Health & Medicine

Yelp if You've Got Food Poisoning

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After eating a restaurant meal that makes them ill, many people will go straight to the review site Yelp to voice their complaints rather than alert health authorities. The result is that outbreaks of food poisoning can sometimes go undetected for days or even weeks, leading more people to become sick.

But what if health officials could monitor, in real time, all the comments posted on Yelp for clues about where and when such outbreaks are occurring? A few years ago, a team of Columbia computer scientists led by Luis Gravano and Daniel Hsu developed an artificial-intelligence system that does just that, and they began sharing their results with food inspectors at the New York City Department of Health and Mental Hygiene. The scientists have now released the results of the experiment. It shows that between 2012 and 2017 their automated system identified 8,523

complaints of food-borne illness and ten situations in which restaurants were later confirmed by authorities to have served contaminated food to multiple customers.

“This represents a nearly 45 percent increase in the total number of complaints we would usually receive in that period,” says city health commissioner Mary T. Bassett ’79PS, noting that her staff investigates all reports of food-borne illness. “These are incidents that might otherwise have gone unreported.”

The Columbia technology is designed to flag any Yelp reviews that contain words like “sick,” “vomit,” and other terms that might indicate a person has experienced food poisoning. City inspectors then contact the author of the review — just as they would contact anyone who files a report of food-borne illness through the city’s 311 complaint line or website — to learn more about what they ate and their symptoms.

Gravano and Hsu say that their computer system has worked so well in New York that they are planning to roll it out in other cities, possibly with a new feature that will scan Twitter for tweets about bad meals and upset stomachs.

“Extracting information from social media is of high importance these days, because lots of people who wouldn’t think to file an official government complaint will nevertheless go online and tell everyone in the world that they’re sick,” says Gravano.



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