

An outbreak of *Salmonella* Typhimurium phage type 29 linked to a noodle restaurant in South Australia

Ingrid G Tribe,¹ Helen Tsimogiannis,² Princess Mmolawa,³ Dianne Davos³

In January 2001, a cluster of 24 cases of salmonellosis was investigated by the Communicable Disease Control Branch, Department of Human Services, South Australia. Hypothesis generating interviews sought demographic, illness, food purchasing practices, food consumption, social activities, and animal contact information for the 7 day period prior to the onset of symptoms. Eight (7 female, 1 male, age range 11 to 40 years) cases reported eating at an Adelaide noodle restaurant between 17 and 22 December 2000. The predominant symptoms were diarrhoea (100%) with 37.5 per cent reporting bloody diarrhoea, abdominal pain (87.5%), fever (75%) and nausea (75%). The median incubation period from eating at the restaurant to illness was 4 days (range: 2 to 6 days). Where obtained, the median duration of symptoms was 9 days (range 6 to 17 days). Five stool specimens obtained from cases were positive for *Salmonella* Typhimurium phage type 29 and a further 3 stool specimens were positive for *Salmonella* Typhimurium phage type untypable. A polymerase chain reaction based test showed the relatedness of the untypable isolates with the phage type 29 isolates. In addition, there were 3 reports of gastrointestinal illness in restaurant employees. All 3 employees reported the onset of gastrointestinal illness between 17 and 18 December 2000. One symptomatic employee reported working in various food preparation and delivery roles from 18 to 22 December 2000.

With the exception of individual serves of Vietnamese cold rolls (2 patrons); spring rolls; and prawn crackers, heated noodle dishes were consumed by all cases. Of the 3 employees who experienced gastrointestinal illness, all

reported eating Vietnamese cold rolls on the day prior to the onset of symptoms. An environmental investigation conducted 3 weeks after the exposures found food handling procedures were satisfactory. However, several environmental concerns related to the maintenance and cleanliness of the premises, adequate hand washing facilities, and the protection of food from external contamination were identified. All environmental and food sampling were negative for *Salmonella* sp.

Although the source for this outbreak was not established, a microbiological and epidemiological investigation identified a link between infection with *Salmonella* Typhimurium phage type 29 and the consumption of prepared food at the restaurant. Additionally, 3 employees experienced gastrointestinal illness following the consumption of prepared food at the restaurant. Of these, 1 employee reported working while symptomatic. The possibility that an infected food handler contaminated foods that required no subsequent cooking (e.g. garnishes) cannot be excluded. However, the employee has not been confirmed as the index case. Likewise, unrecognised cross-contamination in the kitchen may have occurred resulting in a range of contaminated dishes. Nonetheless, this outbreak highlights the need for food handlers to be excluded from the direct handling of foods while experiencing gastrointestinal illness. Further follow-up inspections and corrective action were coordinated by local government with the co-operation of the restaurant owners. No further cases of *Salmonella* Typhimurium phage type 29 infection reported dining at this noodle restaurant.

1. Communicable Disease Control Branch, Department of Human Services South Australia.
2. Environmental Health Officer, Corporation of the City of Adelaide, South Australia.
3. Institute of Medical and Veterinary Science, South Australia