	172
1556 CMV - CYTOMEGALOVIRUS	1	5	0	0	0	4	1	9	21	0	41
9992 ROSS RIVER VIRUS	0	0	0	1	95	0	0	5	0	0	101
TOTAL	19	438	25	3	99	7	6	47	54	5	703