



Tracing foodborne illness often not easy

Why does it take so long to identify what is causing an outbreak of foodborne illness?

That's a great question, but the length of some of these investigations makes sense once you start thinking about it.

The official definition of a foodborne disease outbreak is "an incident in which two or more persons experience a similar illness resulting from the ingestion of a common food." In some cases, the cause of an outbreak isn't difficult to track down. When a group of people who have attended the same event and ate the same food report similar cases of gastrointestinal illness, it's often quick work to pinpoint the cause.

But public health officials say the hardest outbreaks to detect are those that are spread over a large geographic area. That's been the case for many high-profile outbreaks in recent years.

Twenty years ago, these outbreaks may never have even been identified — authorities didn't have the tools to link isolated cases together. You might recall the 1993 *E. coli* O157:H7 outbreak in Oregon and other Western states in which hundreds became ill and four children died. During that crisis, the Centers of Disease Control and Prevention used DNA "fingerprinting" with a technique called pulsed-field gel electrophoresis, and found that the strain of *E. coli* in patients was the same strain found in hamburgers from a fast-food chain. Using this technology allowed prompt recognition of the outbreak, and officials believe doing

so may have prevented an estimated 800 additional illnesses. As a result of that success, public health authorities created a system called PulseNet to allow scientists across the country to quickly compare DNA tests of bacteria from ill people to see if they are similar.

Even though it's easier to detect an outbreak, it's often difficult to trace the cause. Depending on the cause, people can get sick as quickly as 30 minutes after eating a contaminated food to many days or weeks afterwards. Most people have trouble recalling everything they consumed several days before being asked, and testing of those foods often isn't possible — they're long gone by the time an investigation begins.

To reduce your risk of contracting a foodborne illness, be sure to wash your hands thoroughly before and after preparing and eating food, cook foods thoroughly, and wash cutting boards and utensils with hot water and soap after handling raw meat. Also, rinse fresh produce under running water just before consuming it. Children, the elderly, and anyone with a compromised immune system is most at risk, so take special care when handling food for those populations. For more information about safe food handling, go to <http://www.cdc.gov> and search for "Foodborne Infections."

Chow Line is a service of Ohio State University Extension and the Ohio Agricultural Research and Development Center. Send questions to Chow Line, c/o Martha Filipic, 2021 Coffey Road, Columbus, OH, 43210-1044, or filipic.3@cfaes.osu.edu.



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