

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

**4th Quarter Summary, 2011
NSW/Hunter New England OFN sites
combined**

January 2012



Overview of Quarter

In NSW, foodborne outbreaks are identified via a range of mechanisms, including reports from the public to public health units (PHU), 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 in NSW

Salmonellosis notifications decreased in the fourth quarter by 6% when compared to the previous five-year average for the same quarter, with 634 notifications compared with an average of 673 notifications. This is likely due to the lower than average December temperatures.

There was a 7% increase in **Giardia** notifications (449 cases) when compared to the five-year average of 420 notifications for the same quarter. **Cryptosporidiosis** notifications decreased by 46% when compared to the fourth quarter five-year average with 76 notifications compared with an average of 139.6 notifications.

Shigellosis notifications increased by 48% during this quarter with 39 cases reported, compared with 26 cases for the five-year average for the same quarter. Twenty-two notifications (56%) were typed as *Shigella sonnei* biotype G. Ten cases were noted as having travelled overseas during their incubation period, nine acquired their infection in Australia, and for twenty cases the place of acquisition was unknown. Four of the locally acquired cases were men who have sex with men, two of which had the same typing of *Shigella flexneri* Variant X.

There was a decrease in notifications of **hepatitis A** for the quarter when compared to the previous five year average for the same quarter (14 notifications compared to 18 notifications). All of the people notified with hepatitis A infections acquired their infection overseas.

Four cases of **Shiga-toxin producing *E. coli* (STEC)** infection were notified during the fourth quarter, which was a decrease over the five-year average of 7 cases for the same quarter. There were no cases of **haemolytic uraemic syndrome (HUS)** notified (five-year average of 4 cases for the same quarter).

There were 6 notifications of **listeriosis** in the fourth quarter of 2011 (five-year average 5 cases). There were no epi-links or identified source/s for these cases.

Typhoid notifications for the fourth quarter of 2011 were 50% lower than the five-year mean for the same quarter (5 vs. 10 cases). All cases were overseas acquired.

During the fourth quarter of 2011, the public health units in NSW and OzFoodNet investigated 8 foodborne or suspected foodborne outbreaks. In addition, 73 outbreaks with likely person to person transmission in institutional settings were reported.

Foodborne Disease Outbreaks

Of the 8 outbreaks of gastrointestinal disease thought to be due to consumption of contaminated food that were reported in the fourth quarter of 2011, five outbreaks were identified through complaints to the NSW Food Authority (NSWFA) and three outbreaks were identified through emergency department (ED) reports to public health units. In two of these outbreaks the likely causative agent was identified (scombroid and *Salmonella Typhimurium*). A pathogen was not identified in the other 6 outbreaks. In only one outbreak the food vehicle was identified.

Scombroid poisoning outbreak associated with a cafe

This outbreak was notified to the PHU by an ED after people presented with signs and symptoms consistent with scombroid poisoning (skin flushing, headache, palpitations, tremor, tachycardia, hypertension, diarrhoea).. Four cases in total were reported. The cases all reported eating a fresh tuna salad from an organic café. Onset of illness ranged from 20 minutes to a few hours. The NSWFA requested the café owner remove the tuna salad off the menu. The NSWFA inspected the premises and sampled the remaining tuna, which only a small amount remained; histamine was detected within acceptable levels. Due to the high sales of the product and low report of cases, the conclusion was that only a small portion of the tuna product used

for the salad that day was affected. Histamine is produced by bacteria in fish which have not been quickly chilled after capture, or which have not been stored at correct temperature prior to consumption. As there did not appear to be any opportunities for temperature abuse at the café it is likely that the histamine was already present in the tuna. Histamine is not killed by cooking. . The product was imported from Indonesia by a company in Queensland. (SESI29258)

Salmonella *Typhimurium* (MLVA: 3-10-14-12-496 (previously associated with PT 9) outbreak associated with a restaurant

This outbreak was identified through a complaint to the NSWFA. Three of a group of three diners developed abdominal cramps and diarrhoea vomiting and nausea 18-32 hours after eating yum cha from a Chinese restaurant in Sydney. One case was admitted to hospital with her illness. Two cases had specimens taken which were positive for *Salmonella Typhimurium*. As all 3 cases ate a variety of yum cha it was not possible to identify the food vehicle responsible for illness. The NSWFA inspected the premises but found no hygiene issues and all food and environmental samples were negative for pathogens. The exact cause of this small outbreak based on current evidence can't be conclusively identified. (WS29045)

For the other 6 suspected foodborne outbreaks, the pathogen and cause could not be established. In summary:

The NSWFA received a complaint of suspected food poisoning regarding a group of three people who developed abdominal cramps, vomiting and diarrhoea 10 hours after eating Vietnamese pork rolls. The NSWFA inspected the premises and found a number of issues such as: the use of raw egg butter, potential for cross contamination from raw chicken stored in the fridge, and inadequate cleaning and sanitising of food equipment and contact surfaces. Food samples and environmental swabs were tested but no pathogen was identified, however, it was considered that the poor adherence to food safety standards could have led to contamination from raw foods, resulting in illness. The NSWFA issued an improvement notice in respect to all the above defects. Re-inspection of the business premises confirmed that all cleaning, hygiene and food safety defects had been corrected in accordance with the directions of the improvement notice. (SSW28955)

A doctor from an ED reported illness in three people from a family of four following a restaurant event. Onset of vomiting and diarrhoea was 24 hours following the meal. .

The PHU were informed of another family who were part of the same event with 9 from 11 people unwell with similar symptoms. No samples were submitted. Interviews with cases and well attendees did not identify a single food item that was associated with illness. The NSWFA inspected the restaurant and did not find food safety concerns. The absence of an identified food vehicle suggests this may have been a viral gastro outbreak, though this could not be confirmed by stool sample results. (SSW29128)

This outbreak was identified through a complaint about a restaurant to the NSWFA. Thirty-four of eighty people developed abdominal cramps, nausea, vomiting and diarrhoea after an engagement party at a brewery. The complainant agreed to post a link to a survey prepared by the PHU on Facebook to be completed by guests who attended the party. Forty-one people responded to the survey, 27 of these reported being ill. The time from exposure to onset of illness ranged from 13 to 77 hours (median 36.5 hours). The duration of illness ranged from 14 – 107 hours (median 50.5 hours). No food was statistically associated with illness. The range of symptoms and incubation periods indicate a viral pathogen spread person to person though this could not be confirmed by stool sample results. (WS29223)

This suspected outbreak was identified through a complaint from a family to the NSWFA. Eight of ten people (from 3 households) developed vomiting, diarrhoea, fever and abdominal cramps 4 to 12 hours after eating a family meal at a private residence. The meal consisted of multiple salads, guacamole dips, fruit salads with yoghurt and garlic bread that were made/assembled by the family. The complainant had also purchased one large and one small commercial Lasagne product that the complainant believed to be the cause of the illness. Five cases were interviewed who indicated that they had consumed all foods and reported a gastro illness that lasted less than 24hrs. They also reported that they were unaware of any contact with any sick person before the meal. It was also identified that one of the children who did not eat the lasagne also became unwell. As multiple foods were consumed at the meal and no clinical or food samples are available confirming the cause of the illness, there is insufficient evidence to determine the source of this outbreak (SESI29303)

A clinician from an ED notified the PHU of the hospitalisation of four school children who had attended a three day camp in this suspected outbreak. Eight from 111 students, aged 13 to 14 years developed symptoms of vomiting and abdominal pain four hours (median) after consuming a meal of spaghetti bolognese. The median

duration of illness was 12 hours. The symptom profile for the cases was consistent of a foodborne illness caused by a pre-formed toxin. Other children, both from the same school and other schools who ate the meal, did not report symptoms. A case series investigation and inspection by local council environmental health officers was conducted. Although the children knew each other, they were not accommodated in the same cabins, nor were in the same activity or social groups. The environmental health investigation identified a number of breaches of the food safety regulations including the improper cooling of high risk foods (a large container of spaghetti was noted to be 22 degrees three hours after cooking). A warning letter was issued by the local council (HUN0451)

The local PHU were notified of an outbreak of gastroenteritis associated with a Melbourne Cup Day function. The initial report suggested that at least 7 from 25 people became unwell with a diarrhoeal illness at least 6 hours after consuming a buffet style meal. The group represented 1 of 12 marquees who were served a buffet style lunch at a race track which was attended by approximately 300 people. A similar illness was identified in attendees from 5 of 10 marquees. A cohort study involving attendees from 2 marquees was conducted. Sixteen from 38 people (42%) reported symptoms of diarrhoea and abdominal pain a median of 9 hours after the meal. Symptom duration was 20 hours (median) for the people within the cohort. In addition, at least 14 people from other marquees were noted to have a similar illness. No clinical samples were collected. An elevated relative risk of illness was associated with those who consumed lamb curry (RR=3.5, 95% C.I. 0.94, 12.97, not significant). An environmental investigation by the local council did not identify any food safety issues that would have accounted for toxin production. (HUN0452)

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 quarter¹ of 2011 were:

MLVA type	Associated with phage type	Number of notifications
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¹ 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).

3-9-7-13-523	170	28
3-9-8-13-523	170	24
3-12-15-13-523	9	11
3-10-15-12-496	9	10
3-10-14-12-496	9	9

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 and to initiate cluster investigations.

A cluster of MLVA 3-10-15-12-496 was identified and investigated in this quarter. Three cases with similar collection dates were initially noticed all living on the same street in the south west of Sydney. A total of nine of this MLVA were recorded in an 11 day period. Eight of these were interviewed and they shared no common events. Three cases reported eating from a BBQ chicken shop in the area (chicken pasta salad or coleslaw) but no other links could be established between the 8 interviewed. The NSWFA inspected the chicken shop and found that the business had a good standard of food safety. They sampled the salads but found no pathogens. There was no evidence to support this business was the cause of the *Salmonella* cluster. There were no further leads for this cluster.

Non-foodborne Disease Outbreaks

Seventy-three outbreaks of (suspected) viral gastrointestinal disease in institutions were reported to PHUs as part of mandatory reporting in the 4th quarter of 2011. Of them, 40 (55%) of the occurred in aged care facilities, 17 (23%) occurred in child care centres, 15 (21%) occurred in hospitals, and 1 (1%) occurred in a school. The outbreaks affected a total of 1,129 people. In 63% (46/73) of all outbreaks samples were taken for laboratory testing, and in 59% (27/46) of these pathogens were detected. Norovirus was identified in 26 % (19/85) of the outbreaks, rotavirus was identified in 7% (5/73) and adenovirus was identified in 3% (2/73). In 2 outbreaks of norovirus outbreaks in hospitals, *Clostridium difficile* was identified in single patients and was believed to be antibiotic associated and unrelated to the outbreak pathogen. Even though pathogen results were not available for 63% of institutional outbreaks the epidemiology is consistent with viral gastroenteritis spread from person to person.

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 17 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 17 December 2011, 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 2011: 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.