Fecal Accidents in Community Swimming Pool Case Study

During June of 2000, several children in Delaware, Ohio, were hospitalized at Grady Memorial General Hospital (GMH) after experiencing watery diarrhea, abdominal cramps, vomiting, and loss of appetite. Dr. McDermott, a new gastroenterologist at GMH, who also had a strong interest in infectious diseases, was asked to examine the children. Their illness lasted from 1 to 44 days, and nearly half of them complained of intermittent bouts of diarrhea. By July 20, over 150 individuals—mainly children and young adults between the ages of 20 and 40—experienced similar signs or symptoms. Dr. McDermott suspected that their illness was due to a microbial infection and queried the Delaware City County Health Department (DCCHD) to investigate this mysterious outbreak further.

Dr. McDermott helped the DCCHD team in surveying individuals hospitalized for intermittent

diarrhea. They questioned individuals about recent travel, their sources of drinking water, visits to pools and lakes, swimming behaviors, contact with sick persons or young animals, and day-care attendance. The DCCHD’s investigation reported that the outbreaks were linked to a swimming pool located at a private club in central Ohio. The swimming pool was closed on July 28. A total of 700 clinical cases among residents of Delaware County and three neighboring counties were identified during the entire span of the outbreak that began late June and continued through September. At least five fecal accidents were observed during that time period at the pool. Only one of these accidents was of diarrheal origin. Outbreaks of gastrointestinal distress associated with recreational water activities have increased in recent years, with most being caused by the organism in this case.

* *Do you know what microorganism might be the cause of the outbreak?*
* *How can a single fecal accident contaminate an entire pool and cause so many clinical cases of gastrointestinal distress?*