



Emerging and Reemerging Infectious Diseases, Region of the Americas

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Typhoid Fever Epidemic in Ca Pierre, Haiti

30 June 2004: The PAHO/WHO Country Office in Haiti was alerted on 16 June 2004 of a probable typhoid epidemic, as a result of which 84 persons had received medical attention and 11 deaths had occurred during the first half of the week of 14 June. This represented a sharp increase over the average of 20 visits under normal conditions. The next day, a team was sent to conduct an on-site investigation in the western part of the country, in the commune of Arcahaie, vicinity of Ca Pierre, located 100 kilometers from the capital city of Port au Prince. The investigation team consisted of an epidemiologist from the Haitian Ministry of Health, a nurse from the non-governmental organization (NGO) "SADA", and the PAHO/WHO Coordinator of Sentinel Surveillance.

The team confirmed that during the week of 14 June, nearly 150 persons were treated for headache and fever, followed by stomachache, diarrhea and vomiting in the majority of the cases. Most were from nearby towns, especially Ti Plas. There were 14 deaths among persons between 2 and 60 years of age.

A previous epidemic took place in 1992, with more than 50 deaths.

Actions Undertaken

The team provided support to the Emergency Task Force set up with support from the NGO "SADA". Affected persons with recurrent symptoms were treated, blood samples were taken from 12 of them, and antibiotics (chloramphenicol or amoxicillin) were prescribed and administered. Health-education sessions were held on water-borne diseases and on how to treat drinking water, which were also extended to Agon Jean, epicenter of the epidemic. The Task Force conducted an extensive campaign to disseminate information within the community and distributed 200 water-treatment kits, as well as 5-gallon plastic containers for drinking water, half-liter jugs of bleach, and a drip-counter. Water samples were taken from 6 different sources.

Conclusions

Laboratory tests on blood samples taken resulted in 2 positives for *Salmonella typhii* out of the 12 samples. Tests on the 6 water samples produced the following results:

- Chemical analysis showed that 5 of the 6 water sources showed nitrate contamination.
- Microbiological analysis showed the presence of coliform organisms in all 6 sources, with *Escherichia coli* present in 2 of them and *Salmonella* in 1.

The *general absence of latrines, lack of treated drinking water, and unprotected water sources* were all contributing factors in this epidemic. The main community water source is located in a ravine, linked to a nearby brook used as a toilet. The *scarcity of financial resources for health care* was also partially responsible for the high number of deaths: many patients died before reaching the hospital. The dispensary run by the NGO "SADA" is still seeing sick people, but fewer of them. However, the new cases show that people are still not systematically treating their drinking water.

Recommendations

- *Short-term*: Reinforce actions to educate the population on the importance of treating drinking water.
- *Mid-term*: Protect, rehabilitate and evaluate risky water sources. Construct latrines.

[Photo Gallery](#)

Source: [Rapport final de la Mission d'investigation d'une rumeur d'épidémie a Ca Pierre, Commune de Fon Batis, 7^{ème} section communale d'Arcahaie](#) (Final Report of the Investigative Mission of a Rumor of an Epidemic in Ca Pierre, Fon Batis Commune, 7th Communal Sector of Arcahaie). Port au Prince: Pan American Health Organization / World Health Organization, Country Office in Haiti (PAHO/WHO-Haiti), 30 June 2004. (in French)