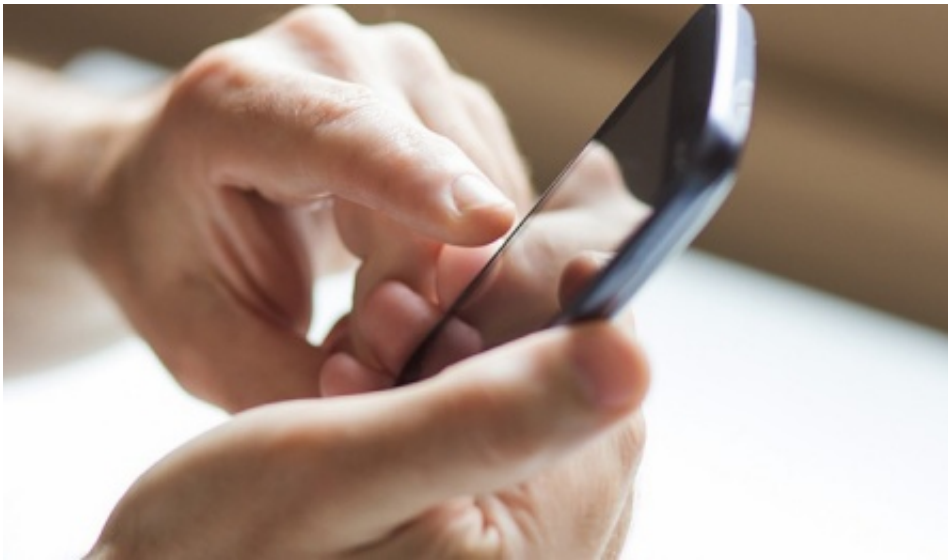


# Smartphone survey to track flu in Western New York

October 25 2016, by Charlotte Hsu

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Credit: University at Buffalo

When a flu epidemic hits a metropolitan area, it's helpful for public health officials to know how quickly the disease could spread and which residents may be most vulnerable to infection.

Answers to these questions can inform [prevention strategies](#), including how to direct educational efforts, whether to instruct workers or schoolchildren to stay home, and how to allocate supplies of vaccines.

To improve our understanding of epidemics, University at Buffalo

researchers are inviting Erie and Niagara County residents to take part in a smartphone survey to track the flu starting this fall.

All members of a household must participate. Those who fully complete the survey will be eligible to receive a minimum \$50 gift card. A household of three participants can earn up to \$200. Participants will be able to choose from a variety of retailers.

Every week during the [flu season](#), participants will use their smartphone to answer a handful of quick questions, including whether they experienced [flu symptoms](#), whether they went to the doctor, and what public places they visited (such as the mall or the grocery store). Participants will also be asked to keep their phones' location services activated, enabling the research team to analyze how people travel and come into contact with one another throughout the region.

Thousands of households will be invited to take part, and information from the survey will be used to create a computerized model that simulates how [communicable diseases](#) spread.

"For pregnant women, children and the elderly, the flu can be a serious illness with severe complications," says Ling Bian, UB professor of geography and director of the UB site of the National Center for Geographic Information and Analysis (NCGIA). "That's why this research is so important: The simulation will provide valuable information about how communicable diseases spread, helping policymakers understand which populations are vulnerable from a spatial perspective, and how epidemics can be better contained."

"The smartphone survey app we developed for the project is an innovative way to collect data," adds project coordinator Melissa Miller. "We tried to make the survey as simple and easy-to-use as possible, because we know people's time is valuable."

The computer model the researchers will develop will simulate how people move and come into contact with one another in a region. Then, within the simulation, scientists will be able to "infect" one or more residents with the flu and track how the malady spreads based on person-to-person interactions.

Though the model will be created using data from Erie and Niagara counties, it will be able to simulate conditions in various mid-sized metropolitan regions. The research, funded by a \$2.7 million grant from the National Institute of General Medical Sciences, represents an advance in modeling that could be used in other cities around the country.

**More information:** To sign up, visit [ncgia.buffalo.edu/TheFluSurvey/Home.html](http://ncgia.buffalo.edu/TheFluSurvey/Home.html)

Provided by University at Buffalo

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