

## Norovirus Syndromic Surveillance Among Commercial Tour Bus Passengers: A Pilot Project – Yellowstone National Park, August 2014

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**Summary:** During a pilot project, a CDC disease detective uncovered five potential norovirus clusters on overnight Yellowstone National Park tour buses in August 2014, suggesting a new way to potentially ruin a vacation.

### Abstract:

**Background:** In 2013, a norovirus outbreak associated with infected passengers on commercial tour buses affected >475 visitors and employees at Yellowstone National Park (YNP). Annually, >222,000 visitors enter YNP on buses where crowded settings can facilitate person-to-person norovirus spread. We evaluated a pilot surveillance system to track ill passengers on overnight tour buses.

**Methods:** During August 4–31, 2014, tour bus guides registering their groups' first YNP hotel stay voluntarily completed a questionnaire assessing the number of passengers with self-reported vomiting or diarrhea, tour company name, date and first overnight stay location, and city of tour origin. Completed questionnaires were faxed daily to the National Park Service Office of Public Health. Front desk managers completed a postpilot evaluation addressing system feasibility.

**Results:** Response was high, with 290 of 299 (97%) guides completing the questionnaire. Data quality was less complete; only 191 of 290 (66%) forms contained date and first overnight stay location. Five of 191 (3%) guides reported passengers with vomiting or diarrhea. No associations between illness and previously described variables were identified. Front desk managers indicated a median of 1 minute (range: <1–10 minutes) for questionnaire completion. Seventeen of 18 (94%) responding managers indicated guides were receptive to the questionnaire. Eight of 18 (44%) managers agreed the questionnaire helped ensure prompt identification of ill passengers. Nine of 18 (50%) managers were interested in continuing this surveillance system.

**Conclusions:** Bus-specific syndromic surveillance posed a minimal time burden for bus guides, but aided prompt identification of five potential norovirus clusters. Locating park-associated clusters early is essential for limiting transmission. This system appears useful in detecting outbreaks; further testing in other high-volume tourism settings is warranted.