Quarterly reports

OzFoodNet quarterly report, 1 October to 31 December 2010

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 investigations of outbreaks of gastrointestinal illness and clusters of disease potentially related to food, occurring in Australia from 1 October to 31 December 2010.

Data were received from OzFoodNet epidemiologists in all Australian states and territories. The data in this report are provisional and subject to change, as the results of outbreak investigations can take months to finalise.

During the 4th quarter of 2010, OzFoodNet sites reported 346 outbreaks of enteric illness, including those transmitted by contaminated food. Outbreaks of gastroenteritis are often not reported to health agencies or the reports may be delayed, meaning that these figures under-represent the true burden of enteric illness. In total, these outbreaks affected 5,329 people, of whom 153 were hospitalised. There were 20 deaths reported during these outbreaks. The majority of outbreaks (71%, n = 246) were due to person-to-person transmission (Table 1).

Table 1: Mode of transmission for outbreaks and clusters of gastrointestinal illness reported by OzFoodNet, 1 October to 31 December 2010

Transmission mode	Number of outbreaks and clusters	Per cent of total
Foodborne and suspected foodborne	37	11
Person-to-person	246	71
Unknown (*Salmonella* cluster)	9	3
Unknown (Other pathogen cluster)	4	1
Unknown	49	14
Animal-to-person	1	
Total	346	100

Foodborne and suspected foodborne disease outbreaks

There were 37 outbreaks during this quarter where consumption of contaminated food was suspected or confirmed as the primary mode of transmission (Table 2). These outbreaks affected 437 people and resulted in 31 hospitalisations. There were 4 reported deaths during these outbreaks. This compares with 35 outbreaks for the 3rd quarter of 2010[1] and a 5-year mean of 34 outbreaks for the 4th quarter between 2005 and 2009.

Salmonella was the aetiological agent for 12 outbreaks during this quarter, with *S.* Typhimurium the infecting serotype for all 12 outbreaks (Table 2.)

Of the remaining 25 outbreaks, five were due to foodborne toxins, including 2 ciguatera fish poisonings, and 1 outbreak each of *Clostridium perfringens, Bacillus cereus* and *Staphylococcus aureus.* There were 4 outbreaks due to *Campylobacter* infection and two due to norovirus. Fourteen outbreaks were of unknown aetiology.

Seventeen outbreaks (46% of foodborne outbreaks) reported in this quarter were associated with food prepared in restaurants, 5 (14%) outbreaks in aged care facilities, 4 (11%) in other institutions, 4 (11%) in takeaways, and 3 (8%) in private residences. Single outbreaks (3% each) were associated with foods prepared in a range of other or unknown settings.

To investigate these outbreaks, sites conducted 4 cohort studies and collected descriptive case series data for 28 investigations. In 5 outbreaks, no individual case data were collected. As evidence for the implicated food vehicle, investigators collected microbiological evidence in 2 outbreaks and analytical epidemiological evidence in 2 outbreaks, and both descriptive and analytical evidence for 2 outbreaks. Descriptive evidence only was obtained in 31 outbreaks.

The following jurisdictional summaries describe key outbreaks and public health actions that occurred in this quarter.

Australian Capital Territory

There was 1 reported outbreak of foodborne or suspected foodborne disease reported during the quarter.

Public health staff identified a link between cases and a local takeaway salad bar after investigating a higher than expected number of *Salmonella* infections, including hospitalised cases. Investigators identified 47 outbreak cases, 41 of which were laboratory confirmed cases of *S.* Typhimurium phage type 170 infection (multi-locus variable number of tandem repeat analysis [MLVA] 3-9-7-13-523 or MLVA 3-9-7-14-523). Cases reported eating a variety of salads purchased from the salad bar, including tandoori chicken, chicken and avocado, chicken pesto, roast pumpkin fetta and baby spinach, green beans and asparagus, and Caesar and Greek salads. *Salmonella* was isolated from 2 food samples; a chicken pesto salad and a Greek salad. Environmental swabs yielded *Klebsiella oxytoca* and *Enterobacter cloacae* and an environmental health inspection identified issues including inadequate cleaning and disinfection, and ready-to-eat foods being held at inappropriate temperatures. Cross contamination of ready-to-eat foods from an unknown source was the suspected cause.

New South Wales

There were 12 reported outbreaks of foodborne or suspected foodborne illness during the quarter.

The NSW Department of Health (NSW Health) identified an outbreak of *S.* Typhimurium MLVA 3-9-7-13-523 following the investigation of a cluster of infections with this subtype in the Parramatta area. Nine people reported eating at the same bakery, seven of whom ate Vietnamese pork rolls. A further 6 probable outbreak cases, who had also eaten Vietnamese pork rolls from the premises, were identified amongst family members and friends of 2 confirmed cases. All food and environmental samples taken by the New South Wales Food Authority (NSWFA) were negative for *Salmonella,* except a drag swab of a dry food bin that was positive for *S.* Typhimurium MLVA 3-9-7-13-523, but staff were observed to have undertaken some cleaning and disinfecting prior to sampling. An improvement notice was issued in regard to observed hygiene issues. No further *S.* Typhimurium MLVA type 3-9-7-13-523 infections were identified in the Parramatta area after the investigation.

Two of four people became ill with nausea, diarrhoea and vomiting 24 hours after eating salmon patties, salad and vegetables at a sports club bistro, and 1 person was hospitalised for 6 days. Blood cultures confirmed both cases as having *S.* Typhimurium MLVA 3-9-8-13-523 infection. The NSWFA identified minor hygiene issues and issued an improvement notice. The salmon patties were prepared 2–3 times per week with egg used to bind the pattie mixture, held in a cool room, and then deep-fried for about 3–4 minutes prior to serving. No leftover patties were available for testing.

Two cases with *S.* Typhimurium MLVA 3-14-8-14-523 infection were found to have attended the same 2-day conference in a hotel. About 37 people attended the 1st day and 25 attended the 2nd day of the conference. Active case-finding identified a further 2 people who had gastroenteritis-like symptoms but did not see a doctor, and there were reports of 3 others who were not interviewed. Interviewed cases (4/7) reported eating the lunch provided on both days, which included egg, chicken and salad sandwiches. The NSWFA and the local council environmental health officer found no issues during the inspection of the kitchen. No food samples were available and no environmental samples were taken.

Eight people became ill after eating foods from the same bakery. All members of a group of 4 people reported abdominal cramps, diarrhoea, nausea and vomiting 36 hours after eating Vietnamese pork rolls. The NSWFA was subsequently notified of illness amongst 2 other families after eating at the same bakery. No clinical samples were taken. The NSWFA collected food and environmental samples, which were all positive for *S.* Typhimurium phage type 170/108. A prohibition order was issued based on these results and the premises remains closed until it passes a further inspection and a warning letter was issued to the proprietors about the unsafe use of raw egg products.

All 6 people from one group developed abdominal cramps, diarrhoea, nausea, vomiting and headache 12 hours after consuming a range of takeaway dishes from a Thai restaurant. This was the only common meal amongst the group and the dishes were not shared. Investigators were unable to determine the likely source of the reported illness and there was no evidence of any particular food storage or handling practice that could have contributed to the illness. The cause of the outbreak remains unknown.

A group of 3 friends all developed vomiting, nausea and diarrhoea 7½–13 hours after eating at a Thai restaurant. The group had shared several meals together at different restaurants on the same weekend. A NSWFA inspection found the Thai restaurant to be visually clean. No common pathogens were detected in samples of food taken from the restaurant or from leftovers held by the complain-

ant. An improvement notice was issued for some defects in kitchen practices, including temperature abuse. The aetiology remains unknown.

All 5 members of a group became ill with nausea, abdominal cramps, vomiting and diarrhoea 12 hours after eating at a pizza restaurant. The group was a mix of work mates and friends and this was the only meal they shared. No stool samples were provided and the aetiology remains unknown.

All members of a group of 3 people developed vomiting, fever, abdominal cramps and diarrhoea 4 hours after eating lunch at a Japanese restaurant. None of the cases sought medical advice and no stool samples were collected. The aetiology of the outbreak remains unknown. Records of previous council inspections showed only low level risks, and the NSWFA requested that the council bring forward their next inspection.

Five people from a group of 10 developed diarrhoea, fever, abdominal cramps and vomiting after eating a range of seafood and desserts at a seafood restaurant. An improvement notice was issued to address some hygiene issues but no food or environmental samples were obtained. The aetiology of the outbreak remains unknown.

The first of 2 outbreaks associated with one commercial food premises occurred at a wedding held in late October. A retrospective cohort study was conducted involving all people who had attended the wedding and reception (n = 113). Twenty-eight people (25%) were interviewed or completed an online questionnaire, with 5 people fitting the outbreak case definition. No specimens were collected. No exposures were found to have a significant association with illness, but risk ratios for a lamb dish and a chicken Kiev dish could not be calculated as all cases had consumed both dishes. The NSWFA conducted an environmental investigation of the premises following the outbreak and guest complaints that undercooked chicken was served, and made minor recommendations about kitchen practices and equipment. The aetiology of the outbreak remains unknown.

The 2nd outbreak associated with the same premises as reported above was investigated in December. Six people reported symptoms of gastroenteritis following a school formal attended by 150 people. No specimens were collected and no formal epidemiological investigation was conducted, but of the 5 cases interviewed, all had consumed a chicken Kiev dish. A NSWFA decision on whether to take further action against the implicated premises is pending.

Five of 25 residents of a single unit in a care facility for people with disabilities became unwell with diarrhoeal illness, with onset times of illness clustered over a short time period. Onset times and symptom profiles were suggestive of illness due to *C. perfringens*, but no stool specimens were collected and the aetiology remains unknown. Meals were prepared off-site but plated and heated within each unit of the care facility and it is suspected factors contributing to bacterial growth occurred in the kitchen of the unit associated with the outbreak.

Northern Territory

There were 3 reported outbreaks of foodborne or suspected foodborne illness during this quarter.

An outbreak of gastrointestinal illness was investigated amongst 13 detainees in a detention centre. Investigations were hampered by a lack of access to the facility, no direct contact or communication with the cases and needing to communicate through an interpreter. The detention centre had health professionals on staff and food histories were obtained only from cases. The short duration of illness and symptom profile were suggestive of a foodborne toxin. An inspection of food preparation facilities and practices revealed that rice was prepared, stored and reheated for use on the following day. Kitchen staff were advised to cook in smaller batches for each meal (e.g. lunch and dinner) and not to re-use leftover rice. No stool specimens or food samples were collected and the aetiological agent and food vehicle remains unknown.

An outbreak of gastrointestinal illness was investigated amongst 12 colleagues following a work luncheon. Investigations revealed that the foods for the luncheon were a mix of home-prepared meals from the participants and some from commercial premises. A cohort study revealed that there had been an index case that was sick prior to the function. Norovirus was detected in 2 of 3 stool samples. No specific food vehicle could be identified, and cross contamination of a range of items served at the luncheon was thought possible.

An outbreak of gastrointestinal illness was reported amongst 45 of 60 people following a wedding reception. Investigations were difficult due to the remote location of the premises, reluctance of cases to participate and provide information (only 7 people could be interviewed) and lack of co-operation from management of the premises. An inspection of the premises was conducted and numerous issues relating to general maintenance (including unsealed floors, poor condition of shelving) and a lack of hand washing facilities in the kitchen were identified. No stool samples were submitted and no food samples obtained. No particular vehicle could be identified, but a viral agent was suspected to be responsible for this outbreak.

Queensland

There were 7 reported outbreaks of foodborne or suspected foodborne illness during this quarter.

Four cases of suspected ciguatera fish poisoning were reported following the consumption of a passionfruit trout in November that was privately caught from Lodestone Reef located off the coast of Townsville. Illness was reported between 8 and 22 hours after consuming the fish with symptoms including numbness or tingling of skin, diarrhoea and reversed temperature sensation.

Two separate cases of suspected ciguatera fish poisoning were notified on consecutive days. The first was an 18-year-old female and the second a 22-year-old male. Both cases reported the consumption of Mangrove Jack fish that had been purchased from the same local seafood retailer. Symptoms reported included reversed temperature sensation, vomiting, diarrhoea as well as numbness and tingling of extremities between 2.5 and 6 hours after consuming the fish. The source of the fish to the retailer could not be determined.

An outbreak of *S. aureus* was reported among 3 adults and 3 children who had consumed milkshakes or thick shakes made using soft serve ice cream from the same food outlet on a single day in December. All 6 cases presented to the same emergency department and 1 person required overnight hospitalisation. An environmental health inspection identified that a soft serve ice cream machine had malfunctioned over the weekend prior to the outbreak. It subsequently failed to undergo its automatic heat sterilisation process and there had been inadequate cleaning and disinfection of the internal parts of the machine after it was repaired. Heavy growth of *S. aureus* was detected in 1 sample of vomitus and 4 stool samples. *Staphylococcus* enterotoxin was detected in the vomitus sample only. *S. aureus* (10^2–10^3 org/g) and *Staphylococcus* enterotoxin were detected in soft serve ice cream samples taken from the machine. The organism was also detected in a mixing bucket that was used for preparing the ice cream prior to being added into the machine and this was considered to have been the likely source of the contamination.

An outbreak of gastrointestinal illness was reported amongst 17 inmates at a correctional centre in October. One case was hospitalised. Symptoms included diarrhoea, abdominal cramps, vomiting and fever. *C. jejuni* was detected in 8 faecal specimens. No food vehicle or source of infection was identified.

An outbreak of *C. jejuni* was investigated among residents and staff of an aged care facility in November, with 23 cases over a 6-day period. Four cases were laboratory confirmed. One elderly case was hospitalised due to severe dehydration and subsequently died. No leftover food was available for testing and no source of infection was identified.

Four cases of *S.* Typhimurium MLVA 1-13-3-21-3 infection amongst 4 children aged between 2 and 9 years from 2 related families were investigated in December. Cases had consumed home-prepared banana flavoured milkshakes made using raw egg on during a visit to a relative and became ill the following day. Two cases were subsequently hospitalised overnight. No samples were available for testing and the source of the eggs could not be determined.

Nine cases of gastrointestinal illness were reported among several guests who had attended a dinner function for 400 people held at a restaurant in October. Cases were aged between 38 and 73 years with symptoms of diarrhoea, vomiting and abdominal cramps. Onset of symptoms were between 4 and 12 hours (median 8 hours) after consuming a smorgasbord meal. One stool specimen was collected during the investigation but no pathogens were detected and no food samples were available for testing. An environmental investigation suggested that the number of people attending the dinner had exceeded expectations and capacity and that temperature abuse of food may have occurred. No source of illness was identified.

South Australia

There was 1 reported outbreak of foodborne or suspected foodborne illness during this quarter.

An outbreak of norovirus was investigated amongst people who ate lunch at a restaurant in early December, with 1 confirmed case and a further 18 probable cases. Illness was characterised by vomiting and diarrhoea with a rapid onset and lasting 24–48 hours. Three cases required hospitalisation. An environmental health officer inspected the premises and found that one of the food handlers was symptomatic while preparing the lunch. An education session on food hygiene was conducted at the establishment.

Tasmania

There were 2 reported outbreaks of foodborne or suspected foodborne illness during this quarter.

An outbreak of *S.* Typhimurium 170 was linked to the consumption of restaurant prepared ice cream containing raw eggs. In initial interviews, 38 of 70 people reported symptoms, of which 19 cases were confirmed. At least 2 people were hospitalised. Approximately 400 diners ate at the restaurant over

the 5-day period when the contaminated product was served, and many consumed ice cream. A sample of the ice cream tested positive for *S.* Typhimurium 170. The restaurant sourced eggs from several suppliers during the period of interest and detailed trace back was not possible.

A cluster of short-lived illnesses was reported by 6 of 25 people after an evening function at a restaurant. No stool samples were collected to identify the pathogen and an inspection of the food premises found no obvious flaws.

Victoria

There were 10 reported outbreaks of foodborne or suspected foodborne illness during this quarter.

An outbreak of diarrhoea affecting residents of an aged care facility was notified to the Communicable Disease Prevention and Control Unit (CDPCU) in October. Onsets for cases ranged over 19 days and the outbreak affected 19 residents, which included 9 residents who were counted twice as they experienced a second episode of diarrhoea a median of 5 days after the first episode. Eight faecal specimens were collected and three were positive for *C. perfringens* enterotoxin. Investigators were unable to identify a particular food source for this outbreak.

An outbreak of *S.* Typhimurium 9 was detected through routine surveillance in October. Initially, investigations showed that 4 cases were associated with the same café in the southern suburbs of Melbourne. All cases had eaten a meal of eggs Benedict for breakfast on the same morning in September 2010. Active case finding identified an additional 6 cases (3 confirmed *S.* Typhimurium 9) who had also eaten eggs Benedict at the café on the same morning. Eggs sampled from the restaurant were negative for *Salmonella* and no *Salmonella* was detected in any of the environmental or egg samples taken during the investigation of the egg farm that was found through trace back to have supplied the eggs. Despite negative results, this outbreak was almost certainly caused by the use of raw eggs in a minimally cooked food (Hollandaise sauce). The department recommends the use of pasteurised eggs in foods that will be eaten uncooked (e.g. aioli, mayonnaise) or minimally cooked.

Active case finding amongst cases of *S.* Typhimurium 9 was conducted in October to determine if they were associated with the point source outbreak at the café mentioned above. Two cases were subsequently linked to a Vietnamese restaurant. Cases ate at the restaurant on consecutive days with their onsets 1 day apart, and both cases had eaten the same dish – 'broken rice'. The premises received eggs through the same distributor as the café in outbreak above.

Through active case finding in October, a second cluster of 4 cases of *S.* Typhimurium 9 was linked to another Asian restaurant in the same geographical area as the Vietnamese restaurant reported above. Three cases ate on the same day with the 4th case unsure of the exact date, however, onsets of illness were all within 5 days of each other. Cases ate a variety of foods indicating there may have been sporadic contamination of several foods.

An outbreak of diarrhoea affecting 10 residents of an aged care facility was notified to the CDPCU in October. Onsets ranged over a 12-day period, with the majority clustered over a 3-day period. One of 4 faecal specimens collected was positive for *C. perfringens* enterotoxin. Investigation revealed inadequate temperature recording and temporary staffing at the time of the outbreak. A food source could not be identified in this outbreak.

In October, the CDPCU was notified of an outbreak of gastroenteritis amongst a group of people who attended a work function at a hotel restaurant. Of 92 attendees, 47 were interviewed and 24 reported illness consisting of diarrhoea (96%) and abdominal pain (88%). Only 13% reported vomiting. The median incubation period was 11.5 hours and 2 faecal specimens were culture positive for *B. cereus*. A cohort study revealed associations between several foods and illness, with beef curry (relative risk [RR] 4.0; 95% confidence interval [CI] 1.6–9.8) and steamed rice (RR 3.0; 95% CI 1.4–6.7) most strongly associated with illness, accounting for 83% and 79% of cases respectively. Rice is often associated with *B. cereus* food poisoning however, identification of the rice as the likely source is likely to have been confounded by the beef curry. No deficiencies in food preparation for the implicated dishes were identified on investigation.

An outbreak of diarrhoea, affecting 10 residents and 1 staff member of an aged care facility, was notified to the CDPCU in late October. Onsets ranged over a 4-day period and *C. perfringens* enterotoxin was detected in 2 faecal specimens. A source for the outbreak could not be determined.

In November, the local council notified the CDPCU of an outbreak of gastroenteritis amongst a group of 12 people who had eaten together at a restaurant. Three members of the group reported symptoms of predominantly diarrhoea and abdominal pain, with a median duration of 5 days. Two cases reported blood in their stools and stool specimens for both cases were culture positive for *C. jejuni*. The restaurant was unlikely to have been the source of illness

due to the short period of time between meals at the restaurant and onset (7 hours). The cases worked together and the 2 confirmed cases had shared other food together during their incubation period and it was suspected that there was another unidentified source for their illness.

An outbreak of gastroenteritis amongst residents of an aged care facility was notified to the CDPCU in early December. Eighteen residents became ill with onsets over a 6-day period and six were subsequently confirmed with *S.* Typhimurium 170. Although illness appeared to be mild in the majority of residents (median duration of 2 days), 3 residents died during the outbreak period. The source of this outbreak could not be determined.

In December, the CDPCU was notified of an outbreak of diarrhoea affecting 5 of 6 residents of a Supported Services Accommodation. Two faecal specimens were collected and both were culture positive for *C. jejuni*. Investigations founds that chicken meals were served on the 2 consecutive days prior to the onset of illness in the index case and undercooking or cross-contamination of chicken were considered possible causes of this outbreak. Council provided advice and education to the food handlers at the facility regarding food preparation, cleaning and sanitising of food surfaces and equipment and personal hygiene.

Western Australia

There was 1 reported outbreak of foodborne or suspected foodborne illness during this quarter.

In December, 10 cases of gastroenteritis were associated with a café, with six confirmed as *S.* Typhimurium pulsed-field gel electrophoresis (PFGE) type 0011 infections. One case was a chef at the café who became ill 2 days prior to the earliest onsets amongst patrons, but did not work at the café after becoming ill. Exposures amongst patrons were spread across a 5-day period, with 3 cases becoming ill the day after eating eggs Benedict and 1 case becoming ill the day after eating a roast beef sandwich. The remaining 5 cases ate a buffet lunch supplied by the café, with foods including beetroot dip, Turkish bread, roast vegetable salad and potato salad. The café occasionally purchased eggs from a store supplied by a single producer who was implicated in a number of egg-associated outbreaks of *S.* Typhimurium PFGE type 0011 in the State in 2009 and 2010. However, there was no conclusive evidence that the café used this brand at the time of the outbreak. Swabs and samples from the café were negative for *Salmonella* and the source and mechanism of contamination leading to this outbreak could not be determined.

Multi-jurisdictional outbreak investigations

No multi-jurisdictional outbreaks were investigated during the quarter.

Cluster investigations

During the 4th quarter of 2010, OzFoodNet sites investigated a number of clusters with five due to *S.* Typhimurium, three due to other *Salmonella* serotypes, three due to *Campylobacter* and one cluster of hepatitis A.

A multi-jurisdictional cluster of the unusual serotype *S.* Seftenberg was investigated amongst travellers who had returned from Dubai in September and October. Follow-up of cases was initially prompted by a consumer level recall of a brand of tahini that was imported from Egypt. The recall was conducted in October in Victoria and was due to contamination with *S.* Seftenberg. The cluster included 4 confirmed cases (2 from Queensland and 2 from Victoria) and 2 additional cases of gastrointestinal illness amongst travellers who participated in four-wheel drive safaris. A number of cases reported eating foods at a 'desert banquet' whilst on the safaris, where a range of typical Middle Eastern dishes were served. Australia informed Dubai about the cases under the *International Health Regulations* (2005) via a national focal point, to enable any local investigation and follow-up with the tour company.

Comments

The number of foodborne outbreaks reported during the quarter (n = 37) was similar to the average number during the same quarter over the past 5 years (n = 34) and similar to the number reported during the previous quarter (n = 35).[1]

Egg-associated outbreaks of foodborne illness, particularly in food service settings, but also in private homes, are of continuing concern this quarter. In 8% (3/37) of foodborne outbreaks, eggs were confirmed as being the source of infection and in another 14% (5/37) of outbreaks, eggs or foods commonly known to contain raw egg (such as Vietnamese pork rolls) were the suspected source. The food service sector should be actively encouraged to use pasteurised eggs in any dish that contains raw or lightly cooked eggs (such as Hollandaise sauce). The outbreak of salmonellosis associated with banana milkshakes containing raw egg in Queensland highlights the risks of preparing and serving such foods in the home, particularly for children.

Four outbreaks (2 from Victoria and 2 from Queensland) and 3 clusters (2 in South Australia and 1 in New South Wales) of *Campylobacter* were

investigated during the quarter. This increase in investigations coincided with increased notifications of *Campylobacter* in Victoria, with 2,218 cases notified during the 4th quarter compared with 1,660 notifications received during the same period last year and a 39% increase on the 5-year mean for this quarter (1,351 notifications). Lesser increases in the number of notifications for the quarter were reported in all other states and territories except the Northern Territory, and in New South Wales, where *Campylobacter* infection is not notifiable.

Increased notifications of *Salmonella* infection continued nationally during the quarter, with a 29% increase during the 4th quarter of 2010 (2,904) compared with the 5-year mean for the same quarter (2,252). OzFoodNet is investigating this increase. The proportion of *S.* Typhimurium that can be phage typed in a timely way has decreased in recent years in some jurisdictions. While jurisdictions have adopted other subtyping methods for outbreak and cluster detection, which work extremely well locally (e.g. PFGE in Western Australia and MLVA in Queensland and New South Wales), results cannot be easily compared across jurisdictions and this decreases the ability to detect multi-jurisdictional outbreaks of *S.* Typhimurium in a timely fashion.

In December 2010, OzFoodNet conducted a structured audit of the May 2010 multi-jurisdictional investigation into an outbreak of listeriosis associated with melons. Outcomes of the debrief included that OzFoodNet was to engage with the incident response working group of the National Food Incident Response Protocol (NFIRP), which details the response to national food incidents by agencies responsible for food safety. Through this group, OzFoodNet will help to refine and clarify the weight of evidence required to activate or escalate NFIRP. In addition, it was noted that the National Surveillance Plan for human cases of *Listeria monocytogenes* infection, which commenced in January 2010, may have facilitated earlier detection of the outbreak. It was recommended that the surveillance plan be formally evaluated at the end of 2 years of surveillance (December 2011). Structured audits continue to be a vital part of identifying and resolving issues that may have arisen during outbreak investigation, and provide a useful way of refining protocols and practices for future investigations.

A limitation of the outbreak data provided by OzFoodNet sites for this report was the potential for variation in categorisation of the features of outbreaks depending on investigator interpretation and circumstances. OzFoodNet continues to standardise and improve practices through its Outbreak Register Working Group and workshops. The National Surveillance Committee, OzFoodNet and the Public Health Laboratory Network continue to work toward harmonisation of *Salmonella* typing practices between jurisdictions, which will aid the identification of outbreaks. Changes in the incidence of foodborne outbreaks should be interpreted with caution due to the small numbers each quarter.

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References

1. OzFoodNet Working Group. OzFoodNet Quarterly Report, 1 July to 330 September 2010. *Commun Dis Intell* 2010;34(4):450–458.

Table 2: Outbreaks of foodborne disease reported by OzFoodNet sites, 1 October to 31 December 2010 (n = 37)

State	Month of outbreak	Setting prepared	Agent responsible	Number affected	Hospitalised	Evidence	Responsible vehicle
ACT	October	Takeaway	*Salmonella* Typhimurium phage type 170	47	5	M	Chicken pesto salad, Greek salad
NSW	October	Takeaway	*Salmonella* Typhimurium 170	15	3	A	Suspected Vietnamese pork rolls
	October	Restaurant	Unknown	5	0	D	Unknown
	October	Takeaway	Unknown	6	0	D	Unknown
	November	Restaurant	*Salmonella* Typhimurium	2	1	D	Suspected salmon patties made with egg
	November	Commercial caterer	*Salmonella* Typhimurium	7	2	D	Unknown
	November	Restaurant	Unknown	6	0	D	Unknown
	November	Restaurant	Unknown	3	0	D	Unknown
	December	Takeaway	Suspected *Salmonella* Typhimurium	8	Unknown	AM	Suspected Vietnamese pork rolls
	December	Institution - other	Unknown	5	0	D	Unknown
	December	Restaurant	Unknown	5	0	D	Unknown
	December	Restaurant	Unknown	3	0	D	Unknown
	December	Restaurant	Unknown	5	0	D	Unknown
NT	September	Institution – other	Unknown	13	0	D	Unknown
	November	Private residence	Norovirus	9	0	D	Unknown
	November	Restaurant	Unknown	45	0	D	Unknown
Qld	October	Institution – other	*Campylobacter jejuni*	17	1	D	Unknown
	October	Restaurant	Unknown	9	0	D	Unknown
	November	Primary produce	Ciguatera fish poisoning	4	0	D	Passionfruit trout
	November	Aged care	*Campylobacter jejuni*	23	1	D	Unknown
	December	Private residence	*Salmonella* Typhimurium	4	2	D	Banana milkshake containing raw egg
	December	Private residence	Ciguatera fish poisoning	2	0	D	Mangrove Jack fish
	December	National franchised fast food	*Staphylococcus aureus*	6	1	M	Milkshake
SA	December	Restaurant	Norovirus	19	3	D	Unknown
Tas	December	Restaurant	*Salmonella* Typhimurium 170	38	2	AM	Homemade ice cream containing raw egg
	December	Restaurant	Unknown	6	Unknown	D	Unknown

Table 2 *continued*: Outbreaks of foodborne disease reported by OzFoodNet sites, 1 October to 31 December 2010 (n = 37)

State	Month of outbreak	Setting prepared	Agent responsible	Number affected	Hospitalised	Evidence	Responsible vehicle
Vic	October	Restaurant	*Bacillus cereus*	24	0	A	Beef curry and rice
	October	Restaurant	*Salmonella* Typhimurium 9	2	2	D	Broken rice
	October	Restaurant	*Salmonella* Typhimurium 9	10	1	D	Hollandaise sauce
	October	Aged care	*Clostridium perfringens*	28	0	D	Unknown
	October	Aged care	Unknown	11	0	D	Unknown
	October	Aged care	Unknown	10	0	D	Unknown
	October	Restaurant	*Salmonella* Typhimurium 9	4	2	D	Various dishes
	November	Unknown	*Campylobacter jejuni*	3	0	D	Unknown
	December	Institution – other	*Campylobacter jejuni*	5	0	D	Chicken meal
	December	Aged care	*Salmonella* Typhimurium 170	18	3	D	Unknown
WA	December	Restaurant	*Salmonella* Typhimurium 170	10	2	D	Unknown

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

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

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

Erratum

The OzFoodNet quarterly report, 1 July to 30 September 2010, published in the last issue of CDI, contained an error in Table 2. The table incorrectly stated that 36 persons were hospitalised due to a foodborne disease outbreak. The number hospitalised was actually unknown. The correct portion of the table is republished below.

Table 2: Outbreaks of foodborne disease reported, 1 July to 30 September 2010 (n = 34), by OzFoodNet sites

State or territory	Month of outbreak	Setting prepared	Agent responsible	Number affected	Hospitalised	Evidence	Responsible vehicles
Tas	July	Aged care facility	Norovirus	76	Unknown	A	Suspected pork sausage and gravy meal