

# Investigation of a Food Poisoning Outbreak from Beef Stew with Coconut Milk Sauce Consumption — Kulon Progo District, Indonesia, 2018

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## Background

On 11 April 2018, Wates Hospital, Kulon Progo District reported that there were 13 patients with symptoms of nausea, vomiting, abdominal pain and diarrhea after consuming a meal from a wedding celebration in Pengasih Sub-District, the day before. An investigation was conducted to confirm the outbreak, identify the cause, and recommend preventive measures.

## Methods

Active case finding was done by door-to-door visits. An analytical study was done using a retrospective cohort design. Cases were persons who had at least one symptom of nausea, vomiting, abdominal pain or diarrhea, with or without headache, after eating a meal from the wedding celebration at Mr. X's house, in Pengasih on 10 April 2018. Data were collected through interviews. Environmental investigation was done by interviewing food handlers and Mr. X's wife. Data were analyzed using Chi-square tests and Poisson regression using  $\alpha=5\%$ . We collected food, stool and vomitus samples and sent them to Yogyakarta Health Laboratory.

## Results

We estimated that 240 guests attended the wedding and received the food, according to Mr. X's information. We interviewed 209 guests and found 143 cases (AR=68.4%). Main symptoms were diarrhea and abdominal pain (97.2%). Incubation periods ranged from 1-9.5 hours (average 5). Multivariate analysis showed that beef stew was associated with illness (aRR=49.33, 95% CI=6.29-386.60). We found that the color of raw meat was pale red. Beef stew was cooked on 9 April 2018 between 9-11.30 AM and stored at room temperature for 20.5 hours. We found only beef stew sample. Laboratory testing found *Proteus mirabilis*, *Klebsiella pneumonia*, and *Pseudomonas sp* in the beef stew sample.

## Conclusions

A food poisoning outbreak happened on 10 April 2018 at Pengasih after consumption of contaminated beef stew. Improper cooking and storage of the meat led to consumption of contaminated beef. Education of residents on safe food handling was done as a preventive measure.