

# **OzFoodNet—Enhancing Foodborne Disease Surveillance Across Australia.**

## **4th Quarter Summary, 2010 NSW/Hunter New England OFN sites combined**

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## Overview of Quarter

In NSW, foodborne outbreaks are identified via a range of mechanisms, including reports from the public to public health units, general practitioners, emergency departments, analysis of surveillance data, and reports to the NSW Food Authority's (NSWFA) Consumer Complaints Line. Reports to the NSWFA result in a number of outbreaks affecting small numbers of people being referred to public health units (PHUs). These outbreaks usually require limited epidemiological investigation and often the aetiology cannot be determined.

## Incidence of Foodborne Disease

Salmonellosis notifications increased in the fourth quarter by 42% when compared to the previous five-year average for the same quarter, with 871 notifications compared with an average of 612 notifications.

There was a 15% increase in *Giardia* notifications (449 cases) when compared to the five-year average of 392 notifications for the same quarter. Cryptosporidiosis notifications decreased by 60% when compared to the fourth quarter five-year average, with 73 notifications compared with an average of 183 notifications.

Shigellosis notifications also increased during this quarter with 33 cases reported, compared with 24 cases for the five-year average for the same quarter. Thirteen notifications (39%) were typed as *Shigella sonnei* biotype G. Twelve cases were noted as having travelled overseas during their incubation period, sixteen acquired their infection in Australia, and for five cases the place of acquisition was unknown.

There was a slight decrease in notifications of hepatitis A for the quarter when compared to the previous five year average for the same quarter (17 notifications compared to 19 notifications). Nine (53%) of the people notified with hepatitis A infections acquired their infection overseas and one was acquired in Queensland. One of the overseas acquired cases is thought to be the source case for four of the locally acquired cases.

One case of Shiga-toxin producing *E. coli* (STEC) infection was notified during the third quarter, which was a decrease over the five-year average of 9 cases for the same

quarter. There was no cases of haemolytic uraemic syndrome (HUS) notified, which is less than the five-year average of 5 cases for the same quarter.

There were 7 notifications of listeriosis in the fourth quarter of 2010. The five-year average for listeriosis notifications for the same quarter was 5 cases.

Typhoid notifications for the fourth quarter of 2010 were 47% lower than the five-year mean for the same quarter (5 vs. 9 cases).

During the fourth quarter of 2010, the public health units in NSW and OzFoodNet investigated 12 foodborne or suspected foodborne outbreaks. In addition, 87 outbreaks with likely person to person transmission in institutions (85) and non-institutional settings were investigated.

## Foodborne Disease Outbreaks

Of the 12 foodborne or suspected foodborne outbreaks reported or identified through complaints from members of the public or routine surveillance of *Salmonella* data in this quarter, four were due to *Salmonella* Typhimurium (STm) and the others were unknown pathogens.

***Salmonella* Typhimurium<sup>1</sup> (MLVA: 3-9-7-13-523) outbreak associated with a bakery**  
NSW Health were notified of a cluster of 14 *Salmonella* Typhimurium MLVA type 3-9-7-13-523 in the Parramatta area. Twelve of the 14 cases were interviewed and 9 reported eating at the same bakery. 7/9 ate pork rolls, and 2/9 ate something else. In addition, 6 clinical cases (family members and friends of 2 confirmed cases) were identified who had also eaten pork rolls from the premises. A total of 15 cases were identified for this outbreak, 9 from the original cluster and a further 6 through interviews with the first 9 cases. The NSWFA visited on 25 October 2010 and took samples of all roll ingredients and environmental swabs (surfaces, utensils, containers, handles and bowels), though staff were seen disinfecting the area in question. All food samples were negative for *Salmonella*, only a swab of a dry food bin was positive for STm (3-9-7-13-523). An improvement notice was issued in regard to numerous maintenance and cleaning issues. No further STm (MLVA type 3-9-7-13-523) infections were subsequently reported locally, suggesting the source of the infection had been controlled effectively. (WS26242)

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<sup>1</sup> At the time of completion of the report, the phage types for these isolates collected as part of investigation had not been received.

***Salmonella* Typhimurium<sup>1</sup> (MLVA: 3-9-8-13-523) outbreak associated with a bistro**

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. Both ill people had the same meal and symptom onset 24 hours after eating. One person was hospitalised for 6 days and blood cultures confirmed STm (MLVA 3-9-8-13-523) in that case. The NSWFA inspected and found some minor hygiene issues (unclean equipment and inadequate hand washing facilities) which are the subject of an Improvement Notice. The salmon patties were prepared 2-3 times per week, held in a cool room, and then deep-fried for about 3-4 minutes prior to serving. Egg is used to hold the pattie mixture together so there is the possibility that on the day in question those consumed by the cases may not have received adequate cooking throughout. There were no leftover or unused patties available for testing. The results of samples of eggs, and environmental swabs at the premises were negative. (SESI26683)

***Salmonella* Typhimurium<sup>1</sup> (MLVA: 3-14-8-14-523) outbreak associated with a convention**

The public health unit (PHU) identified 2 cases of STm who had attended the same two-day conference in a hotel. About 37 people attended the first day of the conference and 25 attended the second day. Active case-finding identified 2 other people who had gastro-like symptoms but did not see a doctor and reports of 3 others who were not interviewed. All cases reported eating the provided lunch on both days. The lunches included sandwiches (egg, chicken, salad). The NSWFA liaised with the local council environmental health officer and no issues were found during the inspection but no food samples were available and no environmental samples were taken. (GS0016)

***Salmonella* Typhimurium<sup>1</sup> (MLVA: 3-9-7-13-523) outbreak associated with a bakery**

Four from 4 people became ill with abdominal cramps, diarrhoea, nausea and vomiting 36 hours after eating pork rolls from a bakery. The NSWFA was then received complaints from two other families who reported illness after eating at the same bakery, totalling 8 cases in all. No clinical samples were taken. The NSWFA attended the premises on that day and collected food and environmental samples which were all positive for STm (MLVA 3-9-7-13-523, phage type 170). A prohibition order was issued based on these results and the premises remained closed until it passed a further inspection. The premises was issued with a warning letter about the unsafe use of raw egg products. (SSW26772)

For the other 8 suspected foodborne outbreaks, the cause could not be established.  
In summary:

A complaint of suspected food poisoning registered with the NSWFA about a group of six people who developed abdominal cramps, diarrhoea, nausea, vomiting and headache 12 hours after eating Thai takeaway dishes from a Thai restaurant. The meals that were eaten were: cashew nut stir fry (one beef, one chicken), chicken pad thai and hokkien noodles with chicken. This was the only common meal eaten together and the purchased foods were not shared and they did not have rice. All had symptoms of diarrhoea for duration of 6-8hrs and none sought medical attention. The NSWFA visited the premises and all sample results were negative. The investigation was not able to determine the likely source of the reported illness and was unable to find any evidence that any particular food storage or handling practice had been responsible or could feasibly have contributed to the illness. (SESI0067)

A complaint of suspected food poisoning registered with the NSWFA about a group of three people who developed vomiting, nausea and diarrhoea 7.5-13 hours after eating at a Thai restaurant. The group were 3 friends: 2 live together and 1 was visiting from interstate. The group had several meals together at different restaurants that weekend. The NSWFA investigated the Thai restaurant as the incubation time from that meal fitted most closely with an illness being caused by bacterial pathogens. The restaurant was found to be clean. Samples were taken of cooked rice and peanut sauce from the restaurant and from leftovers held by the complainant but all samples were negative for *Clostridium perfringens*, *Bacillus cereus* and *Salmonella*. There were food holding temperature that had the potential to allow the growth of *Bacillus cereus* and *Clostridium perfringens*. These have now been corrected following the NSWFA improvement notices. (SESI26415)

A complaint of suspected food poisoning registered with the NSWFA about a group of five people who became ill with nausea, abdominal cramps, vomiting and diarrhoea 12 hours after eating pizzas at a pizza restaurant. The group were a mix of work mates and friends and this was the only meal they shared. Symptoms lasted on average 36 hours and no stool samples were taken. The NSWFA liaised with the local council who conducted an inspection. The history of inspections were all satisfactory and this time the only issue found was lack of hot water for the hand wash basin requiring an Improvement Notice. (SESI26630)

A complaint of suspected food poisoning registered with the NSWFA about a group of three people who developed vomiting, fever, abdominal cramps and diarrhoea 4 hours after eating lunch at a Japanese restaurant. None of the 3 saw a doctor or had a specimen taken. The NSWFA retrieved local council inspection records on the location and reported only low level risks. The NSWFA requested that the council bring forward their next inspection and to examine the restaurant's food handling standards. (SESI26628)

A complaint of suspected food poisoning registered with the NSWFA about five from a group of 10 people who developed diarrhoea, fever, abdominal cramps and vomiting 3-5 hours after eating at a seafood restaurant. Symptoms lasted for 24 hours. The foods consumed were; oysters, haloumi, lobster, prawns, fish, crab, scallops, Balmain bugs, octopus, chips, herb bread, garlic bread, ice cream, mousse cake, fruit, crème brule, soufflé, Greek salad, custard and sticky date pudding. The NSWFA inspected and an improvement notice was issued to address some hygiene issues. No samples were obtained and there no other evidence available to confirm the link to the complaint. (SSW26708)

The local Public Health Unit investigated two outbreaks that were associated with the same commercial food premises in November and December 2010. The first outbreak was associated with a wedding held in late October. A retrospective cohort study, involving all people who had attended the wedding ceremony and reception on the 30 October 2010 (n=113) was conducted. Twenty eight people (25%) were interviewed or completed an online questionnaire, with 5 people fitting the case definition established for the outbreak. Symptoms of illness included abdominal pain, diarrhoea, nausea, and vomiting, lasting between 15-48 hours. No specimens were collected. In a univariate analysis, the strength of association between the risk of becoming ill and 23 exposures were calculated, with none of the exposures found to have a significant association with illness. A risk ratio could not be calculated for a lamb dish (entrée) and a chicken kiev dish (main) as all cases consumed both dishes. The NSWFA, in response to the outbreak and wedding guest's complaints of undercooked chicken being served at function, conducted an environmental investigation of the premises. Recommendations were made in relation to sanitising of food contact surfaces and the type of thermometer required for temperature checks. (HUN 0432)

A second outbreak associated with the same premises was investigated in December. One hundred and fifty one people attended a school formal in late November, with 6 people reporting symptoms of diarrhoea and vomiting after attending the function. No specimens were collected. A formal epidemiological investigation was not conducted due to the time delay from the event to the report of illness as well as the completion of the school year. Of the five cases interviewed, all had consumed a chicken kiev dish. The food premises was informed of the second outbreak by the NSW Food Authority. (HUN0433)

Five of 25 residents of a single unit in a care facility for people with disabilities became unwell with a diarrhoeal illness, with onset times of illness clustered over a short time period. The clustering of illness onset in time and the symptom profile are suggestive of illness due to *Clostridium perfringens*, however no specimens were collected. Given meals are prepared off-site but plated and heated within each unit of the care facility, it is suspected factors contributing to bacterial growth occurred in the kitchen of the unit associated with the outbreak. The NSWFA were informed of the outbreak, and have reviewed food handling practices around cooling and reheating foods as part of the routine audit of the facility. (HUN0434)

## Cluster Investigations

Since 2008, ICPMR routinely uses MLVA to type *Salmonella* Typhimurium to improve surveillance capacity. The top five *Salmonella* Typhimurium notifications by MLVA type in the fourth quarter<sup>2</sup> of 2011 were:

MLVA type	Associated with phage type	Number of notifications
3-9-7-13-523	170	109
3-9-7-14-523	170	42
3-9-8-13-523	170	38
3-12-15-13-523	Not yet typed	25
3-9-7-15-523	170	20

A cluster of MLVA is defined as 5 isolates with the same MLVA type collected over a period of 4 weeks. MLVA cluster alerts have been used to identify foodborne outbreaks

<sup>2</sup> Data source: ICPMR Enteric Disease download (archive file). Data download: 27/01/2011. These numbers are based on the date of collection of the stool samples (the date closest to the date of onset of salmonellosis).

(WS26242) and to initiate cluster investigations. The investigation into MLVA 3-12-15-13-523 is continuing.

## Non-foodborne Disease Outbreaks

85 outbreaks of (suspected) viral gastrointestinal disease in institutions were reported to PHUs as part of mandatory reporting in the 4<sup>th</sup> quarter of 2010. Of them, 39 (46%) of the occurred in aged care facilities, 34 (40%) occurred in child care centres, 8 (9%) occurred in hospitals, and 5 (6%) occurred in other facilities. The outbreaks affected a total of 1,170 people. In 56% (48/85) of all outbreaks samples were taken for laboratory testing, and in 58% (28/48) of these pathogens were detected. Norovirus was identified in 19 % (16/85) of the outbreaks and rotavirus was identified in 14% (12/85). In 5% (4/85) of the outbreaks two or more different pathogens were identified. In one norovirus outbreak in a hospital, *Clostridium difficile* was identified in one patient and was believed to be antibiotic associated so unrelated to the outbreak pathogen. Even though laboratory results were not available for 67% of outbreaks in institutions the epidemiology is consistent with viral gastroenteritis spread from person to person.

Two public health units investigated an outbreak of campylobacteriosis associated with a school camp. Ninety five people attended the camp in from the 25-27 October 2010. A retrospective cohort study was conducted, with information collected by telephone or online questionnaire for 33 (35%) people. Eight people met the case definition established for the outbreak, of which half of the cases had *Campylobacter spp.* isolated from stool specimens. Attendance of the camp was the only event common to all cases, and none of the foods were found to have a statistically significant association with illness. The local public health unit and NSW Food Authority conducted an environmental investigation of the camp and food preparation facilities. Issues identified included the supply of non-potable water (reticulated water 'topped up' with roof collected rain water) for drinking and food preparation, and not using an appropriate sanitiser to clean contact surfaces. The camp ground managers have been directed to use only reticulated water for human consumption. There was no illness reported in the school staying at the camp at the same time as the implicated group (26/27 October), and no illness identified in people attending the camp in the week before and week after. We are unable to conclude whether the



source of the outbreak was foodborne, water borne, or an unknown environmental source. Person to person transmission unlikely. (HUN0435)

In addition, there was one outbreak of gastrointestinal disease in a workplace, identified through a complaint to the NSWFA. The investigation revealed the index case was likely ill prior to the meal in question and further cases in family members after the meal, suggesting there was not a foodborne cause, but that it was likely person to person viral spread at the workplace. This affected 12 people but no samples were submitted for testing.

## Notes for Quarterly Report

In NSW, foodborne outbreaks are often reported to the NSWFA Consumer Complaints Line by members of the public. This results in a number of outbreaks affecting small numbers of people being referred to PHUs. These outbreaks usually require limited epidemiological investigation and are often of unknown aetiology and as such are not reported here.

Data was reported as received by the Communicable Diseases Branch on 27 January 2011. For both (suspected) foodborne illness outbreaks as well as gastroenteritis outbreaks in institutions, PHUs are required to complete a summary form within 1 month of completion of the investigation, or within 1 month of notification respectively. This means that for outbreaks reported after 27 December 2010, the information in this report and in the Outbreak Register may not be complete.

We wish to thank and acknowledge the people who collaborated and contributed to the surveillance and control of enteric disease in NSW in the fourth quarter of 2010: NSW Public Health Unit staff, Dr Jeremy McAnulty, Dr Sean Tobin, Hunter New England Population Health OzFoodNet team (Sally Munnoch, Cherie Heilbronn, and Dr Tony Merritt), NSW Food Authority, ICPMR, IMVS, MDU, primary laboratories, local councils and the OzFoodNet team.