OzFoodNet—Enhancing Foodborne Disease Surveillance Across Australia.

First Quarter Summary, 2008
Queensland

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January – March 2008

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Overview of Quarter

This is the first quarterly report for 2008 from the Queensland foodborne disease surveillance site, one of eight sentinel sites around Australia which comprise OzFoodNet. This report summarises the surveillance activities and outbreak/cluster investigations conducted in Queensland between January and March 2008. Surveillance data is summarised for the following nine pathogens/conditions: *Salmonella* spp, *Listeria monocytogenes*, *Campylobacter* spp, *Shigella* spp, *Yersinia enterocolitica*, Typhoid Fever, Paratyphoid Fever, Shiga toxin-producing *E. coli* and Haemolytic Uraemic Syndrome (HUS).

The following are key points from this report:

- During the January - March 2008 reporting period 2,353 cases of illness due to the nine foodborne pathogens or conditions under surveillance were notified to Queensland Health. This compares with 2,027 cases notified for the corresponding period in 2007.

- *Campylobacter* notifications increased by 40% in comparison to the same reporting period in 2007 and were 35% higher than the 5-year mean.

- There were 5 cases of listeriosis and 8 cases of STEC infection reported during this quarter.

- There were 26 documented outbreaks of gastrointestinal illness in Queensland during the first quarter 2008 affecting at least 390 people. Five of these outbreaks were likely to have involved foodborne transmission. Norovirus was confirmed as the aetiological agent in 12/21 (57.1%) non-foodborne outbreaks.

Incidence of Foodborne Disease

During the January to March 2008 reporting period 2,353 cases of illness due to the nine foodborne pathogens or conditions under surveillance were notified to Queensland Health (Appendix: Table 1). This compares with 2,027 cases notified for the corresponding period in 2007, an increase of 16%. *Campylobacter* was the most frequently notified foodborne pathogen followed by *Salmonella*. *Campylobacter* notifications (1,505) for this period were 40% higher than the same period in 2007 and 35% higher than the 5-year mean (2002-2007). Whereas, the number of notifications of *Salmonella* (762) received during the first quarter of 2008 decreased by 14% in comparison to the same period in 2007 and were 21% lower than the 5-year mean. Together, these two pathogens contributed to 96.3% of the total foodborne illness notifications received during the first quarter.
There were five cases of *Listeria monocytogenes* infection notified during this quarter. Cases were all females aged from 54 years to 99 years. Investigations indicated that all five cases appeared to be sporadic. All isolates were serotype 1/2b, however, binary gene typing identified three different genetic profiles among these isolates. There were 8 cases of Shiga toxin-producing *E. coli* (STEC) infections reported during the quarter. Four of the 8 cases had culture positive stools and the remaining four cases were identified by the detection of toxin in their stools using EIA. Two case isolates had non-typable O antigens and the other two cases were typed as O157 and O111. No source of infection was identified for any of the cases and all appeared to be sporadic infections. Three of the eight STEC cases subsequently developed Haemolytic Uraemic Syndrome. Cases were aged <1 year, 5 years and 29 years. There were no deaths among these cases.

**Foodborne Disease Outbreaks**

Five outbreaks of foodborne illness were investigated during the first quarter of 2008. *Campylobacter* was identified as the aetiological agent in two outbreaks, Norovirus in one outbreak, ciguatera fish poisoning was suspected as the cause of another outbreak and no aetiological agent was identified in the remaining outbreak. No hospitalisations or deaths were associated with foodborne outbreaks during the first quarter 2008.

Two separate outbreaks of gastroenteritis occurred in restaurant settings in Brisbane during February 2008. The first outbreak affected four people who dined together on 15 February 2008 at a Brisbane restaurant. All four cases had consumed chicken liver pate at the restaurant. All cases had symptoms including diarrhoea and stomach cramps and *Campylobacter jejuni* was identified in a faecal specimen from one case. There was no leftover pate for microbiological testing. The second outbreak involved two people from the same household who had consumed chicken dishes at a different Brisbane restaurant on 20 February 2008. Both cases had similar symptoms and *Campylobacter jejuni* was identified in one faecal specimen. No food items were available for testing.

An outbreak of suspected ciguatera fish poisoning was reported in March 2008 after two people consumed Yellowtail Kingfish at a private residence and became ill with symptoms including reversed temperature sensation, vomiting and diarrhoea. The incubation period for both cases was approximately 17 hours. The fish was purchased from a local seafood business in Brisbane and was thought to have been caught off the NSW coast.

A large outbreak of gastroenteritis was reported among attendees participating in a five day training operation held at a Brisbane academy in the week beginning 10 March 2008. Fifty-six of 138 attendees developed gastroenteritis symptoms between 12/3/2008 and 16/3/2008. The epidemic curve suggested a common source exposure with almost half the cases (27/56)
having onsets of illness within a six-hour period on the 12/3/2008. A retrospective cohort study identified a cold meat and salad dish (RR=2.0, 95%CI: 1.5 - 2.7, P=0.004) to be significantly associated with illness. Norovirus was detected in 8/8 faecal specimens. No food items were available for microbiological testing. Transmission was primarily thought to be person to food to person. Food was prepared by an external caterer for this workshop.

A gastrointestinal illness outbreak was reported among guests who had attended a wedding reception held at a local golf club. Information was obtained from 17/85 guests. Six of the 17 interviewees reported vomiting and/or diarrhoea within 3 days of the function. Faecal specimens were negative for viral and bacterial pathogens. A case-control analysis of data collected from the 17 interviewed guests did not show any specific food item to be significantly associated with illness. No source of infection or aetiological agent could be identified from this investigation.

Non-foodborne Investigations

There were 21 non-foodborne outbreaks affecting a total of 320 people were notified during the first quarter 2008, with 18 suspected to have been person-to-person transmission. The remaining three outbreaks were of unknown transmission. The outbreaks occurred in aged care facilities (12), child care facilities (4), restaurants (2), camp (2) and a school. Norovirus was the responsible aetiological agent in 12/21 (57.1%) outbreaks. No agent was identified in the remaining outbreaks, however viral aetiologies were suspected.

One outbreak that affected 25 residents and staff from an aged care facility reported a mixed aetiology though most cases were suspected to have a viral cause through person to person transmission. Faecal specimens collected during the investigation were positive for Norovirus (3 cases), *Salmonella* Enteritidis PT26 (3 cases), and *Blastocystis hominis* (2 cases). No source of infection was identified for the *S.* Enteritidis PT26 cases. All water and environmental samples taken on-site were negative for viral and bacterial pathogens.

Cluster Investigations

Queensland initiated five cluster investigations during the quarter which included: 5 cases of *Salmonella* Litchfield, 2 cases of S. Uganda, 9 cases of S. Singapore, 4 cases of S. Adelaide and 5 cases of S. Birkenhead. No common source of infection was identified during these investigations.

Nine cases of S. Singapore were notified between 13/2/2008 and 5/4/2008. Three cases in February were part of a cluster in Townsville which included two siblings and a friend (aged 1, 2, & 3 years). The only common exposure among these three cases was a birthday party but
no source of infection was identified. Another two cases of *S. Singapore* (55 year old mother and 23 year old daughter) were notified in March. Both were of Burmese culture. The food history from these cases suggested a chicken and rice dish as a possible vehicle of transmission.

Apart from these clusters, there were six cases of *S. Mississippi* notified during the first quarter 2008. Five of the six cases were interviewed. Of these five cases, one case had reported travel to Tasmania prior to infection and one had visited Vanuatu. The remaining cases appeared to be locally acquired infections with no recent history of interstate or overseas travel. No common links were identified among the five interviewed cases. One case reported consuming a large quantity of Tasmanian Atlantic smoked salmon prior to infection. Interestingly, the Victorian OzFoodNet site also reported a case of *S. Mississippi* during this quarter who had reported eating the same product. Isolates from both cases have been submitted for MLVA testing.

**Site Activities**

During the Quarter the Queensland Site:

- Attended the OzFoodNet face-to-face meeting held in Hobart in February 2008.
- Continued the review of the Queensland Foodborne Illness Outbreak Management Guidelines.
- Commenced formal surveillance of norovirus genotypes in viral enteric outbreaks in Queensland (in conjunction with the Virology unit, Queensland Health Forensic & Scientific Services).

**Publications/Reports/Conference Presentations**

**First Quarter 2008 Journal Publications**


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## APPENDIX

Table 1. Number of notified cases of foodborne pathogens in Queensland, first quarter 2008

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* STEC : Shiga-toxin producing E. coli  
** H.U.S : Haemolytic Uraemic Syndrome  
‡ YTD: Jan-Mar 2008