

4 FOOD- AND WATER-BORNE DISEASES

a Foodborne disease outbreak: Limpopo Province

On 22 January 2014, 36 healthcare workers attending a workshop at a lodge in Mokopane (Waterberg District, Limpopo Province) presented with abdominal cramps, diarrhoea and fever, and were taken to Voortrekker Hospital for management. Of these, seven patients were admitted for further investigation. The onset of gastrointestinal symptoms in most case-patients occurred a day after eating all meals together at the training venue: breakfast and dinner were provided by the lodge's in-house kitchen, with tea and lunch being provided by an external caterer. Stool samples were collected from eight case-patients. Non-typhoidal *Salmonella* spp. was isolated from four stool samples; further characterisation of three available isolates at the Centre for Enteric Diseases (NICD-NHLS) showed them all to be *Salmonella* Enteritidis. There were no food retention samples or representative leftovers from any of the meals served during the training workshop. A non-

implicated food sample and water samples taken at the lodge were tested at a private laboratory and no pathogens were identified. Environmental health practitioners conducted audits of the lodge and external caterer's food preparation facilities and food handling practices. Potential hazards for cross-contamination of food items were identified at both facilities. Health education regarding safe food handling and preparation practices was given to the in-house kitchen and external caterer staff.

The epidemic curve shown in Figure 2 corroborates the point source nature of the outbreak, and illustrates the peak onset of symptoms at midnight, 22 January 2014. Given that the median incubation period for foodborne non-typhoidal salmonellosis is 6-48 hours (but may be as long as 72 hours in some cases), any of the meals served on 21 January 2014 could potentially have been the source of infection.

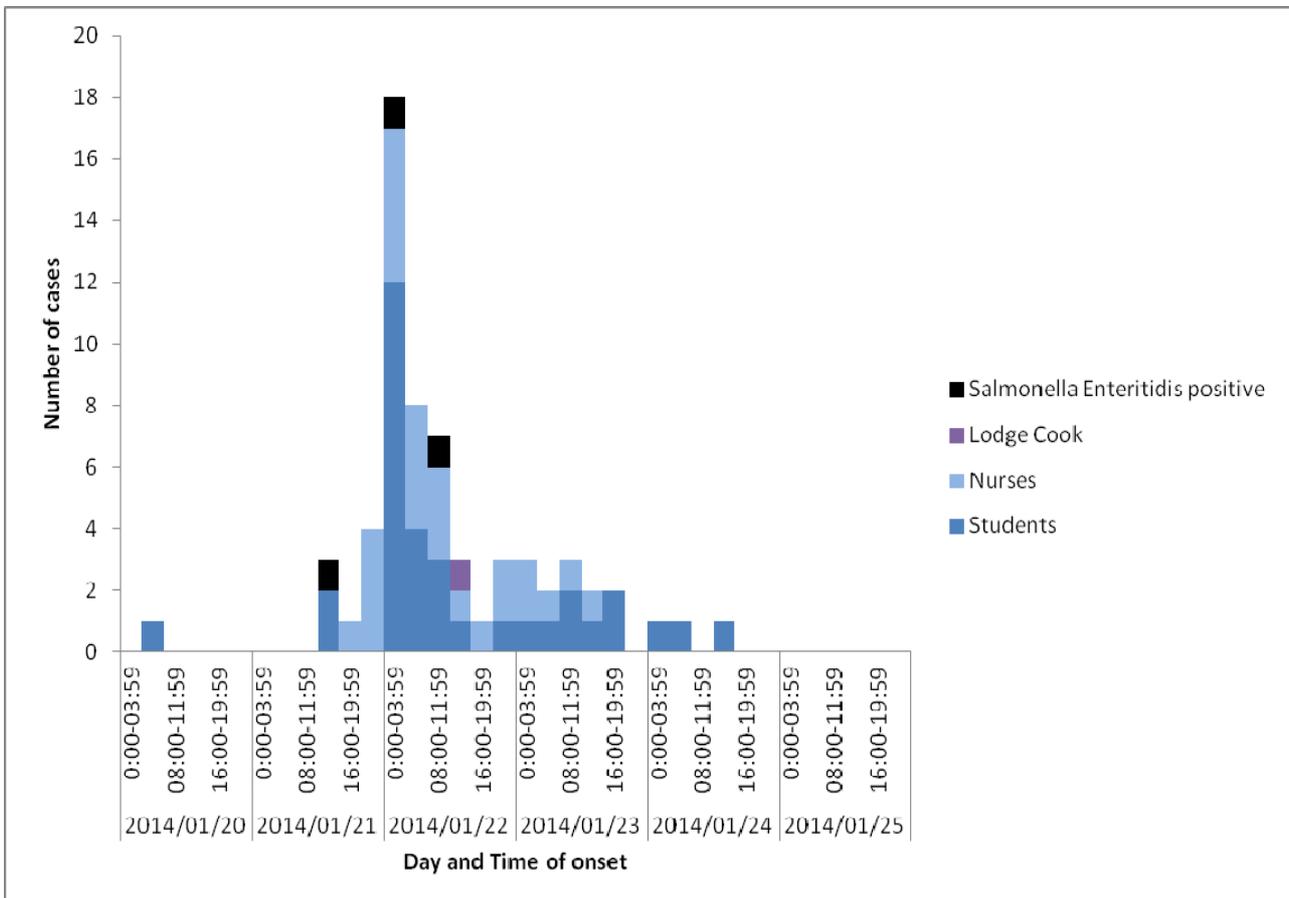


Figure 2. Foodborne disease outbreak in Mokopane (Limpopo Province), January 2014: epidemic curve of cases by date and time of symptom onset

Although foodborne disease outbreaks caused by *S. Enteritidis* have classically been associated with eggs and poultry products (chicken and turkey), a wide range of food commodities have been linked with *S. Enteritidis* outbreaks, including: beef, cheese, ice cream, pine nuts, raw almonds, raw sprouts, cream cakes and puddings. Eggs are common ingredients in many food commodities (e.g. sauces, mayonnaise, lasagne, pastries and other bakery items, ready-to-eat and frozen foods) so the potential for outbreaks due to contaminated eggs is amplified and complicates outbreak source attribution.

Healthcare workers are reminded that a suspected foodborne disease outbreak is defined as the occurrence of ≥ 2 epidemiologically-linked cases presenting with acute vomiting, diarrhoea, or

abdominal pain. Epidemiological linkage is inferred when the case-patients have consumed common foodstuffs/beverages. A suspected foodborne disease outbreak constitutes a category A notifiable medical condition in South Africa, and must be reported to the relevant health authority telephonically within 24 hours for appropriate public health response to occur.

The National Department of Health has published clinical guidelines on management and control of infectious foodborne diseases in South Africa, which can be downloaded at: www.health.gov.za/docs/Policies/2012/fooddisease.pdf.

Source: Source: Outbreak Response Unit, SA-FELTP, and Centre for Enteric Diseases, NICD-NHLS; Limpopo Province Department of Health