



Communicable Diseases Intelligence

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- World malaria situation - 1983.
- AIDS surveillance - Europe.
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- Infections acquired by laboratory personnel.
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VIRUS REPORTING SCHEME - A total of 948 reports were processed for this period.

Q fever was reported in four Queensland males: a meatworker from Brisbane, a station hand from Ipswich, a pig farmer from Toowoomba, and another whose occupational exposure is unknown. Q fever was also reported in a Western Australian male whose high Phase 1 CF antibody titers were considered to be pathognomonic of chronic Q fever endocarditis.

Vaccine strains of poliovirus types 1 & 2 were isolated, at post-mortem, from the digestive tract of a recently vaccinated two month old male who died of sudden infant death syndrome.

Cytomegalovirus (CMV) was isolated from tissue deprived from the lung, liver, spleen and lymph node of an AIDS patient who died of a disseminated CMV infection involving the frontal, temporal and occipital lobes of his brain.

Intrauterine acquired cytomegalovirus infection was associated with congenital deafness in a two year old male and jaundice and hepatic failure in a male neonate.

ANNOUNCEMENT - MALARIA INFORMATION BOOKLET

The Commonwealth Department of Health has just completed distribution of the Department's latest information booklet on malaria to all registered medical practitioners in Australia.

The booklet covers such topics as: distribution of malaria; prophylaxis; groups with special prophylaxis requirements; and advice upon leaving a malarious area.

The booklet is available to pharmacists and other health care personnel free of charge on request from the Editor.

AIDS IN AFRICA

A limited number of copies of the programme and abstracts of the International Symposium on African AIDS, held in Brussels on 22 & 23 November, 1985, is available from the Editor.

The Bulletin is compiled and distributed by the Communicable Diseases Branch, Department of Health, P.O. Box 100, Woden, A.C.T. 2606, Australia, and is available on request.

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Figures given may be subject to revision.

WORLD MALARIA SITUATION - 1983
(Based on WER (1985) 60: 337-344)

WHO estimates that, in 1983, only 44% of the world's population lived in malaria free areas. Of the other 56%, 8% inhabited areas where no specific measures were undertaken to control malaria transmission. The number of cases reported to WHO in the period 1979-1983 is shown in the following table:

Table - Number of malaria cases, by
WHO Region, 1979-1983^a

WHO Region	1979	1980	1981	1982	1983
Africa ^b	5 720	7 146	7 872	4 000 ^c	n.a.
Americas	515	603	630	715	830
South-East Asia	3 666	3 706	3 459 ^c	2 936 ^c	2 529 ^c
Europe	34	38	60	66	71
Eastern Mediterranean	125	137	186	309	294 ^c
Western Pacific	2 706	3 654	3 450	2 435 ^c	1 797 ^c
Total (excluding Africa)	7 046	8 138	7 785	6 461	5 521

a The information provided does not cover the total population at risk in some instances.

b Mainly clinically diagnosed cases.

c Provisional.

n.a. not available.

Resistance to insecticides was reported in 51 anopheline species: 34 species to DDT, 47 species to dieldrin and 30 species resistant to both. Resistance was also reported in 10 species to organophosphates and in 4 species to carbamates.

A problem was noted in the increasing resistance of Plasmodium falciparum to drugs, especially to either or both pyrimethamine and proguanil, to chloroquine and to the combination sulfadoxine/pyrimethamine. Quinine alone in maximum tolerated doses was found to be no longer curative in P. falciparum infections in some areas.

ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS) - EUROPE

(Based on WER (1986) 61: 5-7 and WHO Collaborating Centre on AIDS, Report No 7, 3 December 1985)

As of 30 September 1986 a total of 1,573 cases of AIDS have been reported to the WHO Collaborating Centre on AIDS in Paris (See Table 1)

Since the last report, 347 new cases or 27 cases per week have been reported. Most of these new cases were reported in the Federal Republic of Germany and France. Average cases per week are shown in Table 2. Czechoslovakia, Hungary, Iceland, Poland and USSR have not reported any cases.

The number of cases notified by the 15 countries which were collaborating in the AIDS surveillance in the European Region in October 1984 increased from 559 to 1,428 by September 1985, i.e. nearly 160%. For these 15 countries, the number of cases has doubled in 9 months.

various European countries in 1985 showed a high prevalence (20-50%) of serological markers for LAV/HTLV-III in drug abusers, indicating a rapid spread of the virus in this group.

TABLE 3: Distribution of AIDS cases by risk group and geographical origin in 21 European countries listed in Table 1, 30 September 1985

<u>Risk group</u>	<u>Geographical origin</u>				<u>Total</u>
	<u>Europe</u>	<u>Caribbean</u>	<u>Africa</u>	<u>Others</u>	
1. Male homosexuals or bisexuals	1031	4	11	39	1085
2. I.V. drug addicts	90	-	-	-	90
3. Haemophiliacs	52	-	-	1	53
4. Transfusion recipients (without other risk factors)	30	-	5	-	35
5. Homosexuals/bisexuals + I.V. drug addicts	21	-	1	2	24
6. No known risk factor					
- males	59	24	81	3	167
- females	31	10	43	-	84
7. Unknown	16	1	16	2	35
Total	1330	39	157	47	1573

AIDS SCREENING IN EUROPE

(Based on WER (1986) 61: 5-7)

For the 21 European countries reporting to the WHO Collaborating Centre on AIDS, systematic screening of blood donations or blood donors for LAV/HTLV-III is compulsory in 13 countries, recommended in an additional 3 countries and being studied in the remaining 5 countries. Where screening is recommended but not compulsory, health officials consider that blood donations are in fact tested. Measures to exclude donors at risk have been taken in all countries except Czechoslovakia, Finland and Portugal.

Table 1. lists the following information for the participating European countries:

- (i) Status of LAV/HTLV testing and effective date.
- (ii) The confirmative test used after the first positive ELISA test and whether the confirmative tests are compulsory or recommended.

Blood donors are informed of their seropositive status for HTLV-III in 5 countries (Denmark, Finland, Greece, the Netherlands and Switzerland) and this is recommended in 10 countries (Austria, Belgium, Federal Republic of Germany, France, Hungary, Italy, Luxemburg, Norway, Sweden and United Kingdom). Follow up specialist consultations for these donors are, or will be, organised in 11 of 16 countries and are under consideration in 4. In Finland seropositive subjects are followed up by their usual physician. A national register of seropositive blood donors with ensured confidentiality has been organised in Poland and is under consideration in Norway.

Table 1. Screening for LAV/HTLV-III antibodies in blood donors/donations in 21 European countries

Country	Screening is (a)		Confirmative test after positive ELISA test
	Recommended	Compulsory	
Austria	24.6.85	1.1.86	(C) ELISA and WB
Belgium		1.8.85	(C) ELISA and WB or IF
Czechoslovakia	Project under study		
Denmark		4.9.85	(R) WB and IF
Germany, Federal Republic of		4.85	(C) ELISA and WB and IF
Finland		8.85	(C) ELISA and WB
France		1.8.85	(C) ELISA and WB
Greece		8.85	(C) ELISA and WB and IF
Hungary		11.85	(C) ELISA and IF
Iceland	Project under study		
Italy	17.7.85		(R) ELISA and WB
Luxemburg		1.8.85	(C) ELISA and WB
Netherlands	6.85		(R) WB
Norway		8.85	(C) ELISA and IF
Poland	Project under study		
Portugal		9.85	
Spain	Project under study		
Sweden	6.85		(R) ELISA and WB
Switzerland		1.11.85	(R) WB and IF
United Kingdom		14.10.85	(C) ELISA
Yugoslavia	Project under study		

(a) Date of official decision
 ELISA: Enzyme-linked immunosorbent assay
 WB: Western blot

IF: Immunofluorescence
 C: Compulsory
 R: Recommended

INFECTIONS ACQUIRED BY LABORATORY PERSONNEL

Infectious diseases are an occupational hazard for laboratory personnel. A confidential questionnaire survey⁽¹⁾ of infections in 240 laboratories in Britain was conducted during the two year period, 1982-3. Thirty-one specific and 12 uncharacterised infections were reported. Thirteen cases of hepatitis included 7 cases of type B and 3 cases of non-A, non-B hepatitis of probable occupational origin (attributable incidence 34.2 per 100,000 person years) affecting haematology (5 cases), biochemistry (2 cases) and postmortem personnel (3 cases). The seven hepatitis B infections included one symptomless conversion in a medical biochemist and one case in a blood transfusion worker.

Of nine cases of tuberculosis, three were probably acquired in the laboratory (attributable incidence 10.3 per 100,000 person years) and affected microbiology (1 case), morbid anatomy and postmortem staff (2 cases).

Microbiology staff also acquired, probably from the laboratory, four shigella infections (attributable incidence 14 per 100,000 person years) and one each of brucella and herpes (herpetic whitlow), probably acquired by aerosol from blood-cultures and skin contact respectively. Shigellas predominated as the

commonest bowel pathogen acquired by microbiology personnel, but only one infection was associated with a quality control culture (*S. boydii*). The general community was the probable source of three cases of hepatitis A, two of rubella and one of varicella.

A previous survey⁽²⁾ conducted during the two year period, 1980-81, reported three cases of hepatitis B probably attributable to laboratory work (attributable incidence 9 per 100,000 person years) and fourteen cases of tuberculosis of probable occupational origin (attributable incidence 41 per 100,000 person years). Thirteen bacterial infections of the bowel (predominantly shigellosis) involved almost exclusively microbiology personnel, with ten attributable to laboratory exposure (attributable incidence 29 per 100,000 person years). Seven other infections included four of occupational sepsis in morbid anatomy and postmortem workers.

These surveys confirm the risks posed by laboratory acquired infections to personnel in microbiology and haematology laboratories, and in the postmortem room and mortuary. Laboratory personnel are reminded of the need to follow the infection control guidelines to prevent infection particularly with hepatitis B virus and the lymphadenopathy-associated virus/human T-lymphotropic virus Type III⁽³⁾.

References:

- (1) J Clin Pathol (1985) 38: 721-725.
- (2) J Clin Pathol (1983) 36: 121-126.
- (3) CDI (1985) 85/24: 2-11.

INVESTIGATION OF SALMONELLOSIS IN SOUTH AUSTRALIA

(Contributed by C. Murray, Salmonella Reference Laboratory, Institute of Medical and Veterinary Science, South Australia and A.S. Cameron, Communicable Disease Control Unit, South Australian Health Commission)

In 1980 a WHO Working Group published guidelines for the Health Examination of Food Handling Personnel⁽¹⁾. In consequence, several countries have reviewed their procedures for bacteriological monitoring and clearance of food handlers who may be salmonella excretors^(2,3,4). In 1981 a similar review was undertaken in South Australia. This was stimulated by the awareness that most outbreaks of Salmonella food poisoning were related to bacterial contamination of raw food products and not to contamination by food handlers. In such an outbreak, food handlers may well be found to be infected with salmonellae but they do not necessarily pose any threat to the already contaminated food chain. The classical approach to these situations has been to impose severe restrictions on persons known to be carriers, yet no account may be taken of other possibly unknown carriers working in the same plant before or after the event. Furthermore, large costs are incurred in manpower and consumables doing repetitive microbiology, especially when it can be assumed that an infected person will carry salmonellae for some weeks or months.

It was decided that typhoid and paratyphoid infections should be treated separately from the gastroenteritis (and generally zoonotic) types of salmonella sp. infections. State health regulations have considered all Salmonella infections equal for reasons which appear more historical than scientific. The numerous instances of typhoid fever related to poor food handling and the long term carrier states that may occur, demand continued caution.

There is now laboratory-based reporting of all new salmonella isolates direct to the Communicable Disease Control (CDC) Unit in South Australia. This enables the Unit to organise follow-up of the patient by local council health surveyors. This can result in the patient being interviewed within 2-3 days of their original specimen being taken to the laboratory. Such early follow-up has been deemed essential to improve the validity of food histories. During these interviews the patient is also educated in the infectious nature of their disease and in the need for a high standard of personal hygiene.

It has been determined that if a person is not a food handler, he should remain off work until he becomes symptom-free. Further specimens are not required to be sent to obtain evidence of bacteriological clearance.

If a person is found to be a food handler, a dual approach is needed, based on the premise that the case is probably a victim of his trade and not necessarily a threat to the process.

- (a) The patient should remain away from work until symptom-free. Work may be resumed when symptoms have cleared and the need for strict personal hygiene has been explained. The worker is then regarded as a carrier but much less of a threat to the food chain than when in the acute phase of the illness.

Pether and Scott⁽⁵⁾ have shown that the hands of persons with salmonella infection can be adequately decontaminated by handwashing and they have advocated a similar approach to carriers as outlined here.

- (b) The employer is to be notified and the whole food handling chain, particularly the case's work station in the premises, examined for safe handling practices. The opportunity is taken for all staff to be educated in personal hygiene. In this way, the health education of all the workers in an establishment can be improved, as well as allowing the identification of aspects of the food handling process that can be made safer for undetected carriers to work in.

This approach has been predicated then on the belief that the probable carrier should not be unfairly treated, while other workers have the potential to be unknown carriers at any time. Secondly, the food handling system should be made safe and the hygiene standards of all staff should be high, as they all have the potential to be carriers.

Furthermore, Buchwald and Blaser⁽⁶⁾ in their review of salmonella excretion, have found that 90% of adults with non-typhi salmonella were culture negative at nine weeks after infection. They have concluded that the role of asymptomatic, infected food handlers in the transmission of salmonella infection must be considered to be of secondary importance and that the screening of asymptomatic carriers among food handlers has a high cost-to-benefit ratio.

The overall results of these changes in South Australia have been:

1. A significant drop in the number of faecal specimens being sent to laboratories for follow-up screening and hence a cost saving in laboratory expenditure.

2. Far greater co-operation from health surveyors, for they are following fresh cases and not patients who have had their disease one to two weeks before. Also there is greater co-operation from patients, as they feel the surveyor is genuinely concerned; whereas, previously they have often been antagonistic because of the long time lag between their disease and the follow-up investigation.
3. The improved follow-up has resulted in far more significant epidemiological data being forwarded to the CDC Unit. These data have helped guide the investigation of a number of State-wide and local outbreaks of both Salmonella and Campylobacter infections.
4. The system demonstrates how beneficial it is for information to be provided to a central authority by laboratories as soon as positive results are available.
5. The effect on the control of food-borne disease in the community cannot be measured, but it is felt that this approach has resulted in a more effective use of resources and an increased level of community awareness and hygiene standards.

REFERENCES

1. Health Examination of Food Handling Personnel - Report on a Working Group, W.H.O., Copenhagen, 1980.
 2. CDR (1983) Supplement 1
 3. CDR (1982) 82/36 : 3
 4. CDI (1981) 81/11 : 6
 5. Journal of Infection (1982) 5 : 81-8
 6. Rev. Inf. Dis. (1984) 6 : 345-56
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AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

REPORTING PERIOD - 6/1/86 - 19/1/86 BULLETIN NUMBER 86/2
 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.....		3	9			3		6	2	23
0101 ADENOVIRUS TYPE 1.....							1		1	2
0102 ADENOVIRUS TYPE 2.....							3		6	9
0103 ADENOVIRUS TYPE 3.....							8			8
0105 ADENOVIRUS TYPE 5.....							2		1	3
0106 ADENOVIRUS TYPE 6.....	1									1
0110 ADENOVIRUS TYPE 10.....								1		1
0199 ADENOVIRUS TYPING PENDING.....	1					4				5
0201 INFLUENZA A VIRUS.....			6				1			7
0203 INFLUENZA B VIRUS.....				1			1	2		4
0301 PARAINFLUENZA VIRUS TYPE 1.....				1	2					3
0303 PARAINFLUENZA VIRUS TYPE 3.....				2	16	10		3	2	33
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)...	1		4				1	1	3	10
0500 RHINOVIRUS (ALL TYPES).....			1	5	13	10		3		32
0600 MYCOPLASMA PNEUMONIAE.....							1		1	2
0700 ORNITHOSIS-PSITTACOSIS.....			2							2
0816 COXSACKIEVIRUS A16.....				2						2
0904 COXSACKIEVIRUS B4.....	1			5	8			1		15
0905 COXSACKIEVIRUS B5.....							1			1
1002 ECHOVIRUS TYPE 2.....							1			1
1007 ECHOVIRUS TYPE 7.....				2					4	6
1013 ECHOVIRUS TYPE 13.....									2	2
1100 POLIOVIRUS NOT TYPED.....						2				2
1102 POLIOVIRUS TYPE 2.....							1			1
1104 POLIOVIRUS-VACCINAL STRAIN.....							1			1
1200 MUMPS VIRUS.....								1	1	2
1300 HERPES VIRUS GROUP-NOT TYPED.....	7		1	4			1		5	18
1301 HERPES SIMPLEX VIRUS NOT-TYPED.....		1							1	2
1302 EPSTEIN-BARR VIRUS (EB VIRUS).....	3		2						10	15
1303 VARICELLA-ZOSTER VIRUS.....			1	1			3	1	7	13
1306 HERPES SIMPLEX TYPE 1.....			3	31			17	30	40	121
1307 HERPES SIMPLEX TYPE 2.....				45			18	60	70	193
1399 HERPES VIRUS TYPING PENDING.....				7	2					9
1401 COXIELLA BURNETI.....								4	1	5
1502 PICORNA VIRUS-NOT TYPED.....								8	5	13
1521 MEASLES VIRUS.....			2		1			1	1	5
1522 RUBELLA VIRUS.....	3		1	4			5	3	2	18
1530 HEPATITIS A VIRUS.....							3			3
1531 HEPATITIS B VIRUS.....				2						2
1532 HEPATITIS B ANTIGEN.....	3	2	5	14			22	7	10	63
1535 HEPATITIS A ANTIBODY.....	1		2	5			8	4	22	42
1541 CHLAMYDIA A - C TRACHOMATIS.....			2	18			51	23	60	154
1552 RABIES VIRUS.....								1		1
1556 CMV - CYTOMEGALOVIRUS.....		1	2	12	2	5		6	9	37
1564 ROTAVIRUS.....		1	4			1	8		2	16
1599 ENTEROVIRUS TYPING PENDING.....		2	14			6				22
9992 ROSS RIVER VIRUS.....								15	1	16
9994 SMALL VIRUS (LIKE) PARTICLE.....		1								1
9995 DENGUE.....									1	1
Total.....	15	17	61	161	60	183	180	271		948

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 6/1/86 - 19/1/86

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	Respiratory	Encephalitis	Meningitis	Paralysis	CNS other unspec	GI	Hepatic	CVS	Urinary	Skin/ mucous memb
0100 ADENOVIRUS NOT TYPED.....			1								
0101 ADENOVIRUS TYPE 1.....							1				
0102 ADENOVIRUS TYPE 2.....				2			3				
0103 ADENOVIRUS TYPE 3.....	1	4					1				
0105 ADENOVIRUS TYPE 5.....	1	1					1				
0106 ADENOVIRUS TYPE 6.....		1									
0110 ADENOVIRUS TYPE 10.....				1							
0201 INFLUENZA A VIRUS.....		6							1		
0203 INFLUENZA B VIRUS.....		1									
0301 PARAINFLUENZA VIRUS TYPE 1....		3									
0303 PARAINFLUENZA VIRUS TYPE 3....	1	27					1				
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....		8									
0500 RHINOVIRUS (ALL TYPES).....	1	28									
0600 MYCOPLASMA PNEUMONIAE.....		1									
0700 ORNITHOSIS-PSITTACOSIS.....											1
0816 COXSACKIEVIRUS A16.....	1										1
0904 COXSACKIEVIRUS B4.....	1	7		4			1				
0905 COXSACKIEVIRUS B5.....							1				
1007 ECHOVIRUS TYPE 7.....	3						1				
1013 ECHOVIRUS TYPE 13.....							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).	1	3				1		1			
1303 VARICELLA-ZOSTER VIRUS.....										2	11
1306 HERPES SIMPLEX TYPE 1.....	10	2					1				72
1307 HERPES SIMPLEX TYPE 2.....	15	1		1							73
1401 COXIELLA BURNETI.....	1	1							1		
1502 PICORNA VIRUS-NOT TYPED.....		1		2			4				2
1521 MEASLES VIRUS.....		1				1					3
1522 RUBELLA VIRUS.....	2	1									15
1530 HEPATITIS A VIRUS.....								3			
1531 HEPATITIS B VIRUS.....								2			
1532 HEPATITIS B ANTIGEN.....	17					1		29			
1535 HEPATITIS A ANTIBODY.....	3							39			
1541 CHLAMYDIA A - C TRACHOMATIS...				1							
1552 RABIES VIRUS.....		1									1
1556 CMV - CYTOMEGALOVIRUS.....	2	9				2	1	2		1	
1564 ROTAVIRUS.....	1	1					14				
9992 ROSS RIVER VIRUS;.....	5	2									4
9994 SMALL VIRUS (LIKE) PARTICLE ..							1				
9995 DENGUE											1
Total.....	68	113	1	12		7	32	76	2	3	186

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 6/1/86 - 19/1/86

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;

68 -Fever/malaise; 09 -Other; A1 -SIDS ...

VIRUS OR VIRAL ANTIGEN	Eye	Gen-ital	Endo/sal gland	RES	Muscle/joint	Con-genital	PUO	Fever/mal-aise	Other	SIDS
0101 ADENOVIRUS TYPE 1.....	1									
0102 ADENOVIRUS TYPE 2.....	1								2	
0103 ADENOVIRUS TYPE 3.....							2			
0203 INFLUENZA B VIRUS.....					1			2	1	
0303 PARAINFLUENZA VIRUS TYPE 3....								8		
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....				1	1			1		
0500 RHINOVIRUS (ALL TYPES).....	1							2		
0600 MYCOPLASMA PNEUMONIAE.....									1	
0816 COXSACKIEVIRUS A16.....								1		
0904 COXSACKIEVIRUS B4.....							1	2	1	
1002 ECHOVIRUS TYPE 2.....							1			
1007 ECHOVIRUS TYPE 7.....										2
1104 POLIOVIRUS-VACCINAL STRAIN....										1
1200 MUMPS VIRUS.....			1							
1302 EPSTEIN-BARR VIRUS (EB VIRUS).			7						3	
1303 VARICELLA-ZOSTER VIRUS.....								2		
1306 HERPES SIMPLEX TYPE 1.....	3	29	1	1				2	3	
1307 HERPES SIMPLEX TYPE 2.....	1	103							1	
1401 COXIELLA BURNETI.....								3		
1502 PICORNA VIRUS-NOT TYPED.....								1		
1521 MEASLES VIRUS.....								2		
1522 RUBELLA VIRUS.....			1		1			3		
1532 HEPATITIS B ANTIGEN.....									16	
1541 CHLAMYDIA A - C.TRACHOMATIS...		151							2	
1556 CMV - CYTOMEGALOVIRUS.....		3		1		6	1	4	9	1
9992 ROSS RIVER VIRUS.....					7			4		
9995 DENGUE.....								1		
Total.....	7	286	10	3	10	6	5	40	37	4