# INFECTIOUS DISEASES

# TRENDS

ollowing the winter of 1996 – during which there were outbreaks of **meningococcal disease** and **rotavirus** (Figures 2 and 3) – the finer weather of spring heralds increased reports of **measles** and **rubella**.

## Measles and rubella

While well down on historical numbers, an increased number of **measles** cases was reported in September (17) and August (21) compared with July (9) (Figure 2). The September cases were mainly reported from the Northern Rivers (5 cases, none with a history of vaccination), and South Eastern Sydney (3) (Table 7, page 130). After reaching a two-year low of 7 in June, **rubella** is likewise on the rise, with 17 cases reported in September, mainly from the Hunter (7) and Central Sydney (4).

## The last influenza surveillance report for 1996

The 1996 season was similar in severity to recent years, according to both laboratory and general practitioner reports. Laboratory reports were almost all influenza A. The average consultation rate for influenza-like illness (ILI) from the NSW Sentinel GP Surveillance Scheme<sup>a</sup> in the first week of October was 0.4 per cent (Figure 4), lower than the average for the previous few years. The average school absentee rate<sup>b</sup> has continued at low levels into October (Figure 5).

Reports from Westmead, Prince of Wales and Liverpool hospital laboratories indicate that during the first two weeks of October, the number of diagnoses of influenza A was low (1 virological, 2 serological cases) – similar to that reported for the previous two weeks (3 virological, 0 serological cases). There were no reports of influenza B in either fortnight.

#### Typhoid and paratyphoid in travellers

To the end of September 1996, 16 cases of typhoid and 13 cases of paratyphoid were reported in NSW. Each year from

 a. Including about 6,000 consultations a week to 50 doctors reported to five Public Health Units.
b. Monitored from 10 schools including about 9,000 students, reported to

b. Monitored from 10 schools including about 9,000 students, reported to four Public Health Units.



1992 until 1995, between 20 and 28 cases of typhoid and 8 and 12 cases of paratyphoid were reported. Most cases are travellers returning from high-risk countries, where they acquired infection as tourists, or while visiting family or friends.

Typhoid is a bacterial disease characterised by fever, severe continuous headache, malaise, anorexia, relatively slow heart rate (for the fever), enlarged spleen, spots on the trunk (rose spots), dry cough, and constipation. Vomiting and diarrhoea are usually absent. Many patients may have only mild or atypical symptoms. Without treatment, 10 per cent of patients will die. The death rate is reduced to <1 per cent with prompt therapy. Relapses can occur in up to 20 per cent of cases. About 2-5 per cent of cases become chronic carriers<sup>1</sup>.

The disease is caused by a bacterium, *Salmonella typhi*, and is diagnosed by finding bacteria in blood, urine, stools, or in skin lesions. Paratyphoid, caused by *Salmonella paratyphi*, is a similar, but usually milder, illness<sup>1</sup>.

Typhoid occurs throughout the developing world, with an estimated 17 million cases and 600,000 deaths annually worldwide<sup>1</sup>. In developed countries, with chlorinated water supplies and good sewerage systems, infection is uncommon, and mainly among travellers returning from endemic areas.

The bacteria are almost exclusively carried by humans, although rarely domestic animals (e.g. dairy cows) can be infected with *S. paratyphi*. The bacteria are transmitted by food and water contaminated by faeces or urine of patients and carriers. High-risk foods include shellfish, raw fruits and vegetables, and milk, contaminated by faeces, either directly or through flies or food handlers who are carrying the bacteria. The incubation period is usually 1-3 weeks. Patients can be infectious to others as long as they excrete the bacteria in their stools, usually at least a week. Ten per cent of untreated patients will excrete bacteria for three months, and 2-5 per cent will become life-long carriers<sup>1</sup>.

#### Prevention

Prevention depends on not consuming contaminated food and water. Travellers to developing countries should consume only chlorinated, safely bottled or boiled water, and eat food that is either freshly cooked and still hot, or that they have peeled themselves. Hand washing after using the toilet and before handling food is very important.

Patients and carriers should not prepare food or water for others, or care for children or the elderly until cleared of infection (with three consecutive negative stool tests).

Typhoid vaccine is recommended for travellers to countries where hygiene is poor and drinking water unsafe, although most short-term travellers who eat at international touristclass establishments will not need the vaccine. It is not recommended for pregnant women, people with previous severe reactions to the vaccine and those with an intercurrent fever<sup>2</sup>.

Typhoid and paratyphoid are notifiable by laboratories and hospital CEOs under the Public Health Act. Notified cases are routinely investigated by Public Health Unit staff to determine how the disease was acquired, to counsel the patient about the disease, and to prevent further spread.

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# Infectious diseases

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## **GASTROENTERITIS IN INSTITUTIONS**

In September, 84 cases of gastroenteritis among people residing in institutions were reported. Reports of institutional gastroenteritis typically peak in winter and spring, when they are often due to agents such as Norwalklike virus. Symptoms include nausea, vomiting, diarrhoea, abdominal pain, myalgia, headache, malaise and low-grade fever. Infections can rapidly spread though the faecal-oral route (and possibly aerosolised vomitus) to cause large outbreaks within institutions such as nursing homes.

To confirm the cause of such outbreaks, stool samples from ill staff or residents should be taken early. These samples should be transported swiftly to a laboratory. In addition to standard microbiology and parasitology tests, viral studies should be specifically requested. Food samples should be held for testing, until food poisoning is excluded.

Outbreaks of gastroenteritis within institutions should be notified to the PHU on first suspicion, so recommendations on investigation, control and prevention can be made early.

PHUs can advise on prevention and control measures, but they will usually involve:

- Strict hygiene measures for staff, residents and visitors, particularly hand washing after attending the bathroom, before handling food, and before and after all resident contact. The latter applies both to in-house and visiting staff. Hand washing awareness posters next to hand-basins can be useful reminders.
- Symptomatic staff should be sent off duty, not to return until 24 hours after symptoms (diarrhoea and/or vomiting) have subsided. A delay of 48 hours may be advisable for food handlers.
- Ideally, ill residents should be isolated in a common ward or wards (cohorted), and staff attending those people should not care for people in other areas. Non-essential staff should not enter the affected area. Use of communal rooms should be discouraged during an outbreak. The facility should not accept new admissions during the outbreak period.
- Single-use disposable gloves should be worn when contact with blood and/or body fluids is anticipated. A new pair of gloves must be worn for contact with each patient. After removing gloves, hands must be washed.
- Any surface or article contaminated by vomit or faeces should first be thoroughly washed with warm water and a neutral detergent, and then disinfected with freshly prepared diluted bleach (see below). Carpet should be cleaned as above (no bleach) then professionally shampooed with industrial carpet cleaner. Colour-coding of cleaning materials is the most effective way to restrict equipment to individual areas of a facility.
- Staff (nursing or domestic) performing such cleaning should wear appropriate over clothing (e.g. plastic aprons) and disposable gloves. After cleaning activities, protective clothing should be removed while still wearing gloves, gloves removed, then hands thoroughly washed.

- Special attention should be given to cleaning of bathroom areas (including toilet flush buttons, taps and door knobs), and to environmental surfaces (e.g., benches, hand rails) that may have been contaminated by aerosol or other spread. Potentially contaminated linen should be changed.
- Potentially contaminated food (such as bedside fruit) should be discarded.

# Disinfection using diluted bleach:

Household bleach diluted 1 part bleach to 9 parts water is a cheap and effective disinfectant. The solution must be freshly prepared on a daily basis. Care must be taken when preparing the solution – staff should wear gloves, waterproof protective clothing and eye protection. Always add bleach to water – not water to bleach – and mix well. Never mix bleach with any other cleaning material.

Adapted from: South Western Sydney, South Eastern Sydney, Central Sydney Public Health Units. Control of gastroenteritis in nursing homes/hostels. 1996.

# **STOP PRESS**

# BAT LYSSAVIRUS INFORMATION FOR MEDICAL PRACTITIONERS

Recommendations of the Lyssavirus Expert Group meeting, November 11, 1996, endorsed by the Communicable Diseases Network Australia New Zealand.

This information provides a background to the newly identified bat *Lyssavirus* and recommendations for dealing with patients who have been in contact with bats.

#### Background

A new Lyssavirus has been identified during 1996 in two species of bat in Australia. The two species are the Black flying fox (*Pteropus alecto*) and Little Red flying fox (*Pteropus scapulatus*). In November 1996 a woman in Queensland developed encephalitis, probably due to the virus, after being bitten and scratched by bats.

The genus *Lyssavirus* falls within the family Rhabdoviridae. Hitherto, six genotypes were recognised: the classic rabies virus, Lagos bat virus, Mokola virus, Duvenhage virus and the two European bat *Lyssaviruses*. These viruses have not previously been reported to occur in Australia. The newly identified seventh *Lyssavirus* is closely related to, but is distinct from, the classic rabies virus. In laboratory animals, rabies vaccine and rabies immunoglobulin are protective against this new *Lyssavirus*.

Non-rabies *Lyssaviruses* usually do not spread among terrestrial animals and human infections are rare. The newly identified *Lyssavirus* is known to infect only fruit bats (flying foxes) and humans. Overseas, insectivorous bats are known to carry other *Lyssaviruses* and therefore cannot be discounted as a potential risk, at this stage.

Rabies virus and other *Lyssaviruses* are usually transmitted to humans via bites or scratches which provide direct access of the virus in saliva to exposed tissue and nerve endings. This means most people would not be exposed to *Lyssavirus* through casual contact with bats.

As the bat *Lyssavirus* is closely related to classic rabies virus, infection may be prevented by rabies vaccine and

# **TABLE 7**

INFECTIOUS DISEASE NOTIFICATIONS FOR NSW IN SEPTEMBER 1996, RECEIVED BY AREA HEALTH SERVICE

	Area Health Service															Period			
Condition	CEA	NCA		WEN	CINC	CCA			CEC	NRA	MNC	NEA	MAC		F\A/A	GMA	SA	Total for Sen	Year to date
Condition	CSA	NSA	VVSA	VVEIN	3003	CCA	HUN		363	111/4	IVINC	NLA	MAC		1117	dina		ior sep	to dute
Blood-borne and sexually																			
transmitted	10000																	-	201
AIDS	-	2	2	1	-	-	-	-	1	-	-	-	-	7	-	1		7	201
HIV infection	1	1	1	-	-	-	1	-	7	1	-	-		-	-		1	30	305
Hepatitis B – acute viral	1	-	-	-	-	-	- 1	-	-		=	-	-	-	-		-	1	25
Hepatitis B – other	60	28	31	3	41	4	2	1	31	-	2	9	1	-	-	4	1	219	3,351
Hepatitis C – acute viral	-	-	-	-	-	-	-	-	-		-	2	517	-	-	-	-		10
Hepatitis C – other	39	43	48	15	32	19	37	11	83	27	11	5	5	9	1	16	10	411	6,098
Hepatitis D – unspecified	-	-	-	- 10	-	-	-	-	-	-	-	-	-	-	-		-	-	4
Hepatitis, acute viral (NOS)	+	-	-		-	-	-	-	-	-	-	-	-	-	-		-		4
Gonorrhoea	6	2	2	-	-	1	-	-	15	-	-	-	-	-	-			26	372
Syphilis	3	3	2	1	9	1	2		13	3	-	7	-	2	-	-	-	46	587
Vector-borne																			
Arboviral infection	-	-	-	-	-	1	1	-	-	5	-	-	-	-	-	1	-	8	1,126
Malaria	5	5	-	-	1	-		-	6	1	-	-	-	-	-	3	-	21	181
Zoonoses																			
Brucellosis	-	_	-	-	-	-	-	-	-	-		-		-	-		-	-	-
Hydatid disease	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	10
Leptospirosis	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-	22
O fever	-	-	_	_	_	-	-	-	-	1	2	5	7	1	-	-	-	16	215
Respiratory/other																			
Legionnaires' disease	_	_	1	-	-	-	-	_	-	-	-	-	-	-			-	1	49
Meningococcal (invasive) infection	1	-	2	_	1	-	2	-	5	1	1	2	-	-	-	1	1	17	116
Leprosy			_	_	_	-	-	-	-	_	-	_	-	-	-	-	-	- 100	1
Mycobacterial tuberculosis	2	4	5	_	1	-	-	_	-	-	1	4	-	-	-	-	-	13	256
Mycobacteria other than TB	1		1	_	-	1	-	-	_	-	-	-	-	-	-	-	-	3	294
Vaccine-preventable																			
Adverse event after immunisation	_		_		_			_	_	-	-	-	-	-	_	-	-	-	34
H influenzae (invasiva) infection		_	_	_	-	_	_	_	_	_	_	_	-	_	-	-	-	-	11
Master	1		1	2	1	_	_	2	3	5	_	-	-	1	_	1	_	17	139
Mumps			1			_	2	<u> </u>		2	_	_	_	-	_	- 10 C	_	2	21
Portureis	1	5	2	6	1	5	3		7	_	5	2	_	1		_	_	39	603
Pertussis		2	2	2		_	7	1	1	_		2	_	_	_			17	177
Rubella Faced avail	-		2	-														Se aller	
Chalana			1							_	_	_	_		_	_	_	1	3
Cholera	-	-				2				10		_	_		_	_	_	14	73
Foodborne lilness (NOS)	21	-		-	1	כ דר	10			10						6	_	84	398
Gastroenteritis (instit)	21	2	-	2	1	21	10	-	12	1		-	2		A	1 1	1	51	778
нерації А		3	-	2	3	8	2	1	12			3	2		-	_	-	-	9
Listeriosis	-		-	Ţ	-		-	2	-		-	2			2			41	825
Salmonellosis (NOS)	2	11	/	1	3	1		2	4	2		3	19. (m) -		2	1		+1	20
Typhoid and paratyphoid	-	-	1	-	-	-	-		3	-	Stand State					r.			23

Abbreviations used in this Bulletin:

CSA Central Sydney Health Area, SES South Eastern Sydney Health Area, SWS South Western Sydney Health Area, WSA Western Sydney Health Area, WEN Wentworth Health Area, NSA Northern Sydney Health Area, CCA Central Coast Health Area, ILL Illawarra Health Area, HUN Hunter Health Area, NRA Northern Rivers Health Area, MNC Mid North Coast Health Area, NEA New England Health Area, MAC Macquarie Health Area, MWA Mid West Health Area, FWA Far West Health Area, GMA Greater Murray Health Area, SA Southern Health Area, OTH Interstate/Overseas, U/K Unknown, NOS Not Otherwise Stated.

Please note that the data contained in this Bulletin are provisional and subject to change because of late reports or changes in case classification. Data are tabulated where possible by area of residence and by the disease onset date and not simply the date of notification or receipt of such notification.