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Notes from the Field: Norovirus Outbreak at a Boys' Basketball Tournament — Kentucky, February 2012

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On February 6, 2012, the Kentucky Department for Public Health was notified by a local health department of multiple cases of vomiting and diarrhea among participants in a statewide, 7th grade boys' basketball tournament that was held February 3–5. State and local health officials partnered with CDC in an investigation to determine the extent of the outbreak, confirm the cause, and assess potential modes of transmission.

Basketball coaches were asked about any known ill players or spectators. Regional epidemiology staff members worked with school nurses to conduct interviews and check absentee data to identify players with acute gastroenteritis (AGE), defined as vomiting or diarrhea ≤ 72 hours after tournament attendance. Kentucky Department for Public Health staff members interviewed employees who had worked at the tournament to identify additional AGE cases. Patients were asked about their illness history, food and water exposures, and lodging during the tournament. Based on clinical histories, norovirus disease was suspected initially. Stool specimens were requested from persons with AGE for norovirus testing and characterization by reverse transcription–polymerase chain reaction.

Among 52 participating teams, 49 (94%) teams (comprising 573 players) were contacted. Thirty-six teams (73%) reported at least one ill player. Sixty-two employees were identified who had worked at the tournament, and 46 (74%) were interviewed. A total of 242 persons with AGE were identified and interviewed, including 154 (27%) of the 573 players, 12 (26%) of the 46 employees, 11 coaches, and 65 spectators (the total numbers of coaches and spectators attending could not be determined). Nineteen (8%) persons with AGE had sought medical care, including two children who were hospitalized. Three persons from three separate teams had experienced illness onset before the tournament, and one had vomited courtside in a crowded gymnasium on the first night of the tournament. The vomitus was cleaned up by tournament attendees, and janitorial staff members were notified 3 days later. Symptom onset occurred among 196 (81%) ill persons on days 2 and 3 after the vomiting episode. No common food or water sources were identified as potential vehicles for transmission.

Six stool specimens were collected from five players and one spectator; all tested positive for norovirus. Five were sent to CDC for sequencing, and results yielded the identical genogroup II type 7 (GII.7) strain, a relatively rare norovirus strain. These confirmed cases represented players or spectators from four different teams. The three persons who had arrived at the tournament with gastrointestinal symptoms were unable to provide stool specimens for norovirus testing. However, three of the six confirmed stool specimens came from participants who had played on the court where the vomiting episode occurred.

Norovirus is a highly contagious pathogen and the leading cause of AGE outbreaks worldwide (1). Abundantly shed in feces and vomitus, norovirus can be transmitted through direct person-to-person contact, contaminated food or water, and contaminated environmental surfaces (1). Investigation of this statewide basketball tournament in Kentucky identified evidence of direct and indirect person-to-person norovirus transmission, likely resulting from the court-side vomiting episode and subsequently from environmental surfaces contaminated by virus aerosolized from vomitus. Person-to-person transmission occurring during collegiate and professional sporting events has been documented previously (2,3). Exclusion of players experiencing gastroenteritis symptoms ≤ 24 hours preceding a sporting event, increased education regarding personal hygiene, and cleaning and disinfection of environmental surfaces that might have been contaminated with vomitus by using agents with demonstrated efficacy against norovirus (e.g., bleach) can reduce sports-associated norovirus outbreaks (1).

Reported by

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References

1. CDC. Updated norovirus outbreak management and disease prevention guidelines. MMWR 2011;60(No. RR-3).
2. Becker KM, Moe CL, Southwick KL, MacCormack JN. Transmission of Norwalk virus during football game. *N Engl J Med* 2000;343:1223–7.
3. Desai R, Yen C, Wikswo M, et al. Transmission of norovirus among NBA players and staff, winter 2010–2011. *Clin Infect Dis* 2011;53:1115–7.

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