

OzFoodNet: enhancing foodborne disease surveillance across Australia

Quarterly report, April-June 2001

Martyn Kirk for the OzFoodNet Working Group¹

Introduction

OzFoodNet is a collaborative network conducting applied research into foodborne disease. It was established by the Commonwealth Department of Health and Ageing, formerly the Department of Health and Aged Care.¹ During the second quarter of 2001, OzFoodNet prepared several protocols for national studies investigating the burden and causes of foodborne disease. OzFoodNet epidemiologists assisted with investigations into several outbreaks of foodborne illness, including a major outbreak of *Salmonella* Bovismorbificans 32 associated with iceberg lettuce, and Australia's first outbreak of multi-drug resistant *Salmonella* Typhimurium Definitive Type (DT) 104.

This second quarterly report of OzFoodNet summarises the reporting of foodborne disease in the six States of Australia during the second quarter of 2001.² During this time, the Australian Capital Territory and the Northern Territory participated as observers in OzFoodNet, and we have not included data from these jurisdictions unless specified.

Notifications in the second quarter

In this report we have used the date that the health department received notifications, unless specified otherwise.

During the quarter, OzFoodNet sites reported 3,551 notifications of campylobacteriosis (excluding New South Wales). The median ages of cases ranged between 24–32 years. All States reported that the male to female ratio of cases was approximately 1:1 except South Australia (1.4:1). The Tasmanian Health Department reported a large increase in the rate of *Campylobacter* infections in the northern part of Tasmania, although no source was identified. The South Australian Department of Human Services investigated one point source outbreak of *Campylobacter* infection associated with a restaurant meal.

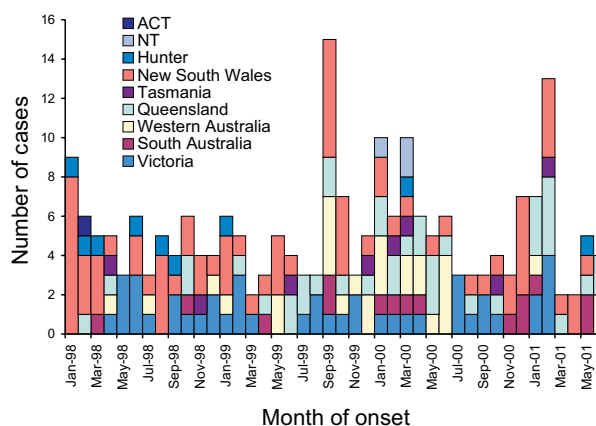
OzFoodNet sites reported a total of 1,672 cases of salmonellosis during the second quarter and identified the source of 10 *Salmonella* outbreaks. The median ages of reported cases in all States ranged from 15–24 years old, except for Queensland where the median age was 9 years. OzFoodNet sites reported that *Salmonella* Typhimurium (phage types 64, 135 and 126), Virchow (8 and 36var1) and Enteritidis were the most common serovars (Table 1). The

majority of these *Salmonella* Enteritidis infections were acquired overseas.

The Tasmanian OzFoodNet Site reported that *Salmonella* Mississippi — an endemic serovar in this State — was the most common *Salmonella* infection for the quarter. Tasmania reported one household cluster of *S. Mississippi*, although no source was identified. Both Queensland and New South Wales OzFoodNet sites reported that *Salmonella* Birkenhead was common, which relate to an endemic focus of this serovar in southeast Queensland and northern New South Wales. During the quarter, State and Territory Health Departments commenced investigations into a variety of *Salmonella* serovars, including: Bovismorbificans (phage types 32 and 14), Muenchen, Typhimurium (phage types 126, 135 and 104) and Virchow (phage type 8).

State health departments received 11 notifications of listeriosis during the second quarter of 2001, which compared to 22 for the same quarter in 2000. Median ages for cases ranged from 38.5 to 70 years. South Australia reported one foetal infection in an infant of 34 weeks gestation. The mother had previously consumed soft cheese. There is little seasonality to notifications of *Listeria* infection (Figure). Despite the small numbers of cases of

Figure. Notifications of listeriosis, Australia, 1998 to June 2001, by States and Territories, and month of onset



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The full membership of the OzFoodNet Working Group is listed at the end of this report.

The OzFoodNet Working Group is (in alphabetical order):

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Table 1. Top five *Salmonella* infections reported to OzFoodNet sites, April to June 2001, by date of receipt

OzFoodNet site	Top five <i>Salmonella</i> infections, by type	Number of cases				
		2nd quarter 2001	2nd quarter 2000	YTD 2001	Total 2000	Ratio ¹
Queensland	Virchow 8	59	66	123	126	0.89
	Saintpaul	40	90	106	132	0.44
	Bovismorbificans 32	36	0	36	1	-
	Birkenhead	33	21	96	55	1.57
	Typhimurium 126	27	1	35	2	27.0
Hunter	Typhimurium 64	4	3	7	14	1.33
	Typhimurium 44	2	0	5	0	-
	Typhimurium 170	2	0	3	1	-
	Typhimurium 135	1	3	7	10	0.33
	Enteritidis	1	1	1	1	1.00
New South Wales	Typhimurium 135	34	34	25	138	1.00
	Typhimurium 9	29	47	30	115	0.61
	Birkenhead	18	17	12	77	1.05
	Typhimurium 64	17	21	55	53	0.81
	Stanley	10	5	11	56	2.00
South Australia	Typhimurium 126	29	1	74	4	29.00
	Typhimurium 9	14	7	36	28	2.00
	Typhimurium 64	9	4	22	20	2.25
	Typhimurium 108	5	3	6	9	1.70
	Virchow	5	2	15	1	2.50
Tasmania	Mississippi	31	19	86	69	1.60
	Typhimurium 9	5	4	9	21	1.30
	Enteritidis 4	2	3	2	5	0.67
	Enteritidis 1	2	1	2	1	2.00
	Typhimurium 135	2	1	2	5	2.00
Western Australia	Typhimurium 135	5	59	49	68	0.08
	Typhimurium 22	3	2	5	2	1.50
	Typhimurium 4	3	7	18	13	0.43
	Typhimurium 8	3	0	4	1	-
	Bovismorbificans	2	0	7	0	-
Victoria	Typhimurium 9	33	55	89	186	0.60
	Typhimurium 135	20	21	63	71	0.95
	Typhimurium 4	17	2	54	37	8.50
	Virchow 36var1	11	10	20	19	1.10
	Virchow 34	8	18	24	60	0.44

1. Ratio of number of cases reported in second quarter 2001 to second quarter 2000

listeriosis notified to individual jurisdictions, there is potential for cross-border or national outbreaks.

OzFoodNet sites reported 10 cases of shiga toxin producing *E. coli* infections during the quarter, with South Australia and Queensland each reporting four cases. Investigators did not identify any sources and all cases appeared sporadic. The median ages ranged from 14 to 71 years.

Foodborne disease outbreaks

During the second quarter of 2001, OzFoodNet sites reported 16 outbreaks that were potentially related to food (Table 2). These outbreaks affected approximately 224 people, of which 24 were hospitalised and one died. The

Victorian Department of Human Services identified helva imported from Turkey, as the source of the first Australian outbreak of multi-drug resistant *Salmonella* Typhimurium DT 104.* This serovar is a significant problem for countries in the northern hemisphere, due to its propensity to affect many different types of animals, and the antibiotic resistance of the serovar.³ The Queensland Department of Health identified iceberg lettuce that was contaminated during processing as the source of an outbreak of *Salmonella* Bovismorbificans 32 that affected people across Queensland.

Table 2. Outbreaks reported by OzFoodNet sites, April to June 2001

State	Month of outbreak	Setting	Agent responsible	Number exposed	Number affected	Responsible vehicles
Hunter	June	Take-away pizza shop	Unknown	Unknown	4	Pizza
	May	Kebab shop	Unknown	Unknown	2	Suspected chicken kebab
	May	Supermarket	Unknown	Unknown	3	Suspected BBQ chicken
	May	Take-away pizza shop	Unknown	Unknown	8	Pizza
Qld	June	Caterer	Suspected Norwalk	14	10	Unknown
	June	Home	Ciguatera	3	3	Barracuda (Sphyraena jello)
	June	Hotel	S. Montevideo	Unknown	8	Unknown
	May	Take away restaurant	S. Bovismorbificans 32	Unknown	36	Commercially processed iceberg lettuce
SA	June	Café	S. Zanzibar	Unknown	2	Suspected chicken dish
	June (investigations still continuing)	Community	S. Typhimurium 126	Unknown	44 to end of June; 72 to 10th August 2001	Chicken products
	May	Restaurant	Campylobacter jejuni	13	10	Unknown
Tas	April	Household	S. Mississippi	7	7	Unknown
	April	Household	S. Typhimurium 9	6	6	Suspected duck eggs
Vic	April	School Camp	S. Typhimurium 9	55	29	Unknown
	June	Community	S. Typhimurium DT104	Unknown	23 (20 Vic; 2 NSW; 1 Qld)	Turkish Helva
WA	June	Restaurant	S. Typhimurium 64	~40	29	Fried icecream

Applied research

The OzFoodNet collaboration has achieved some important goals during the first six months of 2001, which included:

- development of a National survey of diarrhoeal disease through the National Centre for Epidemiology and Population Health;
- development of protocols for four national case control studies to examine risk factors for campylobacteriosis, listeriosis, *Salmonella* Enteritidis, and shiga-toxin producing *E. coli*;
- development of a national outbreak register for food-borne disease;
- communicating about clusters of foodborne diseases, through a fortnightly cluster report;
- comparing molecular typing methods for *Campylobacter*;
- development of a national survey of pathology laboratories;
- assisting with the investigation of several important clusters and outbreaks of foodborne disease that have crossed jurisdictional boundaries;
- communication with international agencies involved in similar international work; and

- formation of an important forum for discussing issues relating to foodborne disease.

There are many important areas of foodborne disease surveillance, which OzFoodNet cannot adequately address in this first phase of work. Some examples of this further work include: estimating the cost of foodborne disease, determining the fraction of foodborne disease that is notified to health authorities, novel means of detecting outbreaks, risk factors for other foodborne pathogens, etc. OzFoodNet is currently developing a paper on the potential future of ongoing collaborative work to improve our understanding of foodborne disease.

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