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Communicable Diseases Intelligence

Bulletin number 84/8
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Contents:

INDIGENOUS CHOLERA - QUEENSLAND

Vibrio cholerae O-group 1, serotype Inaba, has been isolated from a Canberra resident who had returned recently from a camping trip in the Townsville environs. He was a member of a group of three males who "went bush", using the local river systems for their water supplies. On 30 March 1984 he presented to Casualty, Woden Valley Hospital, Canberra, following a bout of diarrhoea, but he made an uneventful recovery before the cholera diagnosis was made. Investigation revealed that a second member also had a diarrhoeal episode whilst camping, but none of the group have had any persistence or recurrence of symptoms, and no further isolations have been made. The ecology of these autochthonous pathogenic vibrios, and the public health significance of their presence in the north-eastern river systems are poorly understood at present.

VIRUS REPORTING SCHEME - Because of a disruption of the mail services, only 621 reports could be processed this period. The remaining reports will be incorporated in the next generation.

. Influenza - An influenza B strain, designated B/Victoria/2/84, was isolated by the OIC WHO Influenza Reference Centre, Commonwealth Serum Laboratories, Melbourne, from a young female staff member who presented with typical symptoms of fever, myalgia etc. Preliminary testing has shown that the isolate differs from B/Victoria/1/84 (B/Singapore/222/79-like), but may resemble B/India/5193/83 which typifies the new strains which have been isolated in the northern hemisphere. Ferret and chicken antisera against B/India/5193/83 are being prepared for distribution to Australian laboratories this winter. Since the beginning of 1984, more than 100 influenza B virus isolates have been studied at the WHO Collaborating Centres for Reference and Research on Influenza in Atlanta and London (*WER* (1984) 59:93). In HI tests with post infection ferret sera, several different patterns of antigenic cross reactivity have been observed. All the strains have been poorly inhibited by antisera against B/Singapore/222/79, but ferret sera against B/USSR/100/83 (which resembled approximately 50% of the isolates) and B/Norway/1/84 showed broad reactivity with the test reference strains.

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FASTIDIOUS ADENOVIRUSES IN FAECES
(Based on Communicable Diseases Scotland (1984) 84/3)

The use of the electron microscope (EM) to examine diarrhoeal stool extracts in the early 1970's revealed a variety of predicted, but previously unknown, viruses. Among the rotaviruses, caliciviruses and others whose involvement in diarrhoea, infantile or otherwise, has kept virologists arguing for over a decade, there were a considerable number of adenoviruses.(1) Adenoviruses were already known to be denizens of the gut, but the EM showed that the known infections - those which had been recognized by "positive" isolation in cell culture - were only a fraction of the total. Previously these cryptic adenoviruses have been called enteric or non-growing strains, but both terms are misleading, and "fastidious" is preferable as it is probable that they will all grow in vitro under the right conditions.

All viruses visualised under the EM are usually present in far greater numbers than the population that grows in cell culture, and paradoxically it appears that the more virus there is in a stool the less likely it is to grow. This inconsistency is typified by the adenoviruses whose role in the gut is unclear, and with several hitherto unrecognized species being offered for official recognition, the family presents a very confusing picture to most virologists, clinicians and epidemiologists.

Number of adenovirus species - Thirty-seven adenovirus species are officially recognized, all of which grow fairly readily in cell culture. Some have been isolated from the respiratory tract, others from the eye and a considerable number from the gut. None were discovered by electron microscopy. The fastidious strains were therefore provisionally allocated number 38 as they had been shown to be different from the other 37 strains by digestion of their DNA with restriction endonucleases and antigenically by ELISA. After two such isolates were grown in cell culture, it became apparent that they represented at least two new species.(2,3) Meanwhile, another "new" respiratory strain had been proposed as candidate Ad39, and the two fastidious strains were then provisionally numbered Ad40 (prototype strain: Dugan) and Ad41 (prototype strain: Tak) with the Ad38 designation being abandoned pro tem, although it is likely to be filled by another non-fastidious strain. None of these post-37 candidates has yet been accepted officially, and some published data suggest that there may also be a sub-species of Ad41 (Ad41a).(4) As there are a considerable number of fastidious strains it is very likely that further species will be recognised in due course.

Association with disease - Several workers have found fastidious adenoviruses in 5-8% of all childhood stools.(5,6,7) One longitudinal study in Glasgow suggested that prolonged shedding could occur without illness,(8) but the investigators were not able to subdivide the fastidious strains. Other reports have suggested a stronger association with diarrhoea.(9,10,11,12) A recent study using an ELISA capture method has shown that adenoviruses were associated with 13% of 416 incidents of diarrhoea, with Ad40 and Ad41 being responsible for the majority of infections.(13) Also the first outbreak of gastroenteritis in which the causative agent has been identified as Ad40 has been reported among children aged 14-22 months in an orphanage in Sapporo, Japan.(14) However, further longitudinal studies, with careful attention to clinical diagnosis (e.g. acceptable evidence of bowel

dysfunction), will be necessary to clarify the position, in addition to a thorough investigation of the individual strains for their DNA restriction endonuclease profiles and antigenicity. Such studies would also show whether prolonged shedding of one species, which is known to occur in the respiratory tract of children,[15] also occurs from the gut, and whether diarrhoea is associated with the first excretion or whether the diarrhoea merely flushes out what has already accumulated in the gut following an earlier initiation.

Growth in cell culture - In general, routine cell culture has had little success in isolating the fastidious strains, but when determined efforts have been made using less widely used cell types, some recognisates have been persuaded to grow. Nevertheless, no one has grown all that has been seen and, because dual infections are not rare, it is by no means certain that the virus seen was the one grown. The reasons why some strains grow and others do not is not known. The more successful cells - Chang conjunctival cells,[16] cynomologous monkey kidney cells and Graham 293 cells[17] - have little in common. It is probable that the Chang cells are now modified HeLa cells, but the reason for their susceptibility compared with the classical (if they exist) HeLa cells is unknown. The Graham 293 cells are a continuous cell line with part of the adenovirus 5 genome incorporated into them. For this reason, any isolates recovered in them should be regarded as possible hybrids although there is no evidence so far that the Ad5 is reactivated at the same time. The claims that these cells will grow fastidious strains have not been confirmed in all laboratories. Indeed, growth itself requires definition in this context because some strains can be passed through cell cultures several times without real adaptation to them, and this is followed by a progressive failure to extinction. Often this cytopathic effect fails to survive even the first passage, although clearly present 24-48 hours after inoculation of the stool extract.

Overspill from the respiratory tract - Although the question that the adenoviruses detected in the stools may be the result of passive overspill from the respiratory tract remains unanswered, the vast quantities of fastidious adenoviruses in the stools (up to 10^{11} per G faeces; levels comparable with those found with rotaviruses and astroviruses which infect gut cells) suggest an infection too massive not to cause some evidence of it in the nasopharynx. Also a transient adenovirus-like cytopathic effect may occur in cell cultures inoculated with respiratory secretions, suggesting that fastidious strains may initiate infection of the body via the respiratory tract, and then spread to the gut.

To summarise, the questions concerning fastidious adenoviruses that have yet to be answered include:

- The number of new species which are common enough to be important.
- The number of species that can cause overt disease in the gut, and by extension whose gut, when and why.
- The cause of termination (if ever terminated finally) of prolonged excretion.
- The factors necessary to allow growth in cell culture. Attempts to implicate antibody-coating, defective interfering viruses and incomplete but rescuable virus as reasons for failure of growth have produced no positive evidence. The provision in culture of an equivalent to the specialised and rapidly evolving cells of the intestinal villi is not easy

and the parts played by hormones and/or blood factors are not known.

. In recent years evidence has been accumulating of the involvement of adenoviruses in cystitis, intussusception and mesenteric adenitis. Although the role of fastidious adenoviruses has not been clarified to date, such possible adenovirus-associated disease requires investigation.

Adenoviruses have been known for some years to be long-term occupants of the tonsils in children, particularly the non-epidemic species 1, 2, 5 and 6. It now seems possible that other species have a similar near-commensal relation with the gut.

References

1. CDI (1981) 81/20 : 5
2. J. Med. Virol. (1983) 11 : 215
3. Develop. Biol. Standard (1983) 53 : 311
4. J. Med. Virol. (1983) 11 : 333
5. Lancet (1975) 1 : 242
6. Lancet (1975) 2 : 703
7. Madeley, C.R. Medical Viology II. Elesevier Biomedical, New York, Amsterdam and Oxford (1983) p.81
8. J. Hyg (Camb) (1979) 83 : 469
9. Lancet (1975) 1 : 4
10. Lancet (1977) 1 : 361
11 Lancet (1979) 1 : 1178
12. Am. J. Epid. (1980) 110 : 243
13. XIXth Symposium of the European Society against Virus Disease. 13-15 September 1983, Clermont Ferrand, France.
14. Lancet (1983) 2 : 954
15. Am J. Hyg. (1961) 74 : 267
16. J. Exp. Med. (1961) 113 : 95
17. Lancet (1981) 2 : 832

HERPETIC WHITLOW IN HOSPITAL STAFF

(Based on CDR (1984) 84/11: 3).

On 14 February 1983, a registrar in anaesthetics noticed an erythematous swollen area on his index finger which he thought was a paronychia. Two blisters formed which then burst, the area of necrotic skin underneath being very painful. He developed tender axillary lymphadenopathy and felt rather unwell. A swab from the lesion grew herpes simplex virus, the cytopathic effect indicating type 1 infection.

During the next three weeks, six nurses in the same intensive care unit developed similar lesions. In two cases, more than one finger was affected. Several nurses were mildly unwell during the time that their lesions were prominent. Only four sought medical advice, and in one a swab grew herpes simplex virus type 1. In the other cases the lesions were already healing when they were seen.

Two weeks later, the virus was isolated from the oropharynx of a patient on the ICU, and from a whitlow on the finger of a physiotherapist who gave chest physiotherapy to patients in the unit and performed tracheal suction. Unfortunately, the index case was not discovered, though it was possible that the infection was brought to the unit by the anaesthetist who may have infected a patient when he performed, for example, an intubation.

Whilst the nursing staff had worn disposable gloves when performing tracheal suction, it had not been policy to use gloves when undertaking orophayngeal toilet. This practice has now been amended.

Herpetic whitlows were first described in 54 cases seen at a London hand clinic - all the patients were nurses[1]. The virus was isolated, and was thought to have been acquired during suction procedures, from bronchial secretions. These lesions have also been described in personnel undertaking dental work and upper gastrointestinal endoscopy[2]. These lesions can be very painful and distressing, but should be prevented by the simple expedient of wearing disposable gloves for all procedures involving contact with oropharyngeal secretions.

References

1. Lancet (1959) 2: 871
2. Gastrointest Endosc (1979) 25: 26

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

REPORTING PERIOD - 29/3/84 - 11/4/84 BULLETIN NUMBER . 84/8

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES

VIRUS OR VIRAL ANTIGEN	ICPMR (NSW)/ WVH (ACT)	RAHC (NSW)	PHH/ POW (NSW)	FAIR-FIELD (VIC)	RCH (VIC)	IMVS (SA)	STATE LAB (QLD)	STATE LAB (WA)	Total
0100 ADENOVIRUS NOT TYPED	4	2				1		6	13
0101 ADENOVIRUS TYPE 1		1				2			3
0102 ADENOVIRUS TYPE 2						1			1
0103 ADENOVIRUS TYPE 3								5	5
0104 ADENOVIRUS TYPE 4								6	6
0108 ADENOVIRUS TYPE 8	3								3
0110 ADENOVIRUS TYPE 10								1	1
0119 ADENOVIRUS TYPE 19	1								1
0131 ADENOVIRUS TYPE 31								1	1
0137 ADENOVIRUS TYPE 37								12	12
0203 INFLUENZA B VIRUS	1					2		2	5
0301 PARAINFLUENZA VIRUS TYPE 1								2	2
0302 PARAINFLUENZA VIRUS TYPE 2								1	1
0303 PARAINFLUENZA VIRUS TYPE 3						1		1	2
0399 PARAINFLUENZA VIRUS TYPING PENDING						3			3
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)	2					2			4
0500 RHINOVIRUS (ALL TYPES)	3					13		2	18
0600 MYCOPLASMA PNEUMONIAE	31	1				10		3	45
0800 COXSACKIEVIRUSES GROUP A - NOT TYPED								1	1
0816 COXSACKIEVIRUS A16	1								1
0901 COXSACKIEVIRUS B1	1					1			2
0902 COXSACKIEVIRUS B2								2	2
0903 COXSACKIEVIRUS B3	1								1
0905 COXSACKIEVIRUS B5	1								1
1000 ECHOVIRUS NOT TYPED	1								1
1006 ECHOVIRUS TYPE 6								3	3
1009 ECHOVIRUS TYPE 9	1								1
1014 ECHOVIRUS TYPE 14								1	1
1017 ECHOVIRUS TYPE 17	5								5
1024 ECHOVIRUS TYPE 24								1	1
1101 POLIOVIRUS TYPE 1	1								1
1102 POLIOVIRUS TYPE 2								1	1
1200 MUMPS VIRUS	6								6
1300 HERPES VIRUS GROUP-NOT TYPED	26					4		7	37
1301 HERPES SIMPLEX VIRUS NOT-TYPED		2							2
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	8							6	14
1303 VARICELLA-ZOSTER VIRUS	4	1				1		1	7
1306 HERPES SIMPLEX TYPE 1	7					19		19	45
1307 HERPES SIMPLEX TYPE 2	108					10		33	151
1399 HERPES VIRUS TYPING PENDING						1			1
1401 COXIELLA BURNETI	7					1			8
1502 PICORNA VIRUS-NOT TYPED	17								17
1514 MOLLUSCUM CONTAGIOSUM								1	1
1521 MEASLES VIRUS	1	1							2
1522 RUBELLA VIRUS	5					1		2	8
1532 HEPATITIS B ANTIGEN	30	1				11		7	49
1535 HEPATITIS A ANTIBODY						1		3	4
1541 CHLAMYDIA A - C TRACHOMATIS	8							50	58
1543 CHLAMYDIA A - LGV TYPE								1	1
1556 CMV - CYTOMEGALOVIRUS	7	1						13	21
1564 ROTAVIRUS	1	3				11			15
9901 ARBO. GROUP A.(UNSPECIFIED)						15			15
9990 AUSTRALIAN ENCEPHALITIS								1	1
9992 ROSS RIVER VIRUS								7	8
9994 SMALL VIRUS (LIKE) PARTICLE		3							3
Total	292	16				111		202	621

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 29/3/84 to 11/4/84 .... 84/8

Viral Identifications by Clinical Information Table 1.
Code 00,99 -No ill or data; 01,02,11,12 -Respiratory; E3 -Encephalitis; M3 -Meningitis; 04 -Paralysis; 05,13 -CNS other unspec.; 07,49 -GI; 17,47 -Hepatic; 19 -CVS; 89 -Urinary; 06 -Skin/mucous.

VIRUS OR VIRAL ANTIGEN	No-ill or data	Respir-atory	Enceph-alitis	Mening-itis	Para-lysis	CNS other unspec	GI	Hepa-tic	CVS	Urin-ary	Skin/ mucs memb
0100 ADENOVIRUS NOT TYPED.....							1				
0101 ADENOVIRUS TYPE 1.....							2				
0102 ADENOVIRUS TYPE 2.....		1									
0103 ADENOVIRUS TYPE 3.....		2		1							
0104 ADENOVIRUS TYPE 4.....		1				3					1
0131 ADENOVIRUS TYPE 31.....											1
0137 ADENOVIRUS TYPE 37.....	1										
0203 INFLUENZA B VIRUS.....		2				1					
0301 PARAINFLUENZA VIRUS TYPE 1....		1									
0302 PARAINFLUENZA VIRUS TYPE 2....		1									
0303 PARAINFLUENZA VIRUS TYPE 3....		2									
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....		4									
0500 RHINOVIRUS (ALL TYPES).....		12		1							
0600 MYCOPLASMA PNEUMONIAE.....	8	28	1			2					
0816 COXSACKIEVIRUS A16.....	1										
0901 COXSACKIEVIRUS B1.....	1	1									
0902 COXSACKIEVIRUS B2.....				1			2				
0903 COXSACKIEVIRUS B3.....	1										
0905 COXSACKIEVIRUS B5.....			1								
1006 ECHOVIRUS TYPE 6.....		1				2					
1017 ECHOVIRUS TYPE 17.....	1		1	2							
1024 ECHOVIRUS TYPE 24.....						1					
1101 POLIOVIRUS TYPE 1.....		1									
1102 POLIOVIRUS TYPE 2.....		1									
1200 MUMPS VIRUS.....	1										
1301 HERPES SIMPLEX VIRUS NOT-TYPED				1							1
1302 EPSTEIN-BARR VIRUS (EB VIRUS).	2							3			1
1303 VARICELLA-ZOSTER VIRUS.....	1			1		1					4
1306 HERPES SIMPLEX TYPE 1.....	1										21
1307 HERPES SIMPLEX TYPE 2.....	3	1									23
1401 COXIELLA BURNETI.....	3					1					
1514 MOLLUSCUM CONTAGIOSUM.....											1
1521 MEASLES VIRUS.....											2
1522 RUBELLA VIRUS.....											5
1532 HEPATITIS B ANTIGEN.....	30							11			
1535 HEPATITIS A ANTIBODY.....	1							3			
1543 CHLAMYDIA A - LGV TYPE.....											1
1556 CMV - CYTOMEGALOVIRUS.....	3	1				1		3			
1564 ROTAVIRUS.....							14				
9901 ARBO. GROUP A.(UNSPECIFIED)...											14
9990 AUSTRALIAN ENCEPHALITIS.....						1					
9992 ROSS RIVER VIRUS.....											1
9994 SMALL VIRUS (LIKE) PARTICLE...											1
Total.....	58	60	3	7		13	19	20			77

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 29/3/84 to 11/4/84 ... 84/8
Viral Identifications by Clinical Information Table 2.
Code 10 -Eye; 59 -Genital; 39 -Endo/sal gland;
38 -RES; 29 -Muscle/joint; 69 -Congenital; P8 -PUO;
G8 -Fever/malaise; 09 -Other; A1 -SIDS ...

VIRUS OR VIRAL ANTIGEN	Eye	Genital	Endo/sal gland	RES	Muscle/joint	Congenital	PUO	Fever/malaise	Other	SIDS
0100 ADENOVIRUS NOT TYPED.....								1		
0103 ADENOVIRUS TYPE 3.....							1	2		
0104 ADENOVIRUS TYPE 4.....								1		
0108 ADENOVIRUS TYPE 8.....	3									
0110 ADENOVIRUS TYPE 10.....		1								
0119 ADENOVIRUS TYPE 19.....	1									
0137 ADENOVIRUS TYPE 37.....	5	6								
0203 INFLUENZA B VIRUS.....			1						1	
0301 PARAINFLUENZA VIRUS TYPE 1....								1		
0500 RHINOVIRUS (ALL TYPES).....							1	1	1	
0600 MYCOPLASMA PNEUMONIAE.....							3	2	2	
0800 COXSACKIEVIRUSES GROUP A - NOT TYPED.....									1	
1009 ECHOVIRUS TYPE 9.....									1	
1014 ECHOVIRUS TYPE 14.....					1					
1017 ECHOVIRUS TYPE 17.....							1			
1200 MUMPS VIRUS.....			4					1		
1301 HERPES SIMPLEX VIRUS NOT-TYPED	1									
1302 EPSTEIN-BARR VIRUS (EB VIRUS).			8				3	1		
1306 HERPES SIMPLEX TYPE 1.....	3	20							2	
1307 HERPES SIMPLEX TYPE 2.....		126								
1401 COXIELLA BURNETI.....							5			
1522 RUBELLA VIRUS.....					1	1			1	
1532 HEPATITIS B ANTIGEN.....									8	
1541 CHLAMYDIA A - C.TRACHOMATIS...		58								
1556 CMV - CYTOMEGALOVIRUS.....		5	2				2	2	3	
1564 ROTAVIRUS.....							1			
9992 ROSS RIVER VIRUS.....					6			1		
9994 SMALL VIRUS (LIKE) PARTICLE...					1				1	
Total.....	13	216	15		9	1	17	13	21	

NOTIFIABLE DISEASES REPORTED IN AUSTRALIA

(Weeks 5 - 8)
29 January - 25 February 1984 Bulletin 84/8

Disease	N.S.W.	VIC	QLD	S.A.	W.A.	TAS.	N.T.	A.C.T.	Total	CUMULATIVE TOTAL TO DATE FOR YEAR
Amoebiasis				1					1	4
Ankylostomiasis			2	1					3	8
Anthrax									—	—
Arbovirus infection	91	52		86					229	363
Brucellosis									—	1
Campylobacter infections	44	N.N.	N.N.	77	N.N.	N.N.	N.N.	N.N.	121	281
Chancroid	1			N.N.	1	N.N.	N.N.		2	6
Cholera									—	—
Congenital rubella syndrome		N.N.	N.N.		N.N.	N.N.	N.N.	N.N.	—	—
Diphtheria									—	—
Donovanosis		N.N.	8	N.N.		N.N.	7		15	23
Giardiasis	31	N.N.	N.N.	49	N.N.	N.N.	N.N.	N.N.	80	147
Genital herpes	64	N.N.	45	11	N.N.	N.N.		1	121	250
Gonococcal ophthalmia neonatorum		N.N.		1	N.N.	N.N.	N.N.	N.N.	1	1
Gonorrhoea	201	179	93	82	154	6	59	6	780	1610
Hepatitis A (infectious)	17	13	17	8	8	1	4		68	138
Hepatitis B (serum)	42	29	2	10	7	1	1	3	95	211
Hepatitis - unspecified	4	2			7	N.N.	2		15	25
Hydatid disease	1							1	2	2
Lassa Fever			N.N.			N.N.	N.N.	N.N.	—	—
Legionnaires disease			N.N.		N.N.	N.N.	N.N.	N.N.	—	4
Leprosy	1								1	3
Leptospirosis	7	5				1			13	36
Lymphogranuloma venereum		N.N.	N.N.	N.N.	N.N.	N.N.			—	—
Malaria	11	7	22		3	1		1	45	89
Marburg Disease			N.N.			N.N.	N.N.	N.N.	—	—
Meningococcal infections	3	1	1		2	N.N.	1		8	17
Non-specific urethritis	315	N.N.	N.N.	111	N.N.	N.N.	N.N.	N.N.	426	848
Ornithosis		1		2					3	3
Pertussis (whooping cough)	18	6	N.N.	30	N.N.	N.N.	N.N.	N.N.	54	77
Plague									—	—
Poliomyelitis									—	—
Q. fever	1	1	13		N.N.		N.N.		15	26
Rabies		N.N.	N.N.			N.N.	N.N.	N.N.	—	—

DISEASE	N.S.W.	VIC	QLD	S.A.	W.A.	TAS.	N.T.	A.C.T.	Total	CUMULATIVE TOTAL TO DATE FOR YEAR
Salmonella infections	68	35	42	45	8	6	32	5	241	464
Shigella infections	6	3	4	5	8		11		37	75
Smallpox									—	—
Syphilis	36	5	12	9	28	2	62		154	329
Tetanus									—	—
Trachoma		N.N.			N.N.	N.N.			—	—
Tuberculosis (all forms)	28	34	10	2	14		2	1	91	173
Typhoid fever	8								8	11
Typhus (all forms)			2						2	2
Vibrio parahaemolyticus infections	2	N.N.	N.N.		N.N.	N.N.	N.N.	N.N.	2	4
Yellow Fever									—	—
Yersinia enterocolitica infections		N.N.	N.N.		N.N.	N.N.	N.N.	N.N.	—	1

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

N.N. Not Notifiable

Adjustments:

Arbovirus infections	+12	South Australia
Campylobacter infections	−1	South Australia
Giardiasis	+3	South Australia
Hepatitis B	+2	South Australia
	+1	Victoria
Hepatitis-unspecified	+1	South Australia
Malaria	+3	South Australia
Pertussis	+6	New South Wales
Tuberculosis	+26	New South Wales
Vibrio parahaemolyticus	+2	New South Wales