

OzFoodNet: enhancing foodborne disease surveillance across Australia: Quarterly report, October to December 2004

Introduction

The Australian Government established the OzFoodNet network in 2000 to collaborate nationally to investigate foodborne disease. OzFoodNet conducts studies on the burden of illness and coordinates national investigations into outbreaks of foodborne disease. This quarterly report documents investigations occurring in Australia into outbreaks of gastrointestinal illness and disease potentially related to food.

This report summarises the occurrence of foodborne disease outbreaks and cluster investigations between October and December 2004. Data were received from OzFoodNet epidemiologists in all Australian states and territories and a sentinel site in the Hunter region of New South Wales. The data in this report are provisional and subject to change, as the results of outbreak investigations can take months to finalise. We would like to thank the investigators in the public health units and state and territory departments of health as well as public health laboratories and local government environmental health officers who collected data used in this report.

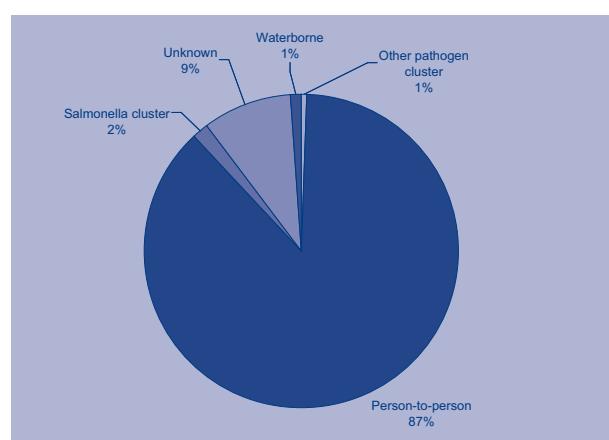
Foodborne disease outbreaks

During the fourth quarter of 2004, OzFoodNet sites reported 192 outbreaks of foodborne or enteric illness. As usual, the vast majority of these (76%, n=145) resulted from person-to-person spread of infection. The Figure shows the proportion of the different modes of transmission. In total, 4,467 people were affected with 71 people hospitalised. Three deaths were reported. All three of the deaths occurred in aged care facilities during outbreaks caused by unknown pathogens. During the quarter, there were three outbreaks of cryptosporidiosis linked to swim-

ming pools in Queensland (2) and South Australia (1). Queensland also reported a cluster of *Salmonella* Litchfield after two children at a scout camp swam in a pool filled from a nearby dam.

There were 25 outbreaks of illness where food was suspected or proven to be the primary mode of transmission (Table). This compares with 24, 37 and 25 outbreaks in the first, second and third quarters of 2004, respectively. *Salmonella* Typhimurium was the causative agent for five outbreaks, while norovirus was responsible for three outbreaks and *Campylobacter* for two outbreaks. Of the remaining outbreaks, one each was caused by *Clostridium perfringens*, Ciguatera toxin, *Salmonella* Chester and scombroid poisoning. An aetiological agent was not identified for 14 of the outbreaks.

Figure. Mode of transmission for outbreaks of gastrointestinal illness reported by OzFoodNet sites, October to December 2004



The OzFoodNet Working Group is (in alphabetical order): Rosie Ashbolt (Tas), Jenny Barralet (Qld), Robert Bell (Qld), Dennis Bittisnich (DAFF), Andrew Black (ACT), Barry Combs (SA), Christine Carson (WA), Scott Crerar (FSANZ), Craig Dalton (Hunter PHU), Joy Gregory (Vic), Michelle Harlock (NT), Gillian Hall (NCEPH), Geoff Hogg (MDU), Martyn Kirk (DoHA), Karin Lalor (Vic), Tony Merritt (Hunter PHU), Sally Munnoch (Hunter PHU), Jennie Musto (NSW), Lillian Mwanri (SA), Leonie Neville (NSW), Chris Oxenford (DoHA, NCEPH), Rhonda Owen (DoHA), Jane Raupach (SA), Cameron Sault (TAS), Russell Stafford (Qld), Barbara Telfer (NSW), Hassan Vally (WA), Kefle Yohannes (DoHA)

Correspondence: Mr Martyn Kirk, Coordinating Epidemiologist, OzFoodNet, Australian Government Department of Health and Ageing, GPO Box 9848, MDP 15, Canberra, ACT 2601. Telephone: +61 2 6289 9010. Facsimile: +61 2 6289 5100. Email: martyn.kirk@health.gov.au

All data are reported using the date the report was received by the health agency.

Table. Outbreaks of foodborne disease reported by OzFoodNet sites,* October to December 2004

State	Setting category	Agent responsible	Number exposed	Number affected	Evidence	Responsible vehicles
NSW	Other	Unknown	1070	33	D	Unknown
	Restaurant	Unknown	20	7	A	Chicken sandwiches
	Other	Unknown	48	12	D	Unknown
	Restaurant	Unknown	17	12	D	Unknown
	Commercial caterer	Unknown	74	42	D	Unknown
	Restaurant	<i>Salmonella</i> Typhimurium 135	6	3	D	Crab
	Restaurant	Unknown	105	13	D	Unknown
	Private residence	Unknown	26	5	D	Unknown
	Restaurant	<i>Salmonella</i> Chester	3	3	D	Unknown
	Restaurant	Unknown	180	7	D	Unknown
	Takeaway	Unknown	7	6	D	Unknown
	Restaurant	<i>Campylobacter jejuni</i>	34	21	D	Unknown
Qld	Commercial Caterer	Unknown	94	8	D	Unknown
	Private Residence	Norovirus	17	13	D	Unknown
SA	Institution	Norovirus II	31	9	D	Unknown
	Aged care facility	<i>Salmonella</i> Typhimurium 126var	154	17	D	Unknown
	Community	<i>Salmonella</i> Typhimurium 8	Unknown	9	D	Unknown
	Restaurant	Norovirus II	96	36	D	Unknown
Vic	Commercial caterer	Unknown	72	33	D	Unknown
	Commercial caterer	Suspected scombroid poisoning	12	9	D	Rudderfish
	Commercial caterer	Unknown	Unknown	7	D	Redfin
	Commercial caterer	Unknown	445	20	A	Chicken vol-au-vents
	Commercial caterer	<i>Salmonella</i> Typhimurium 170	112	48	D	Unknown
	Self catered function	Unknown	160	75	D	Unknown
	Aged care facility	<i>Campylobacter</i>	>40	7	D	Suspected waterborne

* No foodborne outbreaks reported from Tasmania, Western Australia, the Northern Territory or the Australian Capital Territory.

D Descriptive evidence implicating the suspected vehicle or suggesting foodborne transmission.

A Analytical epidemiological association between illness and one or more foods.

M Microbiological confirmation of agent in the suspect vehicle and cases.

Eight of the outbreaks were associated with meals served in restaurants and another seven with commercial caterers. Two outbreaks were associated with food served in private residences and two with aged care facilities. Six of the outbreaks occurred in October, six in November and 12 in December. One of the outbreaks occurred in September, but was not reported in the previous quarterly report.

To investigate these outbreaks, sites conducted 12 cohort studies and two case control studies. For 10 outbreaks, only descriptive data were collected and in one outbreak no individual case data was collected. In two outbreaks, investigators obtained analytical epidemiological evidence linking a food vehicle to illness. For the remaining outbreaks, investigators obtained descriptive epidemiological evidence implicating the food vehicle or suggesting foodborne transmission.

In New South Wales, there were 12 outbreaks of foodborne illness. One small outbreak affecting two people infected with *Salmonella* Typhimurium 135 was suspected to be caused by salt and pepper crab served at a seafood restaurant. Undercooked chicken is believed to have been the cause of an outbreak of *Campylobacter jejuni* which affected six people after eating at a restaurant. *Salmonella* Chester was also responsible for an outbreak following a meal at a restaurant that affected six people. For the other nine outbreaks, no causative agent was identified. Four of these occurred in restaurants and two in private residences and one, which affected 42 people, involved a commercial caterer. In one outbreak, illness was associated with the consumption of cold chicken sandwiches. No food vehicle was identified in the other outbreaks.

Victoria reported seven outbreaks of foodborne disease. One outbreak of *Salmonella* Typhimurium 170 at a dinner catered by a commercial caterer, affected 48 people with four admitted to hospital. There were two outbreaks associated with the consumption of fish provided by commercial caterers. In the first outbreak, nine people were ill with suspected scombroid poisoning after eating rudderfish. Some patients also reported oily stools, which are characteristic of indigestible wax in the flesh of these fish.¹ In the second outbreak seven people were ill and three hospitalised with an unidentified illness, after eating redfin caught by amateur fishermen. Patients affected by this outbreak exhibited a mixture of gastrointestinal and neurological symptoms, but no aetiological agent was identified. A toxin was suspected as the cause and public warnings not to eat the fish were issued.²

Seven cases were associated with an outbreak of campylobacteriosis in an aged care facility. The outbreak was possibly waterborne since the facility used untreated drinking water. There was an outbreak of illness associated with a commercial caterer that affected 33 people, four of whom were hospitalised. In another outbreak involving a commercial caterer, illness among 20 people was epidemiologically associated with eating chicken vol au vents. The median incubation period and the pattern of illness suggested *Clostridium perfringens* infection and this organism was isolated from faecal samples from three of the cases.

In Queensland, there were two outbreaks of foodborne illness investigated during the quarter. Thirteen people were ill and one hospitalised with norovirus following a function at a private residence. Transmission is believed to have been due to contamination by an ill foodhandler. The remaining outbreak involved eight people who became ill following a wedding reception catered by a commercial caterer but no food vehicle or pathogen was identified.

A total of four outbreaks were investigated in South Australia during the quarter. Two of these involved different phage types of *Salmonella* Typhimurium. Two of the outbreaks were caused by S. Typhimurium 126var, one in an aged care facility affected 17 residents and is believed to have potentially involved multiple modes of transmission. There were three further cases of this infection in the community close to the aged care facility. No source was identified for this outbreak. The second outbreak was caused by S. Typhimurium 8 and affected eight people of mostly Italian and Greek ethnicity, although a food vehicle was not identified. The remaining two outbreaks were caused by norovirus, one in an institution where nine people were infected and the other in a restaurant. Thirty-six people became ill in the restaurant outbreak, where it was thought that contamination of food may have been caused by an ill staff member.

Comments

During the quarter there was a high number of outbreaks where no food vehicle was implicated, despite over half of the investigations involving analytical studies. In this quarter, there was an outbreak of S. Typhimurium 126 var in South Australia. S. Typhimurium 126 outbreaks have previously been associated with poultry and eggs.³ The S. Typhimurium 126var is the same as the S. Typhimurium 126 var⁴, which was responsible for an outbreak in Victoria recently (personal communication, Barry Combs, South Australia, February 2005).

The outbreak of histamine poisoning occurring following a meal of rudderfish highlights ongoing concerns about this fish.^{1,4} Histamine poisoning occurs when histamine compounds build up in the fish flesh after it is poorly handled during catching and processing. Symptoms may include headache, dizziness, numbness of the tongue, flushing, vomiting, diarrhoea and shortness of breath. Rudderfish is often an incorrect name for escolar which has a high concentration of indigestible wax esters in the flesh that has resulted in outbreaks where people consuming the fish have experienced profuse oily stools. In the outbreak of histamine poisoning there was a mixture of symptoms of histamine poisoning and oily stool, which have been observed by other investigators.⁵ Of more concern is the misnaming of this fish, which has resulted in its continued use in catering and restaurant settings.¹

References

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