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Editor
Dr Robert Hall

OVERSEAS BRIEFS

1. PERU CHOLERA EPIDEMIC

The cholera epidemic in Peru continues to worsen. As of 8 March 1991 the Ministry of Health reported that the number of cases has risen to 65,198 (with 16,754 hospitalisations) and there were 363 fatalities. Cases have now been reported from the departments of Loreto, Puno and Tumbes.

2. CHOLERA IN ECUADOR

The Ministry of Health report for the period 11 to 15 March 1991 states that case numbers now stand at 233 (including 50 hospitalisations) with 1 fatality. Ten (10) cases have been confirmed as *V. cholerae* O1 Eltor Inaba. All cases appear to be related to the initial foci in El Oro province on the countries' southern border. Two modes of transmission have been identified in this province:

1. water from wells

2. consumption of raw seafood collected in shallow waters

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

- Figures given may be subject to revision.

3. CHOLERA IN COLOMBIA

A laboratory confirmed case of cholera (01 Eltor Inaba) has been reportedby the Health Ministry in Colombia. The case originated in Inguapi del Guadal region in Narino department.

4. CHOLERA VACCINATION FOR TRAVELLERS TO PAKISTAN

The Government of Pakistan no longer requires cholera vaccination certificates from international travellers.

AUSTRALIAN HIV SURVEILLANCE REPORT: 28 DECEMBER 1990

The National Centre in HIV Epidemiology and Clinical Research reports that as of 31 December 1990 a total of 13,569 diagnoses of HIV infection and 2,381 cases of AIDS had been reported in Australia.

For the most recent reporting period, 1 December to 31 December 1990 (weeks 49-52), 16 new cases of AIDS and 31 new diagnoses of HIV infection were reported.

The following tables provide more detailed information on a State/Territory basis.

Readers should note that cumulative figures are subject to retrospective revision, which may result in apparent discrepancies between the number of new cases for the current 4 week period and the increment in the cumulative figures from the previous report.

Table 1. New diagnoses of AIDS and deaths from AIDS occurring in the period 1-31 December (weeks 49-52) 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	9	0	9	3	0	3
NT	0	0	0	1	0	1
QLD	0	0	0	1	0	1
SA	0	0	0	0	0	0
TAS	0	0	0	0	0	0
VIC	6	0	6	1	0	1
WA	1	0	1	0	0	0
TOTAL	16	0	16	6	0	6

Table 2. Cumulative cases of AIDS and deaths from AIDS by sex and State/Territory in which diagnosis was made, to 31 December 1990.

STATE/ TERRITORY	CASES			DEATHS		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
ACT	31	1	32	20	0	20
NSW	1463	43	1506	899	28	927
NT	5	0	5	3	0	3
QLD	171	7	178	105	5	110
SA	77	3	80	38	1	39
TAS	12	1	13	5	1	6
VIC	448	10	458	251	5	256
WA	102	7	109	59	3	62
TOTAL	2309	72	2381	1380	43	1423

Table 3. New diagnoses of HIV infection, period 1-31 December (weeks 49-52) 1990, and cumulative since the introduction of HIV antibody testing to 31 December 1990, by sex and State/Territory.

STATE/ TERRITORY	WEEKS 49 - 52 1990[1]			CUMULATIVE TO 31 DECEMBER 1990			
	MALE	FEMALE	TOTAL	MALE	FEMALE	SEX UNKNOWN	TOTAL
ACT	1	0	1	14	0	97	111
NSW[2]	-	-	-	5877	345	2694	8916
NT	0	0	0	54	4	0	58
QLD	8	1	9	947	37	0	984
SA[3]	-	-	-	333	27	0	360
TAS	0	0	0	49	3	0	52
VIC	17	3	20	2432	75	0	2507
WA	1	0	1	550	31	0	581
TOTAL	27	4	31	10256	522	2791	13569

1. Dashes indicate counts unavailable.
2. Counts to 30 September 1989 for St Vincent's Hospital, to 31 October 1990 for Westmeand Hospital and to 30 November 1990 for Prince of Wales Hospital.
3. Cumulative counts to 18 May 1990.

SALMONELLA SURVEILLANCE, AUSTRALIA, HALF YEARLY REPORT 1990

National Salmonella Surveillance Scheme, editor J Powling,Microbiological Diagnostic Unit, University of Melbourne)

Human Isolates - First and Second Quarters 1990

Table 1: Total Number of Notifications Received to 30 June 1990

	ACT	NSW	VIC	QLD	SA	WA	TAS	NT	TOTAL
Salmonella	48	894	614	1110	413	461	89	244	3883
Shigella	3	53	37	24	29	256	2	89	494
E coli (EPEC)	-	1	2	-	-	-	-	-	3
Vibrio	-	9	-	1	-	1	-	-	11
Total	51	958	663	1135	442	718	91	333	4391

Salmonella Case Rates - First and Second Quarters 1990

First Quarter: 2159 cases, 94 follow ups, 22 migrants and refugees and 71 acquired overseas.

Second Quarter: 1359 cases, 108 follow-ups, 9 migrants and refugees and 61 acquired overseas.

Table 2: Case Rates per 100,000 for Salmonella Infections

	ACT	NSW	VIC	QLD	SA	WA	TAS	NT	TOTAL
1st Q '90	8.4	9.4	7.3	24.5	16.6	20.2	11.9	91.1	2159
2nd Q '90	6.4	5.7	5.2	14.8	12.1	10.7	8.0	59.4	1359
1st Q '89	6.8	9.5	7.9	19.0	12.4	15.0	18.8	65.2	1901
2nd Q '89	9.2	6.0	9.4	15.9	7.9	13.6	8.7	69.1	1581

Shigella Infections - First and Second Quarters 1990

494 notifications of *Shigella* infections were received for the first half of 1990. Of these, six were follow-up specimens, 15 were from migrants and refugees and 38 were notified from travellers returning from overseas, leaving a total of 435 cases acquired in Australia. The figure for the first quarter (257) was more than double the number of cases (123) for the same period last year (Q1/'89). The total of 178 cases for the second quarter was slightly lower than for the same period last year (192).

The most common serotype was *Sh flexneri* 2a with 203 cases. Of these, 142 were from Western Australia.

Shigella infections acquired overseas included *Sh boydii* 1 (India); *Sh boydii* 13 (Syria); *Sh boydii* 2; *Sh boydii* 3; *Sh dysenteriae* and *Sh dysenteriae* 3 (India); *Sh flexneri* (Egypt), *Sh flexneri* 2a (Thailand, Central America, Philippines, Fiji), *Sh flexneri* 3a (India, Java, Vietnam), *Sh flexneri* 4a (Nepal), *Sh flexneri* 5b (India), *Sh flexneri* 6 (Africa, India), *Sh flexneri* var x (India), *Sh sonnei* biotype a (Bali, Nepal, Thailand, Western Samoa) and *Sh sonnei* biotype g (Egypt, India, Thailand).

Table 3: Cases of *Shigella* Acquired in Australia

Organism	ACT	NSW	VIC	QLD	SA	WA	TAS	NT	TOTAL
Sh flexneri	-	2	-	-	-	-	-	-	2
Sh flexneri 1b	-	1	1	-	-	1	-	-	3
Sh flexneri 2a	-	3	3	-	11	142	-	44	203
Sh flexneri 3a	-	6	1	-	-	1	-	-	8
Sh flexneri 4a	-	1	-	-	2	-	-	5	8
Sh flexneri 4a mann. neg	-	-	-	-	-	-	-	1	1
Sh flexneri 5b	-	-	1	-	-	-	-	-	1
Sh flexneri 6	1	-	3	1	2	18	1	16	42
Sh flexneri var x	-	-	-	-	-	1	-	-	1
Sh flexneri var y	1	-	-	1	1	4	-	1	8
Sh sonnei biotype a	-	30	6	21	9	74	-	16	157
Sh sonnei biotype g	-	1	-	-	-	-	-	-	1
Total	2	44	15	23	25	241	1	83	435

Top Ten Salmonellas - First and Second Quarters 1990

In the first quarter, 768 (35%) of the 2159 Australian acquired cases were isolates from the top ten salmonellas and the figure was 487 (36%) out of 1359 in the second quarter. The top ten for each quarter are listed in Table 4, together with their position in the previous quarters. Two serotypes were associated with outbreaks, both in the first quarter. 60 cases of *S* Typhimurium 20 were notified from New South Wales in February and 55 cases of *S* Typhimurium untypable from Perth between January and March. The latter has a unique phage pattern which has so far only been found in isolates from Western Australia. *S* Typhimurium 9, having been the most common *Salmonella* for three of the four quarters of 1989, returned to the top position in the first quarter, replacing *S* Typhimurium 135.

954 cases of *S* Typhimurium, from 45 phage types, accounted for 44 percent of the Australian acquired cases of *Salmonella* in the first quarter and 476 cases, from 40 phage types, accounted for 35 percent of cases in the second quarter. The top five phage types of *S* Typhimurium for the first six months were 9 (232 cases), 135 (144), 170 (110), 20 (93) and the untypable from Western Australia (73).

Table 4: Top Ten Salmonellas for the First and Second Quarters of 1990

a) First Quarter

	Prev. Quarter	No. of cases	% (of top ten)	Origin/No. of cases
S Typhimurium 9	2	120	16	Vic 54, NSW 31
S Virchow	3	114	15	QLD 100
S Typhimurium 20*	-	92	12	NSW 68
S Typhimurium 135	1	81	10	QLD 26, NSW 25
S Typhimurium 170	-	78	10	QLD 31, NSW 24, VIC 22
S Anatum	8	61	8	QLD 19, NT 19
S Chester	5	61	8	NSW 21, QLD 16
S Typhimurium unty*	-	55	7	WA 55
S Birkenhead	-	53**	7	QLD 28, NSW 20
S Muenchen	6	53**	7	QLD 22
TOTAL		768		

In: *S* Typhimurium 20, *S* Typhimurium 170, *S* Typhimurium untypable, *S* Birkenhead

Out: *S* Saintpaul, *S* Orientalis, *S* Enteritidis

* *S* Typhimurium untypable outbreak, in Western Australia

** *S* Infantis 53 cases also (NSW 14, Qld 13)

b) Second Quarter

	Prev. Quarter	No. of cases	% (of top ten)	Origin/No. of cases
S Typhimurium 9	1	112	23	Vic 49, NSW 29
S Virchow	2	82	17	QLD 71
S Typhimurium 135	4	63	13	NSW 25, Vic 11
S Saintpaul	-	62	13	QLD 48
S Infantis	-	39	8	NSW 13
S Anatum	6	34	7	NT 15
S Chester	7	33	7	QLD 14
S Typhimurium 170	5	32	6	Vic 16, NSW 10
S Birkenhead	9	31	6	QLD 17, NSW 10
S Muenchen	10	31	6	QLD 13
TOTAL		487		

In: *S* Saintpaul, *S* Infantis. Out: *S* Typhimurium 20, *S* Typhimurium untypable (WA strain)

Outbreaks:

	Locality	No.	Date
Sh sonnei biotype a*	North-west NSW	5	Jan
S Typhimurium 30	Adelaide	29	Jan-Mar
S Typhimurium 108	Adelaide	19	Jan-Mar
S Typhimurium 20	Sydney	60	Feb-Mar
S Typhimurium 9*	King Island	9	Jan-Feb
S Typhimurium untypable*	Perth, WA	55	Jan-Mar
S Johannesburg	Melbourne	3	Jan-Feb

* continuing on from December, 1989

Typhoid and Paratyphoid Cases - First and Second Quarters 1990

S Typhi: 20 cases, 1 carrier

Vi-phage type	Sex/Age	State	Notes
38	M/9	NSW	refugee from El Salvador
43	M/23	WA	nod details supplied
A	M/9	NSW	returned from Beirut
B1	M/23	VIC	visited Phuket, Thailand
B1	F/23	VIC	no details supplied
B1	M/31	VIC	visited Phuket, Thailand
B1	M/32	VIC	Filipino
B2	M/21*	SA	carrier, overseas acquired
B2	M/31	SA	brother of M/21 above
D1	F/36	ACT	returned from India
D2	F/23	QLD	handled PNG faecal specimen
D2	F/45	WA	travel in UK, Zimbabwe, Singapore
E1	M/8	QLD	travelled in India
E1	F/38	SA	returned from Penang, Malaysia
E1	M/23	NSW	returned from South America
E1	M/40	NSW	no details

Vi-phage	Sex/Age	State	Notes
T	M/24	VIC	returned from India
degraded	F/22	NSW	no details
degraded	F/24	NSW	returned from Bali
degraded	M/48	WA	returned from Thailand
untypable	M/30	NSW	no details

* carrier

S Paratyphi A: 5 cases

Phage Type	Sex/ Age	State	Notes
1	F/26	VIC	recent return from India
1	M/14	NSW	no details supplied
1	M/24	NSW	recent return from India
5	F/10	QLD	no details supplied
untypable	M/23	QLD	acquired in India

S Paratyphi B: 4 cases

Phage Type	Sex/ Age	State	Notes
3al	F/15	NSW	visited Chile for Christmas
Dundee	F/26	SA	no details supplied
RDNC	M/18	WA	no details supplied

Isolations from Blood, Urine and Unusual Sites

Bacteraemias excluding enteric fever (39):

S Adelaide	M/<1	SA
S Bareilly	M/1	Qld
S Birkenhead	M/1	NSW
S Bovismorbificans*	M/56	SA
S Bovismorbificans 13	M/66	NSW
S Bovismorbificans 4	M/68	Vic
S Bredeney	F/1	SA
S Bredeney	M/25	SA
S Dublin	F/69	SA
S Enteritidis	M/26	NSW
S Enteritidis	F/27	NSW
S Enteritidis	F/ns	NSW
S Havana	M/35	SA
S Heidelberg	F/23	NSW
S Heidelberg	F/<1	NSW
S Heidelberg1	M/<1	Qld
S Javiana	M/21	NSW
S Mgulani	F/<1	Qld
S Saintpaul	F/1	Qld
S Typhimurium 135	F/80	SA
S Typhimurium 20	F/72	Vic
S Typhimurium 44	M/70	NSW
S Typhimurium 8	F/32	NT
S Typhimurium 9	F/ns	Qld
S Typhimurium 9	F/54	Vic
S Typhimurium 90	M/32	Qld
S Typhimurium RDNC	M/<1	Qld
S Typhimurium RDNC	F/31	NSW
S Typhimurium unty1	M/64	NSW
S Virchow	M/9	Qld
S Virchow	F/23	Vic
S Virchow	M/ns	Qld
S Virchow	M/15	Qld
S Waycross	M/1	Qld
S Waycross	M/3	Qld
S Welikade	F/1	NT
S rough:b:e,n,x**	M/34	SA
Sh flexneri 2a	F/1	NT
V vulnificus	F/53	NSW

Urines (31):

S Birkenhead	F/64	Vic
S Bovismorbificans*	M/56	SA
S Chester	M/ns	NT
S Infantis	F/69	NSW
S Litchfield	F/25	NT
S Liverpool	M/50	NSW
S Liverpool	F/29	NSW
S Mbandaka	F/29	Vic
S Mbandaka	F/36	NSW
S Mgulani	F/	Qld
S Muenchen	F/19	Qld
S Reading	F/19	Qld
S Saintpaul	F/44	Qld
S Senftenberg	M/ns	NSW
S Singapore	F/68	SA
S Singapore	F/10	NSW
S Typhimurium 1	F/10	NSW
S Typhimurium 12	F/17	NSW
S Typhimurium 170	F/ns	NSW
S Typhimurium 5	F/80	SA
S Typhimurium 9	F/2	NSW
S Typhimurium 9	F/52	Vic
S Typhimurium 9	M/49	Vic
S Typhimurium 9	F/74	Vic
S Typhimurium RDNC	F/20	Vic
S Typhimurium RDNC	F/83	Vic
S Typhimurium unty[1]	M/71	NSW
S Typhimurium unty[1]	F/72	NT
S Virchow	F/71	SA
S Virchow	F/28	Qld
S Virchow	M/52	Qld

Unusual Sites (28):

E coli 026 K60 B6	M/25	NSW	rectal biopsy culture
S Adelaide	M/<1	SA	umbilicus, cerebrospinal fluid
S Arizonae 50:K:z35	F/13	NSW	ileostomy fluid
S Birkenhead	M/15	Qld	lymph node
S Bovismorbificans 12	M/8	NSW	foot wound - osteomyelitis
S Choleraesuis	M/75	NSW	hip tissue (replacement)
S Derby	M/15	NSW	abdominal abscess

S Dublin	M/90	NSW	thigh wound swab
S Dublin	M/66	Vic	splenic abscess
S Mississippi	F/29	Tas	breast cyst fluid
S Oranienburg	M/36	Vic	peritoneal cavity swab
S Typhimurium 135	F/68	SA	joint fluid, rheumatoid arthritis
S Typhimurium 135	F/44	Qld	peritoneal cavity/ovarian pus
S Typhimurium 135	F/81	SA	synovial fluid (knee)
S Typhimurium 20	F/<1	NSW	ear
S Typhimurium 4	F/43	NSW	thigh abscess
S Typhimurium 64	M/61*	NSW	sputum (carrier)
S Typhimurium 64	M/ns	SA	mesenteric lymph node
S Typhimurium 9	M/14	Vic	mesenteric lymph node
S Typhimurium RDNC	M/51	NSW	synovial fluid (knee)
S Typhimurium unty[1]	M/13	NSW	appendix swab
S Virchow	F/17	Qld	splenic cyst
S Virchow	M/1	NSW	pus, elbow (acquired overseas)
S Waycross	F/3	Qld	perianal swab
S untypable 16:l,v:-	F/31	Tas	ovarian cyst fluid
S rough:b:e,n,x**	M/34	SA	bile
V cholerae NON O1	M/28	NSW	burn, arm
V damsela	M/26	NSW	foot wound

[1] S Typhimurium untypable

* S Bovismorbificans untypable also isolated from urine

** S rough:b:enx also isolated from bile

ns = age not specified

Mixed Infections - First and Second Quarters 1990

There were 42 notifications of mixed infections involving either salmonellas or shigellas compared to 34 in the first six months of 1989.

ORGANISMS ISOLATED	SEX/AGE	STATE
S Adelaide, S Oranienburg	M/1	WA
S Agona, S Infantis	M/55	NSW
S Agona, *Sh sonnei* biotype g	M/27*	NSW
S Anatum, S Orientalis	M/43	NT
S Anatum, S Typhimurium 135	M/<1	Qld
S Anatum, S Virchow	M/<1	NT
S Anatum var 15+, *Clostridium difficile*	M/37	Vic
S Blockley, *Entamoeba coli*	M/2	NSW
S Chester, S Muenchen	F/2	SA
S Chester, S Oranienburg	M/1	NT

S Hadar, S 6,7:r:-	M/1*	WA
S Havana, S Hvittingfoss	F/1	NT
S Havana, S Adelaide	M/1	WA
S Havana, *Sh flexneri* 2a	M/1	NT
S Infantis, S Singapore	M/22	Qld
S Java 1 var 6, *Giardia lamblia*	F/51	Qld
S Liverpool, S Mbandaka	F/32*	NSW
S Mississippi, *Aeromonas hydrophila*	M/<1	Tas
S Orientalis, S Saintpaul	F/<1	Qld
S Poona, S Zanzibar	F/8	Qld
S Reading, *G lamblia, Hymenolepis nana*	M/1	Qld
S Singapore, *Campylobacter jejuni*	F/22	NSW
S Typhimurium 1, *Campylobacter* spp, *Giardia* sp.	M/1**	NSW
S Typhimurium 101, S Bovismorbificans	M/5	SA
S Typhimurium 101, *G lamblia*	M/2	NSW
S Typhimurium 12, S Typhimurium 179	F/17	NSW
S Typhimurium 135, S Typhimurium 25	M/17	Vic
S Typhimurium 135, *Campylobacter* spp.	F/ns	NSW
S Typhimurium 170, Rotavirus	F/	Vic
S Typhimurium 20, *A hydrophila*	F/17	NSW
S Typhimurium 9, Rotavirus	M/	Vic
S Typhimurium RDNC, *Giardia* sp.	M/1	NSW
S Typhimurium untypable, *G lamblia*	M/4	Vic
S Typhimurium untypable, *Entamoeba histolytica*	M/1*	NSW
S Virchow, *Campylobacter* spp.	F/22	Qld
S Welikade, *G lamblia*	F/6	Qld
Sh boydii 13, S Typhi 27	F/10*	Vic
Sh dysenteriae 3, *Campylobacter* spp	M/50*	ACT
Sh flexneri 2a, *Sh sonnei* biotype a	M/9	WA
Sh sonnei biotype a, *G lamblia*	M/3	Qld

* acquired overseas (M/27 Thailand, M/1 Bali, F/32 Africa, M/1 Philippines, F/10 Syria, M/50 India)

** *Blastocystis hominis* also

Infections Acquired Overseas (excluding enteric fever): 182

ASIA:- unspecified: S Bovismorbificans, *Sh boydii* 1. **Indonesia:** S Typhimurium 104, S Berta, S Hadar (2), S Mbandaka, S Senftenberg, *Sh sonnei* biotype a, *V cholerae* 01, *V cholerae* 01 E1 tor.

Bali: S Agona, S Berta (10), S Enteritidis (2), S Hadar, S Hadar and S 6, 7:r:- (mixed), S Livingstone, S Montevideo, S Typhimurium 20, S Virchow, *Sh sonnei* biotype a.

Java: S Weltevreden, *Sh flexneri* 3a.

India: S Derby, S Enteritidis, S Saintpaul, S Virchow, *Sh boydii* 1, *Sh boydii* 3, *Sh dysenteriae*, *Sh dysenteriae* 3, *Sh flexneri* 3b, 5b and 6, *Sh flexneri* var x, *Sh sonnei* biotype g (3).

Nepal: S Typhimurium RDNC, *Sh flexneri* 4a, *Sh sonnei* biotype a.

Malaysia: S Blockley, S Saintpaul, S Lexington, S Virchow (2).

Thailand: S Anatum, S Berta, S Blockley (3), S London, S Montevideo, S Orientalis, S Stanley (2), S Virchow (2), S Weltevreden, S Typhimurium 179, 3 *Sh sonnei* biotype 3 *Sh sonnei* biotype//ydii 2, *Sh flexneri* 2a (2) and 6, *Sh sonnei* biotypes a (2) and g, *V parahaemolyticus*.

Laos: S Anatum, S Weltevreden.

Vietnam: S Agona (3), S Anatum (4), S Arizonae, S Cerro, S Derby (7), S Havana, S Hessarek, S Infantis, S Kottbus, S Krefeld, S London (2), S Newport, S Senftenberg, S Virchow, S Typhimurium 124, *Sh boydii* 10, *Sh flexneri* 2a (2), 3a and var y; *Sh sonnei* biotypes a (7) and g.

Philippines: S Mbandaka, S Stanley, S Typhimurium untypable, *Sh flexneri* 2a.

AFRICA:- S Liverpool and S Mbandaka (mixed), S Schwarzengrund, S Weltevreden, *Sh flexneri* 6.

MIDDLE EAST:-

Lebanon: S Orion var 15+, S Typhimurium untypable.

Egypt: *Sh flexneri*, *Sh sonnei* biotype g.

Syria: *Sh boydii* 13.

EUROPE:-

Germany: S Typhimurium untypable.

Greece: S Typhimurium RDNC.

UK: S Typhimurium 9.

PACIFIC:-

Fiji: S 3,10:r:-, *Sh flexneri* 2a.

Solomon Islands: S Oranienburg.

Western Samoa: *Sh sonnei* biotype a.

AMERICAS:-

South America: S Orientalis.

Central America: *Sh flexneri* 2a, *Sh sonnei* biotype g.

Mexico: S Derby and S Mbandaka (mixed).

Plus from unspecified countries: S Agona (2), S Berta, S Blockley, S Eastborne, S Enteritidis, S Haardt, S Hadar (2), S Infantis (3), S Javiana, S Lexington, S London var 15+, S Orientalis, S Potsdam (3), S Saintpaul, S Stanley, S Typhimurium phage types 12, 125, 135, 20 and 25, S Virchow (4), S Weltevreden, *Sh boydii* 2, *Sh flexneri* 2a, *Sh flexneri* 6, *Sh sonnei* biotypes a and g.

Measles Vaccination Levels among Selected Groups of Preschool-Aged Children--United States

(Based on MMWR 1991;40 [2]: 36-39)

In 1989 and 1990, the incidence of measles increased dramatically among preschool-aged children in inner cities[1]. The largest outbreaks occurred primarily among unvaccinated black and Hispanic children in large cities (e.g., Chicago[2], Dallas, Houston, Los Angeles, Milwaukee, and New York). However, measles out-breaks have not occurred in all large U.S. cities; differences in vaccine coverage could account for these variations. This report describes surveys of vaccination levels among non-randomly selected first- and fifth-grade students in Boston, part of New York City (Bronx), Cleveland, Houston, Jersey City, Philadelphia, Pittsburgh, and Seattle.

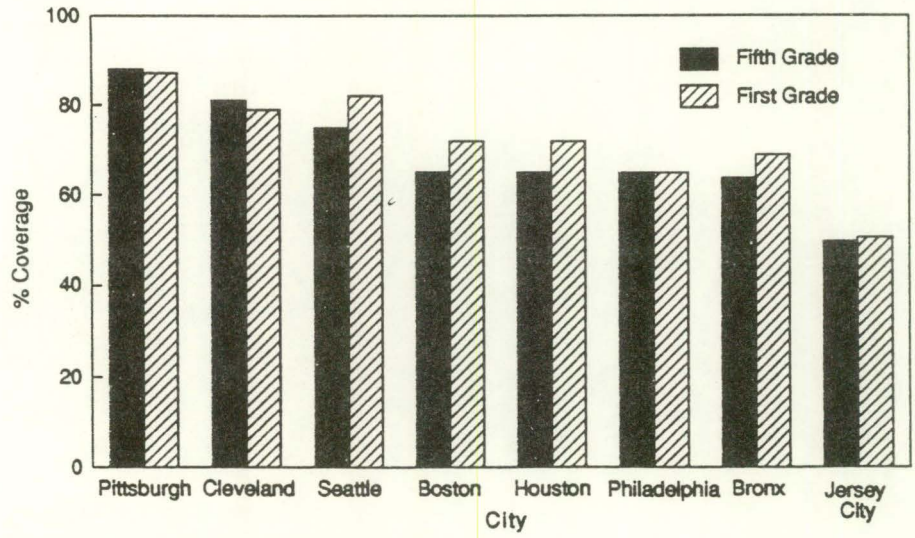
In May 1990, CDC and public health officials determined vaccine coverage in preschool-aged children in eight cities with differing incidences of measles during the 1980s. School records of first and fifth graders were reviewed in each city (the number of records for each grade by city ranged from 680 to 1460); completion of measles vaccination by the second birthday was the primary measure of vaccination coverage. Local officials selected the schools surveyed. Schools were classified as public or private; inner-city (definition varied by location) or non-inner-city; and black, white, or Hispanic if one of these racial/ethnic groups accounted for >75% of the students (the remaining schools were classified as mixed). In grades with <60 students, all records were reviewed; in grades with ≥60 students, systematic samples of records were reviewed.

Crude measles vaccine coverage levels by the second birthday ranged from 50% in both first and fifth graders selected in Jersey City to almost 90% among both groups selected in Pittsburgh (Figure 1). Within each city, the percentage of children in the first grade who were vaccinated against measles by the second birthday was similar to or higher than that of children in the fifth grade.

Among first-grade students in each of the seven cities in which both private and public schools were surveyed, the percentage of children who were vaccinated by the second birthday was greater in private schools. The differences were statistically significant for all areas except Bronx and Seattle. In five of the six cities in which schools in non-inner-city areas were surveyed, the percentage of children who were vaccinated was greater in non-inner-city than in inner-city schools (Table 1).

Within inner-city public schools in the same cities, measles vaccination levels among first-grade students at black, Hispanic, and mixed schools were similar (Table 2). However, levels varied substantially among the different cities. For example, 47% of first graders attending predominantly black schools in Jersey City were vaccinated by the second birthday, compared with 79% in Pittsburgh. In two of the three cities with predominantly white schools, first graders in white schools had higher vaccine coverage levels than first graders in other schools.

FIGURE 1. Percentage of first- and fifth-grade students who were vaccinated against measles by the second birthday*--United States, 1990



*Based on data from retrospective school-based record reviews.

Table 1. Number of student records reviewed and percentage of first-grade students who were vaccinated against measles by the second birthday, by type and location of school--United States, 1990

	Type of school				School location*			
	Public		Private		Inner city		Noninner city	
City	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Boston	749	(71)	107	(82)	617	(71)	239	(76)
Bronx	838	(68)	133	(71)	971	(69)	-+	
Cleveland	1017	(76)	315	(87)	1016	(79)	316	(79)
Houston	517	(60)	399	(89)	594	(62)	322	(91)
Jersey City	1459	(51)	-~		1459	(51)	-+	
Philadelphia	978	(63)	131	(78)	804	(63)	305	(71)
Pittsburgh	1217	(86)	126	(94)	743	(81)	600	(94)
Seattle	640	(82)	176	(83)	558	(77)	258	(85)

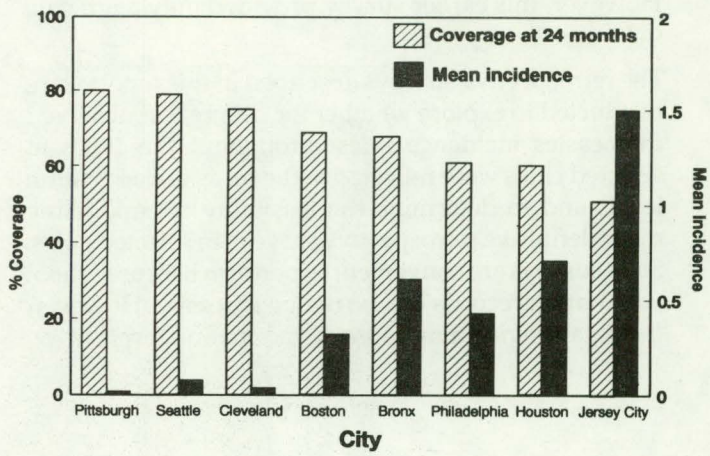
*Defined differently in each city.

+Non-inner-city schools not surveyed.

~Private schools not surveyed.

Overall, in inner-city public schools, the percentage of children vaccinated by the second birthday ranged from 51% in Jersey City to 79% in Pittsburgh. Using data from the first-grade students, an inverse relation was observed between the mean measles incidence during 1980-1989 and measles vaccine coverage levels by the second birthday (Figure 2).

FIGURE 2. Percentage of children who were vaccinated against measles by the second birthday* and mean measles incidence@ - United States



*Based on retrospective survey of first-grade students in inner-city public schools.

@Per 100,000 children, 1980-1989.

Table 2. Number of student records reviewed and percentage of first-grade students attending inner-city public schools who were vaccinated against measles by the second birthday, by racial/ethnic classification* of school attended - United States, 1990

	School classification							
	Black		Mixed		Hispanic		White	
City	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Boston	-		499	(69)	-		35	(80)
Bronx	211	(67)	567	(69)	60	(65)	--	
Cleveland	281	(73)	420	(76)	-		-	
Houston	165	(61)	-		292	(55)	60	(80)
Jersey City	445	(47)	885	(53)	129	(51)	--	
Philadelphia	358	(65)	278	(59)	-		97	(54)
Pittsburgh	531	(79)	181	(83)	-		-	
Seattle	-		204	(79)	-		-	

*Defined as >75% of students of racial/ethnic group.

MMWR Editorial Note: Although measles vaccination levels are >98% among school-aged children in the United States, levels are lower among preschool-aged children (3). Routine national surveys do not monitor vaccination levels among this age group. Before 1986, data on vaccination levels among preschool-aged children were obtained from the United States Immunisation Survey (CDC, unpublished data, 1987) and indicated that 82% of children had been vaccinated by the second birthday. However, this earlier survey provided only aggregate data.

The retrospective surveys described in this report were conducted to explore whether the differences observed in measles incidence rates throughout the 1980s in selected cities were reflected in the measles vaccination levels and to determine the feasibility of conducting more definitive retrospective surveys in selected cities. Such surveys are convenient to perform because school vaccination records can be reviewed easily. However, the data provide a measure of vaccination levels in previous periods. For example, the vaccination levels of the first- and fifth-grade students in 1990 reflect levels among 2-year-old children approximately 4 years (1986) and 8 years (1982) before the surveys, respectively. An additional limitation of this study was the non-systematic selection criteria of schools in the cities. Therefore, inter-city comparisons of vaccination levels should be interpreted with caution.

Despite these limitations, the race-specific data suggest that measles vaccine coverage is sub-optimal among black and Hispanic children, who will be at high risk for measles unless coverage can be improved. In addition, the differing levels of coverage among children in these cities suggest that the success of vaccination programs varies.

Local surveys[2] and data from the non-random surveys in this report confirm low vaccination levels in some U.S. cities. However, these surveys indicate that, at least in the schools surveyed, vaccination levels did not decrease during 1982-1986; whether vaccination levels have declined since 1986 is not known. Regardless, levels in the mid-1980s were low enough to sustain measles outbreaks. The reason for the increase in large outbreaks in inner cities in 1989 and 1990 is not known but may have resulted in part from the large increase in measles activity in many neighbouring countries in North and Central America[4].

CDC has begun an Infant Immunisation Initiative to improve vaccination levels among preschool-aged children in the United States. Effective strategies to vaccinate preschool-aged children are needed to reach national and global objectives for children's health by the year 2000.

References

1. CDC. Measles-United States, 1989 and first 20 weeks of 1990. *MMWR* 1990;**39**:353-5,361-3.

2. CDC. Update: measles outbreak-Chicago, 1989. *MMWR* 1989;**39**:317-9,325-6.

3. Orenstein WA, Bernier RH. Surveillance: information for action. *Pediatr Clin North Am* 1990; **37** :709-34.

4. Expanded Program on Immunisation in the Americas. Reported cases of EPI diseases. *EPI Newsletter* 1990;**X11(4)**:7.

CDI REPORTING SCHEME

VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTS

There were 1066 reports processed for latest period (27 February to 12 March 1991).

Sixteen reports of Q fever were received for the period, the majority from New South Wales (8) and Queensland (5). Ages ranged from 21 to 57 years and occupational exposure details were provided for 4; 1 farmer, 1 shearer, 1 worker on a stud and a laboratory worker having contact with calf serum.

There were 79 reports of Ross River virus infection for the period. Most cases were from Queensland (35), Victoria (19) and Western Australia (17).

The Northern Territory Department of Health and Community Services has reported a further 14 cases of measles in Darwin since 4 March for a total of 79 cases since the outbreak began on 30 January 1991 (CDI Vol 15/N0. 5 pg80).

The final acceptance rate of measles immunisation at the most affected high school (47 cases) with 1174 enrolled was 83%. All students including those with 1 past measles immunisation were recommended to be vaccinated. This required 3 rounds of on-site school immunisations. The final round followed telephone calls to parents which resulted in 100% acceptance rate for the 51 parents called. The total number of students recently immunised and or with past documented disease or immunisation represented 96%. The remaining unprotected 4% represent truancy and other medical illness preventing immunisation.

The second high school involved (8 cases) had only 50% immunisation acceptance in 2 rounds of on-site immunisations. Those done at health centres are unknown.

The disease curve is in the third generation of spread and appears to be waning.

In addition, 5 cases have been reported from urban Katherine. The Department actively promoted immunisation of the pre schools, primary schools, the high school and special school. A 62% acceptance rate of immunisations was achoeved follwong 1 round of school immunisations.

No cases have been reported from Alice Springs. It is however anticipated that there will be a high level of school sporting and social interactions within the Territory over the Easter holidays and an immunisation program is now ongoing in Alice Springs.

No cases have been reported from Nhulunbuy, East Arhhem. A notice has gone home with all students to report to the community health centre for immunisations.

THE AUSTRALIAN SENTINEL PRACTICE RESEARCH NETWORK (ASPREN)

A general practice-based sentinel practice network is one of many different approaches for the surveillance of communicable diseases. In Australia such a network has operated since 1983 in metropolitan Adelaide and other networks have recently been established in Queensland and Victoria. They have become established as a very useful way of monitoring the presentation of conditions to general practitioners.

Recognising the importance of an Australia-wide network, the Research and Health Promotion Unit of the SA Faculty of the Royal Australian College of General Practitioners (RACGP) has coordinated the development of ASPREN. The Network has representatives on its board of Management from the RACGP in each Australian State, from the Communicable Diseases Section,Commonwealth Department of Community Services and Health and from State Health Departments. The three existing sentinel practice networks have all agreed to become part of ASPREN.

Fifty five practices have been recruited at present and data collection commenced on the 18 February 1991. The number of patient encounters for a variety of communicable and non-communicable diseases are being measured. Case definitions related to the communicable diseases include:

INFLUENZA - Record once only for each episode.

(a) Viral culture or serological evidence of influenza virus infection.

or

(b) Influenza epidemic, plus four of the criteria in (c).

or

(c) Six of the following:

(i) Sudden onset (within 12 hours)

(ii) Cough

(iii) Rigors or chills

(iv) Fever

(v) Prostration and weakness

(vi) Myalgia, widespread aches and pains

(vii) No significant respiratory physical signs other than redness of nasal mucous membrane and throat

(viii) Influenza in close contacts

GENITAL WARTS - Record once only.

(a) Condylomata acuminata (95%): Single or multiple circumcised skin tumours, pedunculated and rising appreciably above the surrounding level, with the surface showing moderate hyperkeratosis and bearing small filiform projections which may coalesce in larger lesions to produce a "cauliflower" appearance.

(b) Verruca vulgaris (plana) (5%): Discrete, low, sessile tumors with a flat, smooth, dry surface resembling plane warts seen in non-genital areas.

MEASLES - Record once only.

(a) Serological or virological evidence of acute measles.

OR

(b) Two of the following:

(i) Prodrome including injected conjunctivae, fever, and cough

(ii) White specks on a red base in the mucous membranes of the cheek (Koplik's spots)

(iii) Confluent maculopapular eruption spreading over the face and body.

OR

(c) An atypical exanthem in a partially immune person during an epidemic of measles.

MUMPS - Record once only.

(a) Acute non-suppurative, non-erythematous diffuse tender inflammation of one or more salivary glands

OR

(b) Acute mumps infection demonstrated by culture or serology

OR

(c) Orchitis in a person exposed to mumps following appropriate incubation period.

PERTUSSIS - Record once only.

(a) Respiratory infection with a characteristic staccato paroxysmal cough ending with a high-pitched inspiratory whoop.

OR

(b) Respiratory infection with persistent cough (three weeks) in contact with known pertussis

OR

(c) Demonstration of Bordetella pertussis.

RUBELLA - Record once only.

(a) An acute exanthem with enlarged lymph nodes, most prominently suboccipital and post-auricular, with a macular rash on the face, spreading to the trunk and proximal portions of the limbs.

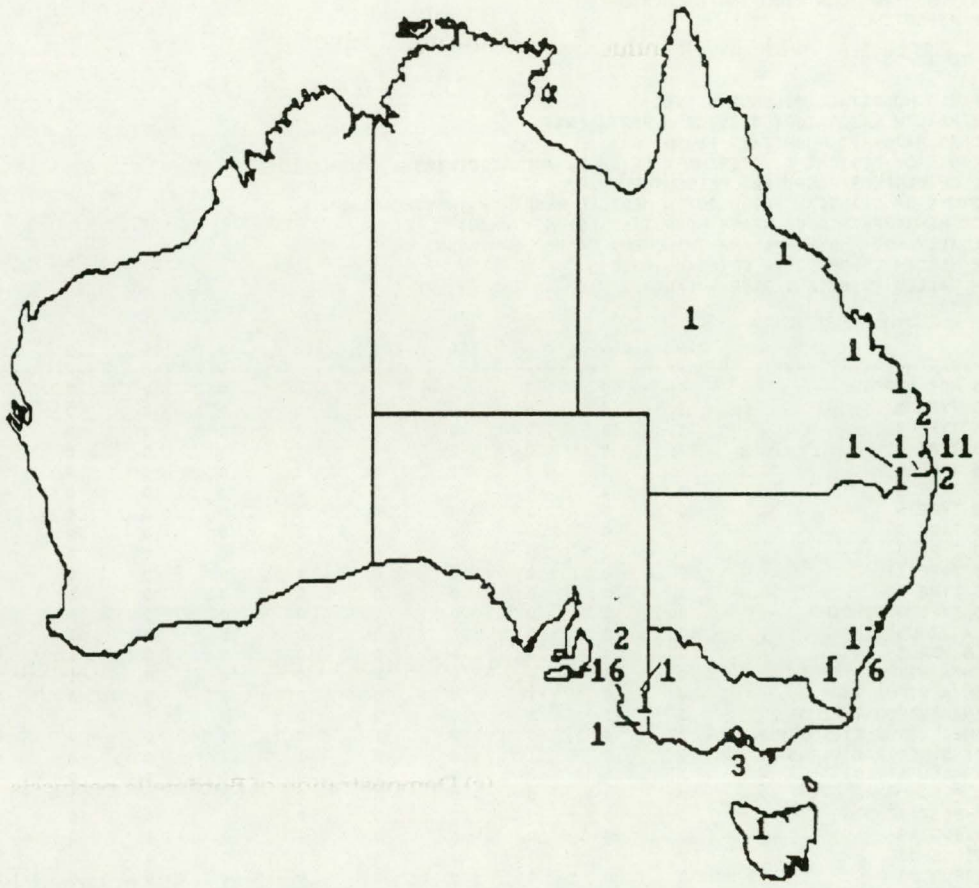
OR

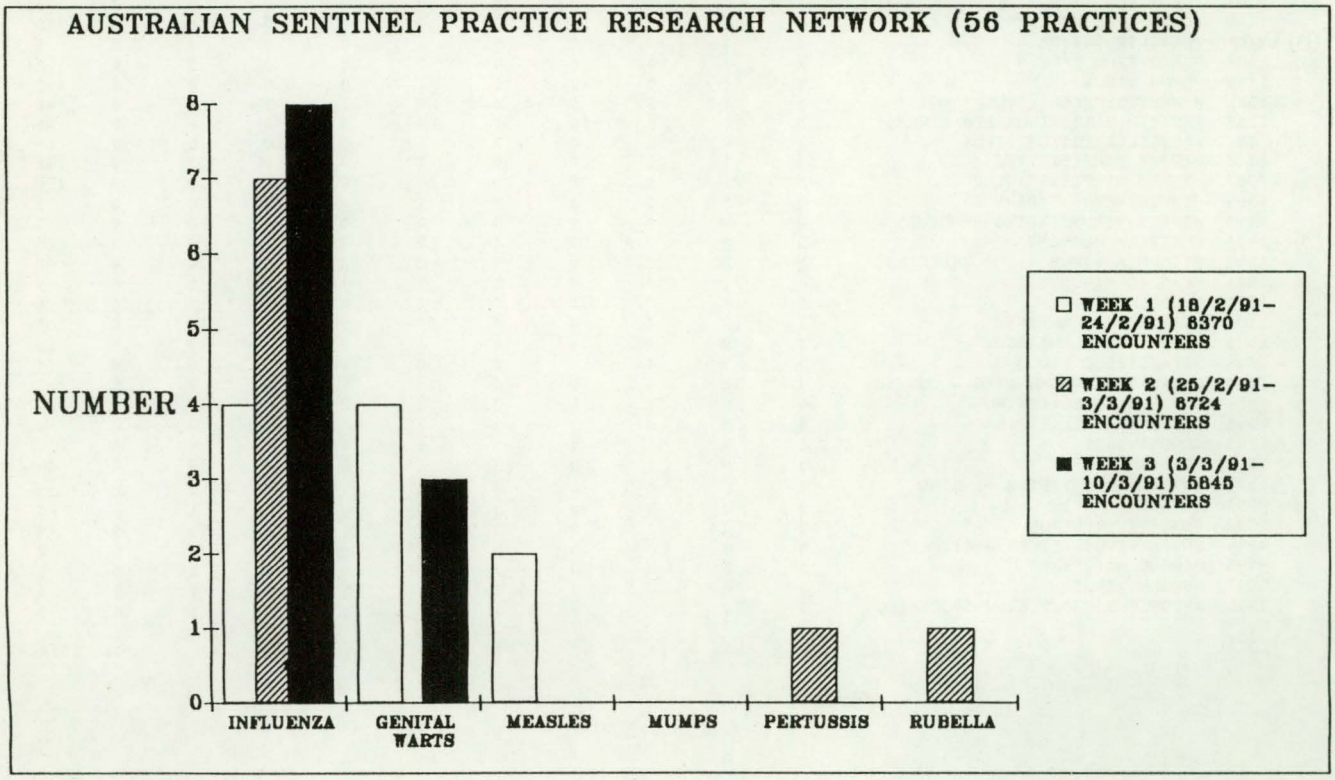
(b) Serological evidence of rubella infection.

ASPREN is one of several surveillance systems of the Communicable Diseases Network - Australia (CDN-A), which will provide a composite picture of the national incidence of the vaccine preventable diseases. The Network would like to thank the National Health Promotion Program (NHPP) for providing a grant for this project.

AUSTRALIAN SENTINEL PRACTICE RESEARCH NETWORK

LOCATION OF PRACTICES





AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 27/02/91 TO 12/03/91

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)
CODE 116 - WODEN VALLEY HOSPITAL, GARRAN (ACT)

		019	065	066	110	111	112	113	114	115	116	TOTAL
0100	ADENOVIRUS NOT TYPED	0	0	3	0	5	2	4	0	7	0	21
0101	ADENOVIRUS TYPE 1	1	0	0	0	0	0	0	0	0	0	1
0102	ADENOVIRUS TYPE 2	2	0	0	0	0	2	0	0	0	0	4
0103	ADENOVIRUS TYPE 3	2	0	0	0	0	1	0	0	0	0	3
0104	ADENOVIRUS TYPE 4	1	0	0	0	0	3	0	0	0	0	4
0105	ADENOVIRUS TYPE 5	1	0	0	0	0	1	0	0	0	0	2
0106	ADENOVIRUS TYPE 6	0	0	0	0	0	1	0	0	0	0	1
0107	ADENOVIRUS TYPE 7	0	0	0	0	0	1	0	0	0	0	1
0108	ADENOVIRUS TYPE 8	0	0	0	0	0	1	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	0	0	0	0	0	4	0	0	0	0	4
0128	ADENOVIRUS TYPE 28	1	0	0	0	0	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	0	0	0	1	0	0	1
0201	INFLUENZA A VIRUS	0	0	0	2	0	0	0	0	1	0	3
0203	INFLUENZA B VIRUS	0	0	0	4	0	0	0	0	1	0	5
0301	PARAINFLUENZA VIRUS TYPE 1	0	0	1	0	0	0	0	0	1	0	2
0302	PARAINFLUENZA VIRUS TYPE 2	0	0	1	0	0	0	0	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	1	1	2	5	5	0	0	1	4	0	19
0399	PARAINFLUENZA VIRUS TYPING PEN	0	0	0	0	1	0	0	0	0	0	1
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	1	1	0	0	1	1	0	2	0	6
0500	RHINOVIRUS (ALL TYPES)	3	0	0	0	9	0	0	0	0	0	12
0600	MYCOPLASMA PNEUMONIAE	0	4	0	3	8	2	0	0	1	0	18
0700	ORNITHOSIS-PSITTACOSIS	3	0	0	0	0	0	1	0	0	3	7
0809	COXSACKIEVIRUS A9	0	0	0	0	0	3	0	1	0	0	4
0902	COXSACKIEVIRUS B2	0	0	0	0	0	1	0	0	0	0	1
0903	COXSACKIEVIRUS B3	0	0	0	0	0	0	2	0	0	0	2
0904	COXSACKIEVIRUS B4	0	0	0	0	0	1	0	0	0	0	1
0905	COXSACKIEVIRUS B5	0	0	0	0	0	1	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	0	0	0	0	0	0	0	1	0	0	1
1007	ECHOVIRUS TYPE 7	1	0	0	0	0	0	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	0	0	0	0	0	0	10	0	0	0	10
1101	POLIOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	0	1
1103	POLIOVIRUS TYPE 3	0	0	0	0	0	1	0	1	0	0	2
1200	MUMPS VIRUS	0	0	0	0	1	1	0	0	0	0	2
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	4	5	0	0	20	1	2	1	9	42
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	7	10	0	16	1	7	3	0	6	0	50
1303	VARICELLA-ZOSTER VIRUS	8	4	1	0	0	4	0	0	0	0	17
1306	HERPES SIMPLEX TYPE 1	51	41	0	0	22	2	9	0	17	0	142
1307	HERPES SIMPLEX TYPE 2	45	71	0	0	0	16	14	0	10	0	156
1366	HERPES VIRUS TYPE 6	0	0	0	0	0	1	0	0	0	0	1
1399	HERPES VIRUS TYPING PENDING	2	0	0	0	0	0	0	1	0	0	3
1401	COXIELLA BURNETII	3	0	0	0	0	8	0	0	5	0	16
1502	PICORNIA VIRUS - NOT TYPED = E	1	5	0	0	0	0	22	0	14	0	42
1521	MEASLES VIRUS	4	1	0	0	2	1	1	0	0	0	9
1522	RUBELLA VIRUS	1	1	0	0	0	1	0	0	1	0	4
1532	HEPATITIS B ANTIGEN	11	17	0	4	0	28	5	2	36	5	108
1535	HEPATITIS A ANTIBODY	1	9	0	1	0	1	0	1	3	0	16
1536	HEPATITIS C VIRUS	0	9	0	0	0	0	0	2	0	0	11
1541	CHLAMYDIA TRACHOMATIS - UNSPEC	0	52	0	0	0	15	0	0	7	6	80
1556	CMV - CYTOMEGALOVIRUS	44	6	4	5	2	2	2	2	19	1	87
1562	REOVIRUS (ALL TYPES)	0	0	0	0	0	3	0	0	0	0	3
1563	CORONAVIRUS	1	0	0	0	0	1	0	0	0	0	2
1564	ROTAVIRUS	0	0	1	0	15	1	5	2	0	0	24
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	8	0	11	3	0	0	22
9981	DENGUE TYPE 1	0	0	0	0	0	0	0	0	1	0	1
9992	ROSS RIVER VIRUS	19	17	0	7	0	1	0	0	35	0	79
9994	SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	2	0	0	0	0	2
9995	DENGUE NOT TYPED	0	0	0	0	0	0	0	0	1	0	1
9997	KUNJIN VIRUS	0	0	0	0	0	0	0	0	1	0	1
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	0	0	0	0	0	0	0	0	3	0	3
TOTAL		214	253	19	47	79	142	91	20	177	24	1066

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 27/02/91 TO 12/03/91

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	ACT	TOTAL
0100	ADENOVIRUS NOT TYPED	6	5	7	3	0	0	21
0101	ADENOVIRUS TYPE 1	0	1	0	0	0	0	1
0102	ADENOVIRUS TYPE 2	2	2	0	0	0	0	4
0103	ADENOVIRUS TYPE 3	1	2	0	0	0	0	3
0104	ADENOVIRUS TYPE 4	3	1	0	0	0	0	4
0105	ADENOVIRUS TYPE 5	1	1	0	0	0	0	2
0106	ADENOVIRUS TYPE 6	1	0	0	0	0	0	1
0107	ADENOVIRUS TYPE 7	1	0	0	0	0	0	1
0108	ADENOVIRUS TYPE 8	1	0	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	4	0	0	0	0	0	4
0128	ADENOVIRUS TYPE 28	0	1	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	1	0	0	0	0	0	1
0201	INFLUENZA A VIRUS	0	0	1	0	2	0	3
0203	INFLUENZA B VIRUS	0	0	1	0	4	0	5
0301	PARAINFLUENZA VIRUS TYPE 1	0	0	1	1	0	0	2
0302	PARAINFLUENZA VIRUS TYPE 2	0	0	0	1	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	1	6	4	3	5	0	19
0399	PARAINFLUENZA VIRUS TYPING PEN	0	1	0	0	0	0	1
0400	RESPIRATORY SYNCYTIAL VIRUS (R	2	0	2	2	0	0	6
0500	RHINOVIRUS (ALL TYPES)	0	12	0	0	0	0	12
0600	MYCOPLASMA PNEUMONIAE	2	8	1	4	3	0	18
0700	ORNITHOSIS-PSITTACOSIS	1	3	0	0	0	3	7
0809	COXSACKIEVIRUS A9	4	0	0	0	0	0	4
0902	COXSACKIEVIRUS B2	1	0	0	0	0	0	1
0903	COXSACKIEVIRUS B3	2	0	0	0	0	0	2
0904	COXSACKIEVIRUS B4	1	0	0	0	0	0	1
0905	COXSACKIEVIRUS B5	1	0	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	1	0	0	0	0	0	1
1007	ECHOVIRUS TYPE 7	0	1	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	10	0	0	0	0	0	10
1101	POLIOVIRUS TYPE 1	1	0	0	0	0	0	1
1103	POLIOVIRUS TYPE 3	2	0	0	0	0	0	2
1200	MUMPS VIRUS	1	1	0	0	0	0	2
1301	HERPES SIMPLEX VIRUS - NOT TYP	23	0	1	9	0	9	42
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	10	8	6	10	16	0	50
1303	VARICELLA-ZOSTER VIRUS	4	8	0	5	0	0	17
1306	HERPES SIMPLEX TYPE 1	11	73	17	41	0	0	142
1307	HERPES SIMPLEX TYPE 2	30	45	10	71	0	0	156
1366	HERPES VIRUS TYPE 6	1	0	0	0	0	0	1
1399	HERPES VIRUS TYPING PENDING	1	2	0	0	0	0	3
1401	COXIELLA BURNETII	8	3	5	0	0	0	16
1502	PICORNIA VIRUS - NOT TYPED = E	22	1	14	5	0	0	42
1521	MEASLES VIRUS	2	6	0	1	0	0	9
1522	RUBELLA VIRUS	1	1	1	1	0	0	4
1532	HEPATITIS B ANTIGEN	35	11	36	17	4	5	108
1535	HEPATITIS A ANTIBODY	2	1	3	9	1	0	16
1536	HEPATITIS C VIRUS	2	0	0	9	0	0	11
1541	CHLAMYDIA TRACHOMATIS - UNSPEC	15	0	7	52	0	6	80
1556	CMV - CYTOMEGALOVIRUS	6	46	19	10	5	1	87
1562	REOVIRUS (ALL TYPES)	3	0	0	0	0	0	3
1563	CORONAVIRUS	1	1	0	0	0	0	2
1564	ROTAVIRUS	8	15	0	1	0	0	24
1599	ENTEROVIRUS TYPING PENDING	14	8	0	0	0	0	22
9981	DENGUE TYPE 1	0	0	1	0	0	0	1
9992	ROSS RIVER VIRUS	1	19	35	17	7	0	79
9994	SMALL VIRUS (LIKE) PARTICLE	2	0	0	0	0	0	2
9995	DENGUE NOT TYPED	0	0	1	0	0	0	1
9997	KUNJIN VIRUS	0	0	1	0	0	0	1
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	0	0	3	0	0	0	3
TOTAL		253	293	177	272	47	24	1066

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 I

PERIOD 27/02/91 TO 12/03/91

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	0	6	0	1	0	11	0	0	1	0	19
0101	ADENOVIRUS TYPE 1	0	1	0	0	0	0	0	0	0	0	1
0102	ADENOVIRUS TYPE 2	0	2	0	0	0	1	0	0	0	0	3
0103	ADENOVIRUS TYPE 3	0	1	0	0	0	0	0	0	0	0	1
0104	ADENOVIRUS TYPE 4	0	0	0	0	0	0	0	0	0	1	1
0105	ADENOVIRUS TYPE 5	0	2	0	0	0	0	0	0	0	0	2
0106	ADENOVIRUS TYPE 6	0	0	0	0	0	1	0	0	0	0	1
0107	ADENOVIRUS TYPE 7	0	0	0	0	0	1	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	1	0	0	0	0	3	0	0	0	0	4
0128	ADENOVIRUS TYPE 28	0	0	0	0	0	0	0	0	0	1	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	0	1	0	0	0	0	1
0201	INFLUENZA A VIRUS	0	3	0	0	0	0	0	0	0	0	3
0203	INFLUENZA B VIRUS	0	2	0	0	1	0	0	0	0	0	3
0301	PARAINFLUENZA VIRUS TYPE 1	0	2	0	0	0	0	0	0	0	0	2
0302	PARAINFLUENZA VIRUS TYPE 2	0	1	0	0	0	0	0	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	0	17	0	0	0	0	0	0	0	0	17
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	6	0	0	0	0	0	0	0	0	6
0500	RHINOVIRUS (ALL TYPES)	0	9	0	0	0	0	0	0	0	0	9
0600	MYCOPLASMA PNEUMONIAE	0	17	0	0	0	0	0	0	0	0	17
0700	ORNITHOSIS-PSITTACOSIS	0	6	0	0	0	0	0	0	0	0	6
0809	COXSACKIEVIRUS A9	0	0	1	0	0	0	0	0	0	3	4
0902	COXSACKIEVIRUS B2	0	0	0	0	0	1	0	0	0	0	1
0903	COXSACKIEVIRUS B3	0	0	1	0	0	1	0	0	0	0	2
0904	COXSACKIEVIRUS B4	1	0	0	0	0	0	0	0	0	0	1
0905	COXSACKIEVIRUS B5	1	0	0	0	0	0	0	0	0	0	1
1006	ECHOVIRUS TYPE 6	0	0	0	1	0	0	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	1	1	0	0	0	6	0	0	1	1	10
1101	POLIOVIRUS TYPE 1	1	0	0	0	0	0	0	0	0	0	1
1103	POLIOVIRUS TYPE 3	0	0	0	0	0	1	0	0	0	0	1
1200	MUMPS VIRUS	0	0	1	0	0	0	0	0	0	0	1
1301	HERPES SIMPLEX VIRUS - NOT TYP	4	0	3	0	0	0	0	0	0	17	24
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	9	5	1	0	0	0	0	0	0	1	16
1303	VARICELLA-ZOSTER VIRUS	1	1	0	0	0	0	0	0	0	15	17
1306	HERPES SIMPLEX TYPE 1	1	7	0	0	0	1	3	2	1	87	102
1307	HERPES SIMPLEX TYPE 2	3	1	0	0	0	1	0	0	0	77	82
1366	HERPES VIRUS TYPE 6	0	0	0	0	0	0	0	0	0	1	1
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	1	1
1401	COXIELLA BURNETII	8	0	0	0	1	0	0	0	0	0	9
1502	PICORNIA VIRUS - NOT TYPED = E	3	6	1	0	2	22	0	0	0	4	38
1521	MEASLES VIRUS	3	0	0	0	0	0	0	0	0	5	8
1522	RUBELLA VIRUS	2	0	0	0	0	0	0	0	0	0	2
1532	HEPATITIS B ANTIGEN	50	0	0	0	0	0	51	0	0	0	101
1535	HEPATITIS A ANTIBODY	4	0	0	0	0	1	9	0	0	0	14
1536	HEPATITIS C VIRUS	7	0	0	0	0	0	2	0	0	0	9
1541	CHLAMYDIA TRACHOMATIS - UNSPEC	8	0	0	0	0	0	0	0	0	0	8
1556	CMV - CYTOMEGALOVIRUS	3	8	0	0	1	0	5	4	4	0	25
1562	REOVIRUS (ALL TYPES)	2	0	0	0	0	1	0	0	0	0	3
1563	CORONAVIRUS	0	0	0	0	0	2	0	0	0	0	2
1564	ROTAVIRUS	0	0	0	0	0	21	0	0	0	0	21
1599	ENTEROVIRUS TYPING PENDING	0	5	0	1	0	12	0	0	0	0	18
9992	ROSS RIVER VIRUS	31	0	0	0	0	0	0	0	0	6	37
9994	SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	2	0	0	0	0	2
9997	KUNJIN VIRUS	1	0	0	0	0	0	0	0	0	0	1
9998	ARBOVIRUS GROUP B.(UNSPECIFIED	3	0	0	0	0	0	0	0	0	0	3
TOTAL		148	109	8	3	5	90	70	6	7	220	666

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2

PERIOD 27/02/91 TO 12/03/91

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

		12	13	14	15	16	17	18	19	20	21	TOTAL
0100	ADENOVIRUS NOT TYPED	0	0	0	0	0	0	1	1	0	0	2
0102	ADENOVIRUS TYPE 2	0	0	0	0	0	0	0	1	0	0	1
0103	ADENOVIRUS TYPE 3	2	0	0	0	0	0	0	0	0	0	2
0104	ADENOVIRUS TYPE 4	2	0	0	0	0	0	0	0	0	1	3
0108	ADENOVIRUS TYPE 8	1	0	0	0	0	0	0	0	0	0	1
0203	INFLUENZA B VIRUS	0	0	0	0	0	0	1	0	1	0	2
0303	PARAINFLUENZA VIRUS TYPE 3	0	0	0	0	0	0	1	1	0	0	2
0399	PARAINFLUENZA VIRUS TYPING PEN	0	0	0	0	0	0	1	0	0	0	1
0500	RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	1	2	0	0	3
0600	MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	0	1	0	0	1
0700	ORNITHOSIS-PSITTACOSIS	0	0	0	0	0	0	1	0	0	0	1
1007	ECHOVIRUS TYPE 7	0	0	0	0	0	0	0	1	0	0	1
1103	POLIOVIRUS TYPE 3	0	0	0	0	0	0	0	0	0	1	1
1200	MUMPS VIRUS	0	0	1	0	0	0	0	0	0	0	1
1301	HERPES SIMPLEX VIRUS - NOT TYP	3	15	0	0	0	0	0	0	0	0	18
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	16	7	0	1	0	6	4	0	34
1306	HERPES SIMPLEX TYPE 1	5	28	0	0	0	0	0	2	5	0	40
1307	HERPES SIMPLEX TYPE 2	0	69	0	0	0	0	0	2	3	0	74
1399	HERPES VIRUS TYPING PENDING	0	1	0	0	0	0	0	0	1	0	2
1401	COXIELLA BURNETII	0	0	0	0	1	0	0	5	1	0	7
1502	PICORNIA VIRUS - NOT TYPED = E	0	0	0	0	0	0	0	2	2	0	4
1521	MEASLES VIRUS	0	0	1	0	0	0	0	0	0	0	1
1522	RUBELLA VIRUS	0	0	0	1	0	0	0	0	1	0	2
1532	HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	0	7	0	7
1535	HEPATITIS A ANTIBODY	0	0	0	0	0	0	0	1	1	0	2
1536	HEPATITIS C VIRUS	0	0	0	0	0	0	0	0	2	0	2
1541	CHLAMYDIA TRACHOMATIS - UNSPEC	1	71	0	0	0	0	0	0	0	0	72
1556	CMV - CYTOMEGALOVIRUS	2	6	1	2	2	3	5	10	30	1	62
1564	ROTAVIRUS	0	0	0	0	0	0	3	0	0	0	3
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	2	1	1	0	4
9981	DENGUE TYPE 1	0	0	0	0	0	0	0	0	1	0	1
9992	ROSS RIVER VIRUS	0	0	0	0	35	0	0	5	2	0	42
9995	DENGUE NOT TYPED	0	0	0	0	0	0	0	1	0	0	1
TOTAL		16	190	19	10	38	4	16	42	62	3	400