Medical Xpress

Social media, DNA typing help identify source of foodborne strep outbreak

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Facebook posts helped alert public health officials to a strep throat outbreak among a high school dance team in 2012, and DNA fingerprinting led investigators to pasta prepared by a previously ill parent as the likely source. Although strep throat, or Group A Streptococcus (GAS) pharyngitis, usually spreads from person to person by droplets, foodborne transmission is possible, as a report published online in *Clinical Infectious Diseases* found. The most common form of GAS illness is strep throat, but some cases can have more severe consequences.

Among 63 people who consumed food at a Minnesota high school dance team banquet, 18 came down with strep throat less than three days later. When multiple posts soon appeared on the team's Facebook page about ill dance team members and relatives, a parent contacted the state health department.

After interviewing approximately 100 people by telephone—those who attended the banquet, household contacts of attendees, and those who did not attend but ate banquet leftovers—and conducting DNA typing of bacterial strains isolated from those who became ill, lead report author Sarah Kemble, MD, and her team of investigators at the Minnesota Department of Health narrowed the possible source of the outbreak to cooked pasta served at the banquet.

The DNA fingerprints of the strep bacteria isolated from the throats of those who became ill matched those of the bacteria identified in the

pasta. In addition, one person who became ill and did not attend the banquet, but who ate some of the leftover pasta brought home by family members who did attend, helped confirm how the bacteria was transmitted. This person had a laboratory-confirmed GAS infection that matched the same DNA fingerprint pattern. No one else in the household had symptoms of strep throat, and throat swabs on all the other household members were negative for the bacteria.

"We suspect cooked food was contaminated by respiratory droplets from a person who carried the strep bacteria in the throat when the food was cooling or reheating," Dr. Kemble said. "The food probably was not kept hot or cold enough to stop bacterial growth." Both the parent who prepared the pasta and a child in the same household reported having strep throat three weeks before the banquet."Foodborne illness is not limited to diseases that cause vomiting and diarrhea," Dr. Kemble noted.

The rapid communication possible within a large group using online social media played an important role in bringing this outbreak to the attention of a parent, who then contacted the health department, Dr. Kemble said. A more formalized use of social media for disease surveillance and outbreak investigations may have the potential to benefit public health in some circumstances, the authors noted.

Tips for Reducing the Spread of Foodborne Illness

- Do not prepare food for others if you are ill, especially if you are experiencing diarrhea, vomiting, or have a respiratory infection and are coughing or sneezing. If you are receiving treatment for an illness, ask your doctor how long you should wait after treatment before preparing food for others.
- When preparing food in large batches (e.g., for large groups of people), ensure the food is kept hot or cold. Disease-causing

bacteria grow best in the "temperature danger zone" of 41° F to 140° F.

- Use a thermometer to ensure that food items are meeting proper temperature requirements.
- Educational materials for those cooking for large groups are available from the U.S. Department of Agriculture: www.fsis.usda.gov/wps/portal/f … s/download-materials

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