OzFoodNet quarterly report, 1 April to 30 June 2006

The OzFoodNet Working Group

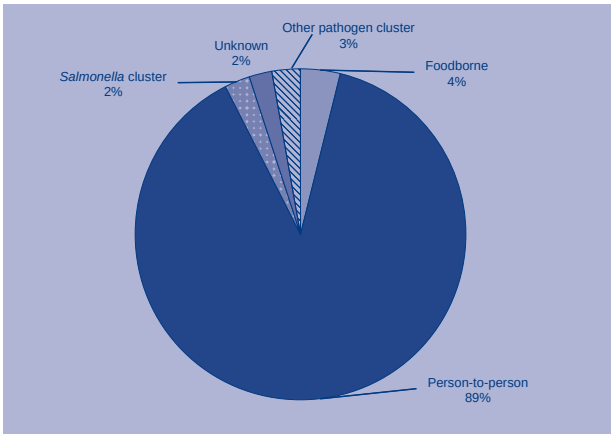
Introduction

The Australian Government Department of Health and Ageing 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 investigation of outbreaks of gastrointestinal illness and clusters of disease potentially related to food occurring in Australia between 1 April and 30 June 2006.

Data were received from OzFoodNet representatives in all Australian states and territories and a sentinel site in the Hunter/New England 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.

During the second quarter of 2006, OzFoodNet sites reported 578 outbreaks of enteric illness, including those transmitted by contaminated food. Outbreaks of gastroenteritis are often not reported to health agencies or the reports are delayed, meaning that these figures significantly under-represent the true burden of these infections. In total, these outbreaks affected 14,688 people of which there were 306 hospitalised and 10 deaths. The majority (89%, n=514) of outbreaks resulted from infections suspected to be spread from person-to-person (Figure). There was considerable activity during the second quarter of 2006 as jurisdictions reported an increase in the number of outbreaks of enteric illness involving institutions. Of the 514 outbreaks in institutions, 350 (68%) were in aged care facilities, 93 (18%) outbreaks were in hospitals, 47 (9%) were in child care facilities and 24 (5%) were in various other settings. Norovirus was identified as a cause of illness in 202 (58%) of the outbreaks in aged care facilities and was suspected in many more.

Figure. Mode of transmission for outbreaks of gastrointestinal illness reported by OzFoodNet sites, 1 April to 30 June 2006



Foodborne disease outbreaks

There were 22 foodborne disease outbreaks during the second quarter of 2006 where consumption of contaminated food was suspected or confirmed as the primary mode of transmission (Table). These outbreaks affected 233 people and resulted in 26 people being admitted to hospital. This compares with 27 outbreaks for the second quarter of 2005 and 26 outbreaks in the first quarter of 2006.

Salmonella was responsible for eight outbreaks during the quarter, with *Salmonella* Typhimurium being the most common serotype. *S.* Typhimurium 9, *S.* Typhimurium 170/108, and *S.* Typhimurium 135a were each responsible for one outbreak. Other *Salmonella* serotypes causing outbreaks were Anatum, Bovismorbificans 11, Oranienburg, Oslo, and Singapore. Single outbreaks were caused by norovirus and *Clostridium perfringens*, with an additional two outbreaks suspected to have been caused by *Clostridium perfringens*. One outbreak was suspected to have been caused by *Staphylococcus aureus* intoxication. The remaining nine outbreaks were caused by unknown aetiological agents.

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

Eight outbreaks reported in the quarter were associated with food prepared by restaurants, four by commercial caterers, three in private residences and three by a commercial food manufacturer. Single foodborne disease outbreaks were associated with an aged care facility, a nationally franchised fast food restaurant, an item of primary produce, and a takeaway food premises.

To investigate these outbreaks, sites conducted three cohort studies and one case control study. Descriptive data were collected for 17 outbreaks and individual patient data were not available for one outbreak. Investigators obtained microbiological evidence linking a food vehicle to illness in three outbreaks, analytical epidemiological evidence in two outbreaks and a combination of microbiological and analytical evidence for one outbreak. For the remaining 16 outbreaks, investigators obtained descriptive epidemiological evidence implicating the food vehicle or suggesting foodborne transmission.

Queensland reported six outbreaks of foodborne illness during the quarter. *S.* Typhimurium 135a was responsible for illness in 11 people that had attended a privately catered function. The food was prepared by family members, some of whom reported gastrointestinal symptoms during the week prior to the function. An outbreak of suspected *Staphylococcal aureus* intoxication involving three members of one family was probably caused by inadequate refrigeration of stored sushi by the takeaway food shop.

New South Wales reported eight foodborne disease outbreaks during the second quarter of 2006. At least 70 people attending a community function were ill with gastroenteritis consistent with *Clostridium perfringens* intoxication. *Clostridium perfringens* was identified in samples of leftover chicken curry. An environmental inspection of the caterer's premises revealed temperature abuse and inadequate facilities for the preparation of large quantities of food. An investigation of gastroenteritis associated with a restaurant catered party identified 15 cases of illness. Three clinical specimens were positive for norovirus, however both the epidemiological and environmental investigation did not identify a causative food item, exposure, or person who was infectious with gastroenteritis at the time of the function. A food vehicle and organism were not confirmed in the remaining six outbreaks

Four outbreaks of foodborne disease were reported by Victoria during the quarter including an outbreak of *Salmonella* Oranienburg implicating a brand of alfalfa sprouts. The investigation was triggered by a recall of alfalfa sprouts by the manufacturer in May as a result of the quality assurance program isolating *S.* Oranienburg. Fifteen cases of *S.* Oranienburg notified to the Department of Human Services in Victoria were investigated and it was confirmed that seven cases had eaten the recalled brand of sprouts. *S.* Oranienburg was detected in alfalfa seeds collected from the sprout manufacturer and also found in leftover sprouts from two case's homes. This follows a similar investigation of a large *S.* Oranienburg outbreak caused by contaminated alfalfa sprouts in Western Australia from November 2005 to February 2006.[1]

An investigation into an increase in cases of *S.* Bovismorbificans commenced in March. Thirteen cases (12 notified in Victoria and 1 case in South Australia) reported eating 'smallgoods' meat in the seven days before their onset of illness. Of these, 10 cases reported eating capocollo – a cured pork product and six cases identified the same brand. Local councils sampled a wide range of products and *Salmonella* Bovismorbificans 11 was detected in this implicated brand of capocollo. As a result, the manufacturer conducted a voluntary recall of this product in May. The two remaining Victorian outbreaks of foodborne illness involved cases who were ill with gastroenteritis consistent with *Clostridium perfringens* intoxication.

Two foodborne disease outbreaks were investigated in South Australia during the quarter. One involved an investigation of *S.* Typhimurium 9 where six cases had dined at the same hotel. Eating sweet potato and fetta cheese salad, a new menu item in the hotel, was significantly associated with illness. There were 19 cases of *S.* Typhimurium 170/108 with an illness onset around late May 2006. A case control study was conducted and showed a statistically significant association between the consumption of ravioli and illness; OR 44 (95% CI 2.7-1348). Ravioli samples from a consumer and retail outlet tested positive for *S.* Typhimurium 170/108. Molecular typing was conducted and the ravioli samples had a similar pattern when compared to the isolates of cases that had eaten ravioli. These findings led to a product recall of the commercially produced ravioli by the manufacturer.

The Northern Territory investigated two cases of *S.* Oslo notified in the same week. Both cases had eaten sticky rice balls with shredded chicken from a market vendor. An environmental inspection found that the product was held at ambient temperature until sold at the market.

Western Australia investigated six cases of gastroenteritis caused by *S.* Anatum with onset of illness over a two week period from late May 2006. All cases lived in or near a south west regional town and these were the first cases of *S.* Anatum in this region since 1999. Five of the six cases had eaten at the same nationally franchised fast food restaurant in the week prior to the onset of their illness. Samples

of food were collected from the nationally franchised fast food restaurant during an environmental investigation but were negative for *Salmonella* species.

OzFoodNet sites reviewed national data during the quarter following an international recall of Cadbury chocolate implicated in British cases of *S.* Montevideo. OzFoodNet investigated Australian cases of *S*. Montevideo and none were associated with chocolate consumption.

Tasmania and the Australian Capital Territory did not report a foodborne outbreak in the second quarter of 2006.

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Reference

1. OzFoodNet Working Group. OzFoodNet: quarterly report, 1 January to 31 March 2006. *Commun Dis Intell* 2006;30:228–232.

Table. Outbreaks of foodborne disease reported by OzFoodNet sites,* April to June, 2006

State	Month of outbreak	Setting prepared	Infection/illness	Number affected	Evidence	Responsible vehicle
NSW	April	Restaurant	Norovirus	15	D	Unknown
	May	Commercial caterer	*Clostridium perfringens*	70	M	Chicken curry
		Commercial caterer	Unknown	7	D	Suspect noodles or garnish
	June	Restaurant	Unknown	4	D	Suspect Nile perch filets
		Restaurant	Unknown	6	D	Suspect oysters
		Private residence	Unknown	21	A	Suspect birthday cake
		Restaurant	Unknown	8	D	Unknown
		Commercial caterer	Unknown	3	D	Suspect potato salad
NT	May	Private residence	*Salmonella* Oslo	2	D	Suspect sticky rice balls with chicken
Qld	April	Takeaway	*Suspected Staphylococcus aureus*	3	D	Sushi roll
		Restaurant	*Salmonella* Singapore	2	D	Chow mein
		Private residence	*Salmonella* Typhimurium 135a	11	D	Unknown
		Commercial caterer	Unknown	6	D	Unknown
	May	Restaurant	Unknown	2	D	Chicken teriyaki sushi roll (nori roll)
	June	Restaurant	Unknown	3	D	Unknown
SA	May	Commercial manufactured food	*Salmonella* Typhimurium 108	23	AM	Ravioli
	June	Restaurant	*Salmonella* Typhimurium 9	6	A	Sweet potato and fetta cheese salad
Vic	May	Primary produce	*Salmonella* Oranienburg	15	M	Alfalfa
		Commercial manufactured food	*Salmonella* Bovismorbificans 11	13	M	Capocollo
		Commercial caterer	Suspected *Clostridium perfringens*	10	D	Unknown
	June	Aged care facility	Suspected *Clostridium perfringens*	5	D	Unknown
WA	June	National franchised fast food restaurant	*Salmonella* Anatum	6	D	Sandwiches/rolls

* No foodborne outbreaks were reported in the Australian Capital Territory or Tasmania during the quarter.

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.