

OzFoodNet—Enhancing Foodborne Disease Surveillance Across Australia

Second Quarter Summary, 2010 NSW/Hunter OFN sites combined

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Overview of Quarter

Incidence of Foodborne Disease

Salmonellosis notifications increased by 49% with 908 notifications in the second quarter of 2010 compared to an average of 610 notifications for the same quarter in the previous five years.

There was a decrease of 25% in notifications of Hepatitis A. In the second quarter of 2010 there were 13 notifications compared to a five-year average of 17.4 cases for the same quarter. The majority (8/13, 62%) of Hepatitis A infections were acquired overseas. Four of the notified infections were acquired in Australia, and for one the place of acquisition was unknown at the time of writing this report.

There were five notifications of listeriosis in the second quarter of 2010 which is similar to the five-year average of 6.2 cases for the same quarter. All listeriosis cases were interviewed about possible risk factors for infection. All specimens were sent to Melbourne Diagnostic Unit for molecular typing. Of the twenty cases notified in the first half of this year, three cases could be linked to cases in other states through genetic characteristics of the isolates.

One case of STEC infection and nil cases of haemolytic uraemic syndrome (HUS) were notified during the second quarter of 2010, a decrease of 67% and 100% respectively, compared to the five-year average of 3 STEC notifications and 2 HUS notifications respectively for the same quarter of the year. This case probably acquired their infection overseas.

During the second quarter of 2010, the public health units in NSW and the Oz FoodNet sit in HNE investigated 19 outbreaks. For ten of these, a (suspected) food source could be found, and for nine the aetiology remained unknown.

Foodborne and Suspected Foodborne Disease Outbreaks

A (suspected) food source could be found for ten of the outbreak investigations, summarized below.

***Salmonella* Typhimurium PT 170, MLVA type 3-9-7-12-523 cluster associated with consumption of tartare sauce prepared with raw egg**

An investigation of a cluster of four *Salmonella* cases in a defined geographical area led to the identification of six cases with *Salmonella* Typhimurium 3-9-7-12-523. The same MLVA type was also isolated in tartare sauce prepared with raw egg, consumed by four of the six cases. Two children of one of the (unaffected) food handlers at the café were also cases, even though they had not consumed any food from the café, suggesting some person-to-person transmission (SESILL0061).

***Salmonella* Typhimurium PT 170, MLVA type 3-9-7-13-523 outbreak associated with consumption of mayonnaise prepared with raw eggs**

A group of seven work colleagues all developed abdominal cramps and diarrhoea after consuming chicken rolls from a Vietnamese hot bread bakery and reported this to the NSW Food Authority. Two work colleagues were interviewed and initially it was hypothesised that their illness may have been the result of storing the chicken rolls outside of refrigeration for seven hours prior to consumption, at the workplace. However, there were two other, separate complainants about the same store around the same time. Three stool samples (one from the group of work colleagues, two from the separate complainants) were positive for *Salmonella* Typhimurium MLVA type 3-9-7-13-523. A sample from mayonnaise prepared with raw eggs was positive for *Salmonella* Typhimurium with the same MLVA profile (SESILL0062).

***Salmonella* Typhimurium PT 170, MLVA type 3-9-7-14-523 and 3-9-7-15-523 outbreak associated with a kebab and crepes store**

Two separate complaints through the NSW Food Authority, enhanced surveillance of gastroenteritis cases in local emergency departments, and enhanced surveillance of *Salmonella* notifications, established an outbreak of 31 confirmed cases of *S. Typhimurium* MLVA 3-9-7-13-523 (n=1), MLVA type 3-9-7-14-523 (n=16), and MLVA type 3-9-7-15-523 (n=14). Illness in these confirmed outbreak cases was associated with consuming kebabs (30 cases), mainly those filled with chicken, hummus, tabouli, lettuce, and tomato, or with consuming crepes (1 case) from a food outlet in a shopping centre. In addition, 14 probable cases (gastro symptoms, consumed kebabs from the same food outlet, but no stool specimens collected to confirm Salmonellosis) were also identified. Samples of cooked chicken kebab, hummus and tabouli and several environmental

samples were positive for *S. Typhimurium* MLVA 3-9-7-13-523. One environmental swab was positive for both STm 170 and STm 193. A sample of marinated raw chicken was positive for *Salmonella infantis* (NSCC0029).

***Salmonella* Typhimurium PT 170, MLVA type 3-9-7-12-523 (and 3-9-8-15-523) cluster associated with a Thai restaurant**

An investigation of a cluster of *Salmonella* cases resulted in the identification of nine cases of *Salmonella* Typhimurium MLVA type 3-9-7-12-523. A common source for six of the cases was found at a Thai restaurant. There were also ten probable cases identified who had become unwell after dining with confirmed cases, but had not been tested. The NSW Food Authority took 15-20 food and environmental samples of which a sample of a peanut/cashew mixture tested positive for *Salmonella* MLVA type 3-9-8-15-523. The MLVA types for the human isolates and the peanut/cashew mixture would be considered too different to be a match. However, both MLVA types are associated with phage type 170 and there is a clear epidemiological link to the restaurant and the peanut/cashew mixture (which is sprinkled on many of the dishes) (NC0009).

***Campylobacter jejuni* outbreak associated with consumption of chicken**

Ten people from a group of 16 developed gastrointestinal illness after sharing a buffet meal at a restaurant. The two submitted stool specimens were both positive for campylobacter, which was also detected in a sample of raw chicken. Epidemiological analysis showed a significant association between illness and consumption of the chicken curry (attack rate of 91%, relative risk undefined, $p=0.004$). Further typing to establish a match was not possible as the human specimens had been discarded (SES0053).

***Salmonella* Typhimurium PT 170, MLVA type 3-9-7-13-523 cluster associated with a Chinese food outlet**

A cluster of 16 cases of *Salmonella* Typhimurium MLVA type 3-9-7-13-523 was investigated. All cases were interviewed and five had eaten fried rice at the same Chinese food outlet in a shopping mall. Two cases had eaten at other establishments in the same shopping mall, and two cases had eaten food in another restaurant in the area. A link between these premises could not be established. The NSW FA inspected the Chinese food outlet and took food samples and environmental swabs which were all negative for *Salmonella* (SSW0009).

***Salmonella* Typhimurium PT 9, MLVA type 3-10-13-12-496 cluster associated with a franchised fried-chicken outlet**

A cluster of three household members with Salmonellosis was investigated. A girlfriend of one of the family members who often frequents the household was also identified as a case. Stool samples for all four cases were positive for *Salmonella* Typhimurium PT 9, MLVA type 3-10-13-12-496. The only food shared by all was chicken pieces, purchased from a large fried-chicken franchise outlet, and consumed at home. No other reports of illness linked to the premises have been made to the NSW Food Authority (SESILL0060).

***Salmonella* Infantis outbreak in an aged care facility**

An outbreak of salmonellosis in an aged care facility was investigated. In total, 26 people were affected. Twenty-two residents and one staff member (not the index case) tested positive for *Salmonella* Infantis and a further three residents had symptoms consistent with salmonellosis but were not tested. A sample of raw chicken mince sampled at the facility was also positive for *Salmonella* infantis. Some stool specimens and the chicken mince sample were sent to MDU for PFGE analysis, and were found to be possibly linked, but this was not conclusive. Epidemiological analysis found a strong association with the consumption of thickened fluids. However, a sample of the batch of powder used to thicken fluids at the time of the outbreak tested negative for any pathogens. Cross contamination from the chicken mince to the thickened fluid powder is suspected (SSW0043).

***Salmonella* Saintpaul outbreak associated with a food and wine fair**

Through routine surveillance, a small outbreak of Salmonellosis was identified, associated with a weekend long Food and Wine festival in the Hunter vineyards. In total, seven cases (6 females, median age 33.7 years) had consumed a meal consisting of a salmon steak and pumpkin couscous salad with a preserved lemon aioli at a particular winery on the Saturday of the fair. No other food exposures or wineries were common to the seven cases, and each of the cases had travelled independently of one another and were not known to each other. The NSW Food Authority conducted an environmental investigation, and was unable to identify how the contamination occurred or what ingredient was the cause of the outbreak. No environmental or food samples were taken (HUN0428).

Norovirus outbreak associated with commercially prepared ready to eat foods

An outbreak of gastroenteritis in a workplace was investigated, affecting people who consumed sandwiches provided for a series of meetings, or had purchased a variety of ready to eat foods, which was prepared by a local takeaway. In total, 18 people were

interviewed, with 13 people fitting the case definition. Eight people purchased a variety of sandwiches and salads directly from the takeaway, with the remainder of the cases consuming sandwiches provided for meetings, with foods being consumed over a three day period. The symptoms profile was consistent with norovirus, with the pathogen detected in one stool specimen. No illness was identified in people not consuming meals from the premises. NSW Food Authority conducted an environmental investigation of the premises and identified at least one food handler who was symptomatic with gastroenteritis whilst working during the exposure period. The NSW Food Authority is considering further action (HUN0424).

Outbreaks of unknown aetiology

For nine reported outbreaks of suspected foodborne illness, the aetiology remained unknown. In summary:

Three of a group of three people developed diarrhoea, vomiting and abdominal cramps after consuming oysters in a restaurant (WS0058).

Twelve from 18 people developed gastrointestinal symptoms after consuming food from a Chinese restaurant (SWS0008).

Four from four people (two couples) developed diarrhoea, vomiting and nausea after consuming beef pies at a hotel (WSA0057).

Nine from nine people from two families at a party developed diarrhoea, vomiting and abdominal cramps after consuming a variety of pizzas and fudge brownies from a franchised restaurant (WSA0058)

Seven people from a group of 19 employees developed vomiting and diarrhoea after consuming food from a café. The most common food consumed was chicken in cheese sauce, apparently not thoroughly cooked (SW0035).

Seven from fifty people developed vomiting and abdominal pain 4-12 hours after consuming a meal at an all-you-can-eat buffet style restaurant. All cases consumed honey soy chicken, with one person reporting that the chicken was undercooked. Onset times indicative of a point source of infection, quite likely due to a preformed toxin (HUN0427).

Two from four ill (two couples) with vomiting and diarrhoea 10 hours after consuming a meal from a chinese restaurant (mongolian lamb and fried rice). Cases unrelated and do not live in the same household. No specimens collected (HUN0425).

Twenty-six from 60 people attending a wedding developed nausea, vomiting, watery diarrhoea, fever and abdominal pain after consuming a variety of foods. An extensive investigation was conducted. The onset times of illness were indicative of a point source of infection and it is suspected that the outbreak was caused by a viral pathogen, most likely norovirus, but it was not possible to ascertain the type of food that was the likely source, nor whether the outbreak was a result of the consumption of food contaminated by a food handler or by an environmental source (HUN0426).

Nine people developed nausea, watery diarrhoea, abdominal pain and vomiting after attending a children's birthday party (with unknown number of guests) at a large hamburger restaurant. Onset times of illness were indicative of a point source of infection. Of the nine people, seven attended the party and two ate at the restaurant separately, but visited the same room the party was held. Two secondary cases were identified (household contacts of cases attending the party. Foods consumed included a variety of hamburgers (predominantly children's hamburgers), chicken nuggets, soft serve ice-cream in a cone, chips, soft drinks and ice cream cakes. There was no illness identified in people or family members or people attending the party either prior to or at the party. Organisers of events held in the party room before and after the group affected by the outbreak, with no illness identified. There were no reports of illness in staff involved with the party or involved in working in the restaurant at the time of the party. It was not possible to confirm whether this was a suspected foodborne outbreak, or as a result of exposure to an environmental source. Person to person transmission within the attendees is unlikely given the onset time of illness for the first case and no illness identified in attendees or household members of attendees prior to or at the function (HUN0429).

Cluster Investigations

The top five of *Salmonella* Typhimurium notifications by MLVA type in the second quarter of 2010 were:

MLVA type	Associated with phage type	Number of notifications
3-9-7-13-523	170	302
3-9-7-14-523	170	68
3-9-7-12-523	170	58
3-10-14-12-496	9	30
3-9-6-13-523	170	28

These numbers are based on the date of electronic notification to the public health units, *not* on the date of collection of the stool samples (the date closest to the date of onset of salmonellosis). Phage types for these clusters were not known at the time of production of this report. Clusters of MLVA types that were investigated either led to a (suspected) food source and are described above, or did not lead to a suspected food or environmental source and are summarized here:

Four *Salmonella* Singapore cases were interviewed as part of an ongoing investigation into an increase of *Salmonella* Singapore notifications in the Hunter New England area. No point source outbreak could be identified. Consumption of eggs was common to four cases, but their recall of brand was poor (unknown for three cases). None of the cases were socially linked.

A cluster of six cases of *Salmonella* Typhimurium MLVA type 3-9-7-13-523 was investigated. Four cases could be interviewed but no source such as a common commercial food premises or commonly consumed foods could be identified.

A cluster of four *Salmonella* Infantis notifications were interviewed around the time of a large outbreak affecting an aged care facility (described above: SSW0043) to identify whether they had consumed the food item (thickened fluid) implicated in that outbreak. No common foods or food products could be identified. Shopping at a large franchised shopping centre was common to the four cases.

Non-foodborne Disease Outbreaks

Of the 120 reported outbreaks of (suspected) viral gastrointestinal disease in institutions in the second quarter of 2010, 53 (44%) occurred in aged care facilities, 49 (41%) occurred in child care centres, 12 (10%) in hospitals, three in a family care centre (2.5%), two in schools (1.7%) and one (0.8 %) in a military institution. The outbreaks affected approximately 1,907 people.

In 52% (62/120) of all outbreaks, one or more stool specimens were laboratory tested to identify a possible cause of the outbreak. Norovirus was identified in 27% (32/120) of the outbreaks. Rotavirus was identified as a possible cause of 0.8% (1/120) of the outbreaks. For three of the outbreaks (2.5%) norovirus and rotavirus were detected alongside each other. *Campylobacter* was identified as the possible cause of one (0.8%) outbreak in a child care centre. Only one child had a positive stool test for *Campylobacter* in this outbreak, but the symptom profile of other children suggested this pathogen as the possible cause. For 40% (25/62) of the outbreaks where one or more stool specimens were tested, the pathogen that possibly caused the outbreak could not be identified. In total, the possible cause of the outbreak remained unknown for 69% (83/120) of the outbreaks.

There were no reports of outbreaks of (suspected) viral gastrointestinal disease in non-institutional settings.

Notes for Quarterly Report

The quarterly summary is the basis for the national report published in *Communicable Diseases Intelligence* each quarter. The emphasis in this summary is on brevity and timeliness. For further information on public health action taken as a result of the described enteric disease outbreak investigations, please contact the manager of the Enteric diseases unit.

In NSW, foodborne outbreaks are often reported to the NSW Food Authority's (NSWFA) Consumer Complaints Line by members of the public. This results 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 are often of unknown aetiology.

Data was reported as received by the Communicable Diseases Branch on 21 July 2010. 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 21 June 2010, the information in this report and in the Outbreak Register may not be complete.

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