



Outbreak of Gastrointestinal Illness Aboard Cruise Ship *GTS Constellation*, Port Liberty, NJ

On October 23, 2006, Royal Caribbean International (RCI), a parent company of Celebrity Cruise Lines, notified the VSP and Health Canada that 45 (2.3%) cases of GI illness had been reported to the infirmary among passengers; at this time no cases had been reported among crew members aboard their ship, the *GTS Constellation*. On October 16, 2006, the ship sailed from Port Liberty, New Jersey with 1,955 passengers and 978 crew members (Appendix A).

An Epidemic Intelligence Service (EIS) officer from CDC's National Center for Environmental Health assisted in the investigation to determine the characteristics and extent of GI illness aboard the *GTS Constellation*, the causal pathogen, the potential modes of illness transmission, and enact public health intervention and control procedures. The team met the ship on November 3, 2006 in Ocho Rios, Jamaica and sailed aboard through November 7, 2006 when she docked at Cape Liberty, New Jersey.

The primary objectives of this investigation were to:

- determine the etiology of the outbreak
- determine the method of transmission among passengers
- develop recommendations to stop the current spread of the illness and prevent future occurrences of illness.

Laboratory specimens collected

Two of out eight stool specimens tested positive for norovirus.

Analysis of the survey

- 1776 Passenger surveys distributed;
- 1386 Passenger surveys collected (response rate = 78%);
- 13 Passenger surveys indicated the respondent was ill before boarding;
- 271 Passenger surveys indicated indeterminate illness or were incomplete
 - These respondents noted some symptoms but did not meet the case definition.
- 964 Passenger surveys indicated no illness
- 133 Passenger surveys met the case definition

Appendix A

Itinerary for *GTS Constellation* Voyage 170 — October 16, 2006 through October 27, 2006

16 October 2006	Cape Liberty, New Jersey (embarkation day)
17 October 2006	At sea
18 October 2006	Boston, MA
19 October 2006	Bar Harbor, ME
20 October 2006	Halifax, Nova Scotia
21 October 2006	At sea
22 October 2006	Quebec City, Quebec
23 October 2006	Saguenay River, Quebec
24 October 2006	At sea
25 October 2006	Portland, ME
26 October 2006	At sea
27 October 2006	Cape Liberty, New Jersey (disembarkation day)

Itinerary for *GTS Constellation* Voyage 171 – October 27, 2006 through November 7, 2006

27 October 2006	Cape Liberty, New Jersey (embarkation day)
28 October 2006	At sea
29 October 2006	At sea
30 October 2006	Key West, Florida
31 October 2006	Cozumel, Mexico
1 November 2006	Grand Cayman, Bahamas
2 November 2006	Costa Maya, Mexico
3 November 2006	Ocho Rios, Jamaica
4 November 2006	Labadee, Haiti
5 November 2006	At sea
6 November 2006	At sea
7 November 2006	Cape Liberty, New Jersey (disembarkation day)