

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

**First Quarter Summary, 2012
NSW/Hunter New England OFN sites combined**

April 2012



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 decreased by 12% compared to the same quarter in the previous five years. In 2012 there were 1,030 notifications compared to a five-year average of 1,169 cases.

Typhoid notifications for the first quarter of 2012 were similar to the five-year mean for the same quarter (14 vs. 14.8 cases). All of the typhoid infections were acquired overseas.

There was a decrease of 60% in notifications of **hepatitis A**. In the first quarter of 2012 there were 10 notifications compared to a five-year average of 24.8 cases for the same quarter. The majority of hepatitis A (90%) infections were acquired overseas.

There were ten notifications of **listeriosis** in the first quarter of 2012. This was similar to the previous five-year average of 10.2 cases for the same quarter.

There was a very slight 4% decrease in **giardiasis** notifications (635 cases) when compared to the five-year average of 663.8 notifications for the same quarter. While **cryptosporidiosis** notifications decreased by 35% (193 notifications compared with a five year average of 297.6 notifications for the same quarter). We identified no clustering of giardiasis cases by age, sex or place of residence. Single cases are not routinely followed up by public health units (PHUs).

Shigellosis notifications increased by 24% during this quarter with 41 cases reported, compared with 33 cases for the five-year average for the same quarter. Twenty (49%) cases were noted as having travelled overseas during their incubation period, 12 (29%) acquired their infection in Australia, and for 9 (22%) cases the place of acquisition was unknown. Thirteen notifications (32%) were typed as *Shigella sonnei* biotype G. The locally acquired cases (12) were predominantly males (11) who reported engaging in male to male sex (6). These cases were not closely clustered by time.

There were three cases of **Shiga-toxin producing *E. coli* (STEC)** infection notified during the first quarter of 2012, which was 32% lower than the five-year average of 4.4 cases for the same quarter.

Two cases of **haemolytic uraemic syndrome (HUS)** were notified during the first quarter of 2012, stool specimens were negative for STEC. This is similar to the five-year average of 2.2 cases for the same quarter of the year.

During the first quarter of 2012, the public health units in NSW and OzFoodNet investigated 21 foodborne or suspected foodborne outbreaks. In addition, 119 outbreaks with suspected person to person transmission in institutions (117) and non-institutional settings (2) were investigated.

Foodborne Disease Outbreaks

Of the 21 foodborne or suspected foodborne outbreaks reported by members of the public or identified through routine surveillance of *Salmonella* data in this quarter, 11 were due to *Salmonella* Typhimurium (*Salmonella* Typhimurium), one each was due to *Salmonella* Give, *Salmonella* Muenchen, and *Salmonella* Wangata, and the others were due to unknown pathogens.

***Salmonella* Typhimurium (MLVA type 3-9-9-12-523) infection associated with a restaurant**

Cases of gastrointestinal illness in a group that attended a christening at a restaurant in Sydney in January 2012 were investigated. The party was of 80 adults and 15 children. Foods consumed were cold dips (hommos, eggplant) & salads (tabbouli, Fatoosh, rocket salad), raw meat pate 'kibbi', Falafels, spring rolls with cooked mince 'kibbi', chicken skewers, meat skewers, and minced meat skewers, cut up watermelon, Lebanese sweets and profiteroles and a white chocolate mud cake brought from home. Four of the children and 6 adults were ill. On interview no single food showed statistical evidence of association with illness. Four stool samples were submitted, 3 were positive for *Salmonella* Typhimurium and 1 positive for adenovirus. The NSWFA inspected the premises and found no major hygiene issues on site. All food and environmental samples were negative. This MLVA was not common until this outbreak, after which if continued in the same area without associations to the restaurant. This MLVA was subject of a cluster investigation, the results of which can be seen in the cluster investigation section of this report. In summary, there were links to the same bakery that supplied the profiteroles in this outbreak, making the profiteroles the likely cause of illness in this outbreak. (SSW29733)

***Salmonella* Typhimurium 170 (MLVA type 3-9-7-12-523) infection associated with a restaurant**

An outbreak of *Salmonella* Typhimurium MLVA 3-9-7-12-523 associated with a restaurant in Sydney (MLVA profile historically associated with *Salmonella* Typhimurium PT 170) was investigated. Fourteen cases (10 laboratory confirmed) representing 6 groups of people from Newcastle and Sydney, had consumed deep fried ice cream from the implicated premises from the 3-12 January 2012. This was the only food common to all cases. The NSW Food Authority conducted an environmental investigation approximately three weeks after the most recent case had consumed the meal at the implicated restaurant. Food samples (including cooked and uncooked ice cream balls, and raw ingredients) collected as part of the inspection were negative for all pathogens. A warning letter advising of the risks involved in serving raw egg based menu items and minimally cooked egg based foods has been issued to the food service management of the premises, who have since withdrawn deep fried ice cream from the menu. The eggs that were used as an ingredient for the batch consumed by cases were supplied by a large egg producer, however further trace back could not be initiated due to the original packaging of the eggs being discarded and no records kept of egg batch details. (HUN0455)

***Salmonella* Typhimurium 170 (MLVA type 3-9-7-13-523) infection associated with a cafe**

Four cases from a cluster of 7 cases of *Salmonella* Typhimurium MLVA 3-9-7-13-523 (previously associated with PT170) were identified as having eaten at the same cafe between 7-14 December 2011. On interview 3 groups of diners were found to have illness associated with eating at this cafe 1/6 ate a 3-egg omelette, 3/6 ate 3-egg omelettes and 1/6 ate a tortilla dish made from potato and egg. The chef advised that scrambled eggs and omelettes are lightly cooked, the egg for which was pooled and stored on the bench. At the inspection this mix was found to be 25.2°C. The practice of lightly cooking of eggs could allow survival of pathogens. Hand washing facilities were lacking soap at the time of inspection and they were not sanitising preparation benches after cleaning. An Improvement Notice was issued and as a result the premise does not pool eggs anymore and the eggs are under refrigeration and used only when order is placed. Appropriate sanitiser is also now being employed. (NSCC29807).

***Salmonella* Typhimurium 170 (MLVA type 3-9-8-13-523) infection associated with a restaurant**

Two complaints were received by the NSWFA from separate groups who ate fried ice cream (the only common food) at a restaurant on 10 and 11 February 2012. NSWFA investigated the restaurant on 16 February 2012. They were issued with a letter advising about the risks of using raw egg or lightly cooked egg and they have removed fried ice cream from the menu. Samples taken of ice-cream balls and component ingredients taken at the time were negative for pathogens. An egg-rinse was positive for *Salmonella* Bareilly. (NSCC30179)

***Salmonella* Typhimurium 44 (MLVA type 3-10-8-9-523) infection associated with a bakery**

The outbreak was initially notified to PHU, of 7 people who became ill with gastrointestinal symptoms after consuming Vietnamese pork or chicken rolls purchased from a bakery. Another complaint about the same bakery from a group of 3 people ill was also made to the NSWFA. A further case found by MLVA matching, totally 11 cases. Six cases had a chicken roll and 5 had pork rolls. The NSWFA inspected and found the only risky practice was the production of raw egg butter, but all samples taken on the day were negative. They were advised of the dangers in using raw egg butter and advised that they should cease and switch to a commercial mayonnaise product. (WS30662).

***Salmonella* Typhimurium 170 (MLVA type 3-9-9-12-523) infection associated with a restaurant**

There were 18 cases of gastrointestinal illness in a group that attended a meal at a restaurant in Sydney on 11 March 2012. They were a group of 24 who ate a banquet menu. Four people submitted stool samples of which 3 were positive for *Salmonella* Typhimurium (MLVA 3-9-9-12-53). The only high risk foods in the banquet were the Bombe Alaska, which was coated in raw egg meringue and was either uncooked, or only slightly cooked, and the raw vegetable ingredients in the Peking duck pancakes. Consumption of these foods were not however statistically significantly associated with illness. The NSWFA inspected the premises and found no issues with the exception of the serving of raw egg products. A warning letter advising of the risks involved in serving raw egg based menu items and minimally cooked egg based foods has been issued to the food service management of the premises. The restaurant agreed to stop serving Bombe Alaska. Samples were taken of food and the environment and an egg rinse was positive for *Salmonella* Chester. Traceback was conducted to the farm level where multiple *Salmonella* serotypes were detected in the environment and the grading area. *S.* Typhimurium with the same MLVA was detected. Increased cleaning and improvement of the grading facility was imposed on this farm. (SES30680)

***Salmonella* Typhimurium 170 (MLVA type 3-10-7-15-523) infection associated with a take away**

A cluster of an uncommon MLVA (3-10-7-15-523) was recognised in the North Coast area of NSW. A total of 34 of these MLVA have been reported with collection dates from 2-23 March 2012. Thirty-one cases that either lived or visited the mid-north coast area of NSW. Twenty-five cases were interviewed and interviews revealed a take-away shop as a common source for 15 of those with exposure dates from 29/2/2012 to 13/3/2012. Foods consumed were numerous with no single common ingredient. Another 4 cases reported eating at food outlets in the same shopping centre food court. The NSWFA inspected the premises and took numerous food and environmental samples, only the hommos returned a positive *Salmonella* Typhimurium result

(MLVA pending). The hommos is made on site with the same stick blender that is used to make the crepe batter which contains raw egg. The shop reported making their own chicken log for kebabs, a procedure that has the potential to cause cross-contamination with the environment if sanitisation is not completely effective. The NSWFA requested the owners cease making their own chicken log. Upon reinspection, all samples taken for testing were negative. It is believed environment or equipment contamination may have resulted in contamination of a food or condiment used over an extended period, whether by the chicken or egg it is unsure. The chicken is from a large national supplier while the egg is a local product, which could explain why this MLVA was localised in time to this area. The traceback to the egg farm found only *Salmonella* Singapore on boot swabs of the grading area (NC30929).

***Salmonella* Give infection associated with a private meal**

A cluster of 5 *Salmonella* Give cases with collection dates from 28/1/2012 to 2/2/2012 were investigated. The cases were from an extended family group of 14 people who gathered together for a holiday. Ten people reported GI symptoms with onsets from the 27th to the 30th of January. Numerous foods were pooled from each family group, and these were consumed by all over a 3 day period. It is not clear what the cause of the outbreak was, though a cold pasta salad that was prepared on January 26 and contained pasta, olives, commercial dressing and salami is the most likely vehicle as it was probably consumed by all the cases and served at every meal. Not all cases could be interviewed. (GW201201)

***Salmonella* Typhimurium (MLVA type 3-15/16-11-10/11-523) infection associated with a conference**

The PHU were notified of 3 GPs who became unwell following a workshop on 10/3/2012. All 3 cases were confirmed *Salmonella* Typhimurium. The PHU administered a web based survey to the group of 80 who attended the conference. The response rate was 36% (29 people). Eight people reported illness and 4 were confirmed as *Salmonella* Typhimurium with similar related MLVAs. The only food on the menu that showed any statistical association was a couscous salad, but it was not statistically significant (OR=8.25, CI 0.9-105.5). Due to the time from the event to the NSWFA inspection (1 month) the ingredients of the foods used for the conference could not be confirmed. The premises were in good order on inspection so no threat was perceived, and no further action taken. (NSCC31014)

***Salmonella* Typhimurium 170 (MLVA type 3-9-7-13-523) infection associated with a cafe**

A three-fold increase in the number of *Salmonella* spp cases was observed by in the Hunter New England Local Health District late February 2012. OzFoodNet (HNE) commenced interviewing both newly notified cases and cases that were notified the previous week to identify the source of infection, and initiated enhanced surveillance to identify further cases. A point source outbreak

affecting two cafes was quickly identified. Upon identification of a pathogen (*Salmonella* Typhimurium MLVA 3-9-7-13-523, historically associated with phage type 170), interviews of NSW cases with the outbreak strain with specimen collection dates between 18 February and 6 March to determine whether they were associated the outbreak. In total 56 cases were notified and 51 cases were interviewed. Twenty notified cases of *Salmonella* Typhimurium MLVA 3-9-7-13-523 reported consuming food from two linked cafes. The median age of cases was 35 years. Eleven cases (55%) were male. Cases consumed food between the 18th and 22nd February 2012, at one cafe (n=16) and the other cafe (n=4). Onsets ranged between 20th and 26th February. The median incubation period was 24 hours. The median duration of diarrhoea was 8.5 days. Three cases were hospitalised, for between 4 and 41 days. The most commonly consumed foods were pita pockets, which 15 cases consumed. The following foods were consumed: chicken pita pocket (9), beef pita pocket (2), breakfast pita pocket (4), chicken sandwich (3), sushi rolls (chicken / tuna / vegetarian) (2), extra aioli (6). All these foods contained a mayonnaise/dressing containing raw eggs. An environmental inspection was conducted by the NSW Food Authority of one of the implicated cafes and the manufacturing kitchen on 6 and 7 March 2012. *Salmonella* Typhimurium with a MLVA profile matching that of the clinical isolates was detected from samples of aioli and mayonnaise collected from the manufacturing kitchen. All other environmental and food samples were negative for bacterial growth. A prohibition order was issued to the manufacturing premises to cease the use of raw eggs in the preparation of foods that are not further cooked. (HUN0456)

***Salmonella* Typhimurium 170 (MLVA type 3-9-8-13-523) infection associated with a cafe**

A small Salmonellosis outbreak affecting three people who ate at a small café in February, was identified through the investigation of a cluster of *Salmonella* Typhimurium MLVA 3-9-8-13-523 infection (n=5) (MLVA profile historically associated with *Salmonella* Typhimurium PT 170). Cases were clustered both temporally and spatially. Onset times of illness for cases that ate at the implicated café occurred within a 2 week period. Food exposures at the café included sandwiches with a range of fillings. No other common foods exposures or places of purchase were shared between cases. NSW Food Authority conducted an inspection but did not identify issues to explain transmission of *Salmonella*. (HUN0457).

***Salmonella* Wangata infection associated with a butcher shop**

A small outbreak of *Salmonella* Wangata affecting three cases, was detected in March. Onset dates of illness were clustered over a 4 day period, with cases consuming beef sausages (3/3), rissoles (2/3), fresh chicken (2/3) and pork roast (2/3) in the seven days prior to illness onset. No other common food exposures, food premises or environmental exposures were identified through the use of modified hypothesis and trawling questionnaires. Based on this information, the butcher was audited by the NSW Food Authority. A number of food hygiene and food safety

issues were identified including inadequate hand washing facilities and unclean food storage areas. The food business failed the audit process, and will be subject to a greater number of audits in the short term. (HUN0458)

***Salmonella* Typhimurium 135a (MLVA type 3-13-9-11-550) infection associated with a restaurant**

A PHU were notified of a group of 4 co-workers who reported gastroenteritis illness after eating a meal on 28/3/2012. The 4 (of 8) consumed the same burgers from a restaurant. The ill people had burgers that contained bacon and egg while those who were not ill also ate burgers, but did not have bacon and egg on them. Two cases were hospitalised. All four cases provided samples which were positive for *Salmonella* Typhimurium MLVA 3-13-9-11-550. The NSWFA inspected the premises and found it to have good food handling and sanitising practices. A sample was taken of pre-prepared bacon and egg from the 29/3/2012 which was found to be contaminated with *Salmonella* Typhimurium (MLVA 3-13-9-11-550, Phage Type 135a). (SESI30918)

***Salmonella* Muenchen infection associated with a butcher shop**

OzFoodNet (HNE) identified an outbreak of *Salmonella* Muenchen in January 2012 associated with a butcher shop. A cluster investigation was initiated after five notifications were received over a two week period. Through case interviews we identified an outbreak of gastroenteritis associated with a Christmas lunch and dinner. Thirteen people (59%) became ill with symptoms consistent of Salmonellosis after consuming a variety of home and commercially prepared foods, including sliced meat from a leg of ham. There was one secondary case, whom upon hospitalisation, had *S. Muenchen* isolated from a stool specimen. A cohort study was conducted; however a causative food could not be identified. It was reported that that a leg of ham from a small local butcher was undercooked and deteriorated shortly after Christmas Day. All cases associated with the family function ate the ham. The remaining four *S. Muenchen* cases were interviewed. Two cases, not known to each other, also purchased and consumed a leg of ham from the same premises prior to their illness onset. A source of infection for the remaining two cases could not be identified. In total, 16/25 known possible and confirmed cases reported consuming leg of ham from the butcher. The NSW Food Authority conducted an environmental investigation and identified a number of food hygiene and food safety issues, including improper sanitising of contact surfaces, cross contamination between raw meat and cooked hams during storage, cross contamination between raw meat and ready to eat ham by staff, an absence of cooking records for hams, and staff not washing hands after handling raw meat. It was also noted that inadequate disinfection also contributed to microbial growth in the product. As a result, the premises failed the audit, and an improvement notice issued. (HUN0453)

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

- On 19/1/2012 the PHU was notified by general practitioner of an outbreak of gastrointestinal illness in a group attending a conference at a hotel in Sydney. The infectious disease team interviewed attendees with a standard questionnaire. The conference attendees consumed conference food for lunch as well as attending dinner together at a restaurant. Some stools were submitted but were negative for pathogens. The epidemic curve suggests that this was likely to be an outbreak of viral gastroenteritis that spread person to person throughout the conference groups. However the negative specimen results and the low rate of vomiting do not suggest this is due to norovirus. Unfortunately the cause is unknown, and although it does appear there was an initial exposure to the group sometime before late Tuesday evening, there is inadequate evidence to suggest that the food served at the restaurant, or by the hotel, was the source. (SES201201).

- Cases of gastrointestinal illness in a group that attended a 21st birthday at an Italian restaurant on 21/1/2012 were investigated. Cases developed vomiting, nausea and diarrhoea 5-24 hours after eating a set menu meal. Twelve out of 16 were symptomatic. The only difference in the menu was between a choice of fish or pork, though neither was associated with illness. No one was ill or had relatives ill prior to this gathering and no one had got together prior to the meal. One person attended a GP, had a negative sample result. The local council inspected the premises and found no practices that would cause risks of causing foodborne illness. (NSCC29883)

- Cases of gastrointestinal illness in a group that ate at a Japanese restaurant on 17/2/2012 were investigated. The group of four people reported vomiting 1-2 hours after eating that lasted 24 hours. The NSWFA inspected and found the business to be practicing in accordance with all food safety practices. They took food samples which were negative for all pathogens. There was nothing to indicate what may have caused the illness. This was however the only meal that the 4 shared. (SSW30215)

- Two complaints were received by the NSWFA from separate groups who ate at a restaurant on 23/3/2012. The two groups ate at the restaurant on the same day and suffered the same symptoms of vomiting and diarrhoea a couple hours after eating the meal, that lasted for less than 12 hours. One group contained some children who did not eat the food from the restaurant and were not sick. The foods consumed were Korean fried chicken, chilli chicken, pasta salad and kimchi. NSWFA inspected and found no issues and had negative results from samples. Cause remains unknown. (SES30797)

- A report of illness affecting 3/7 people who shared a seafood meal was investigated in February 2012. Onset times of illness were 2-3 hours after the meals, with symptoms including vomiting (3), abdominal cramping (2) and diarrhoea (1) lasting up to 12 hours. This was the only exposure common to all cases, with no illness experienced by the group prior to the meal. We suspect that this outbreak was caused by a foodborne source, however it this cannot be confirmed by microbiologically. Local council conducted an environmental investigation of the premises; however no food or environmental samples were collected. The results of the council inspection are pending. (HUN0454)

Unknown

An outbreak of gastroenteritis that was associated with a wedding ceremony/reception was investigated in March 2012. A cohort study was conducted, with cases asked about the time of onset of illness, symptoms experienced, food and drinks consumed at the function, whether they were sick prior to or at the ceremony/reception, or whether they were aware of any illness in wedding attendees. Sixteen cases were identified, and three stool specimens were collected. Nine of the 16 (56%) cases were male. Ages of the cases ranged from 24 to 81 years with a median of 44 years. The range for onset of symptoms was 10 to 96 hours with a median of 14 hours. Cases experienced watery diarrhoea (94%), nausea (56%), abdominal cramps (44%) and vomiting (25%). Seven of the 16 (44%) cases recovered within 12 hours of the onset of illness with a range of 2 to 122 hours and a median of 24 hours. All specimens were negative for bacterial pathogens, parasites and viruses including Norovirus by EIA and STEC by PCR. The only food that had significant relative risk associated with illness was the lamb salad served as an entrée dish. Council conducted an environmental investigation of the premises and did not identify food hygiene and food safety issues. NSW Food Authority reviewed the processes involved in cooking the lamb, however they were unable to identify a mechanism for contamination, or an opportunity for bacterial growth or toxin production. (HUN0461)

Unknown

A report of gastroenteritis associated with a one day meeting of people representing a number of schools in the lower Hunter was investigated in March 2012. An online questionnaire was forwarded to all meeting attendees (40). Thirty six attendees completed the survey, with 26 people (72%) reporting symptoms of diarrhoea (n=24), nausea (23) and abdominal pain (20) a median of 35 hours after meeting. The median duration of illness was 46.5 hours. There was no illness in either the cohort, or family members of the cohort, prior to or at the meeting. Five cases reported secondary cases in households. There were no statistically significant associations between food/drinks and illness. The food was prepared a commercial caterer who prepared the food for the meeting in the home. There was no illness identified in the food handlers prior to or at the time the food was prepared. One stool sample collected was negative for norovirus by EIA

and bacterial culture. Given the symptom profile and the occurrence of secondary cases, Norovirus was suspected to be the cause of this outbreak; however the source of the infection is unclear (HUN0459)

Cluster Investigations

Since 2008, ICPMR laboratory Westmead, routinely conducts Multiple-Locus Variable number tandem repeat Analysis (MLVA) to type *Salmonella* Typhimurium to improve capacity for cluster identification. For investigation purposes, a cluster is defined as five or more isolates with the same MLVA type collected over a period of four weeks. The foodborne outbreaks NSCC29807, NC30929, GW201201 and HUN0456, described above were identified through surveillance of *Salmonella* Typhimurium notifications by MLVA type. The top five *Salmonella* Typhimurium notifications by MLVA type in the first quarter of 2012 were:

| MLVA type | Associated with phage type* | Number of notifications |
|---------------|-----------------------------|-------------------------|
| 3-9-8-13-523 | 170 | 69 |
| 3-9-7-13-523 | 170 | 54 |
| 3-10-8-9-523 | 44 | 34 |
| 3-9-9-12-523 | 170 | 33 |
| 3-10-7-15-523 | 170 | 24 |

* At the time of writing of this report, phage types were not known for these notifications. However, in the past the recorded MLVA types have been associated with the recorded phage types in this table. MLVA was also not recorded for 24 *Salmonella* Typhimurium cases at the time of writing this report.

Twelve cases of ***Salmonella* Typhimurium MLVA 3-9-9-12-523** infection were notified in February 2012. This is the same MLVA as the Lebanese restaurant outbreak in January. Cases were clustered in the Sydney South West area of Sydney. Interviews were conducted with 9 cases. All cases reported consuming Lebanese cucumbers in their incubation period. This MLVA was then found to be spread from an egg farm mentioned in outbreak SSW29733, and was linked to 2 large commercial premises. The cluster were re-interviewed and asked specifically about these premises and all cases were then accounted for eating from either of these premises.

We investigated an increase in cases of ***Salmonella* Saintpaul** infections in January. The increase was initially observed in December 2011 (10 cases in a month) then dropped off to 4 in Jan. OFN interviewed 7 of the 14 cases from December and January. Five of the 7 cases were children and most children had quite a limited diet (2 of these were from vegetarian households). Four of the 5 children and the 2 adults reported eating bananas. An analytical study was planned but notifications stopped.

Non-foodborne Disease Outbreaks

There were 117 reported outbreaks of (suspected) viral gastrointestinal disease in institutions in the first quarter of 2012. Of these, 38 (32%) occurred in aged care facilities, 72 (62%) occurred in child care centres, 6 (5%) in hospitals and one (0.9%) in a residential care facility. The outbreaks affected a total of 1,626 people. There were also two outbreaks of suspected viral gastroenteritis in the community, both in school camps, affecting 61 people.

In 39% (46/119) of all outbreaks, one or more stool specimens were laboratory tested to identify a possible cause of the outbreak. Norovirus was identified in 43 % (20/46) of the outbreaks and rotavirus was identified in 7% (3/46). In three outbreaks, another pathogen was detected alongside norovirus (rotavirus in one outbreak, *Clostridium difficile* in another and *Campylobacter* in the third). Of the 61 outbreaks where one or more stool specimens were tested, 38% (23/61) of all results were negative for any pathogens.

There were also two gastrointestinal illness outbreaks in non-institutional situations. In summary:

The PHU were notified of an outbreak of gastrointestinal illness after a conference on 17/3/2012 at a conference centre. Attendees consisted of 45 adults and 8 children. Meals were provided for breakfast lunch and dinner. Sixteen people reported vomiting and diarrhoea 12 to 60 hours after the event. Three stool samples were submitted but were negative for pathogens. Reports of further cases in contacts of the conference attendees was reported to the PHU, this suggests it may have been a viral outbreak but the source of the pathogen remains unknown. (SSW201201)

The PHU were notified of an outbreak of gastrointestinal illness in a school group returning from an excursion on 23/3/2012. The school group stayed in Canberra between 21 – 23/3/2012. 49/107 students and 3/5 staff became unwell commencing the evening of 23 March whilst on route back to Sydney (2 students presented to hospital). Illness duration was 24-48 hours. No clinical samples were taken. The PHU was not able to interview the group so could not better characterize the outbreak or identify a potential source. It did appear to be a point source outbreak of a viral pathogen. (NSCC201201)

Notes for Quarterly Report

Data was reported as received by the Communicable Diseases Branch on 16 April 2012. 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 16 March 2012, the information in this report and in the Outbreak Register may not be complete.