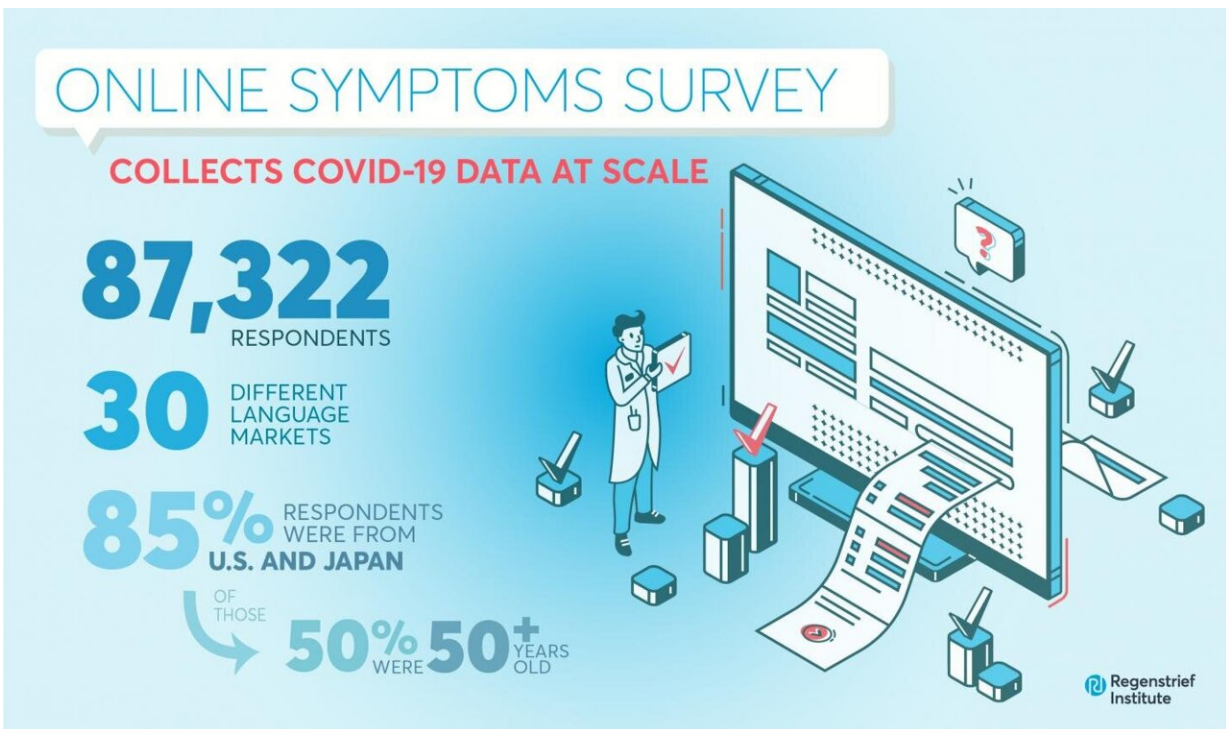


Online survey successful in gathering COVID-19 data at scale

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A new study has found that online news tools can be a useful strategy for reaching broad and diverse populations during emerging outbreaks, providing a quick and easy way to capture data on what is happening in the community at large rather than people hospitalized with the disease. "Capturing COVID-like Symptoms At-Scale using Banner Ads: A Novel Survey Methodology Pilot using an Online News Platform" is published in the *Journal of Medical Internet Research* (JMIR). Credit: Regenstrief Institute

A pilot project using an online survey to gather data on COVID-19 symptoms received more than 87,000 responses from around the world, providing important insight into the spread of disease. Project leaders from Regenstrief Institute, Indiana University and Microsoft believe these questionnaires could be a valuable tool for population health.

The 7-question survey was launched in multiple languages during April 2020, as lockdowns were implemented to slow the spread of COVID-19. A link to the survey was placed in banner ads in Microsoft News articles. Respondents answered questions about experiencing COVID-19 symptoms, testing and their recent travel. The survey was voluntary and anonymous.

The survey captured 87,322 respondents during a three-week period. Responses included people from every U.S. state and nearly every county in each state. 85.2 percent of the respondents were from the U.S. and Japan, and more than half of those were 50 years or older.

"We found this survey method to be feasible for collecting large-scale data from people in the community, enhancing disease surveillance," said study author Brian Dixon, Ph.D., MPA, director of public health informatics at Regenstrief Institute and IU Richard M. Fairbanks School of Public Health at IUPUI. "The population in this survey skewed older and reflects individuals who participate in traditional opinion surveys. Volunteers come across our call for help while, simply, reading the news. Other social media sites trend younger and draw from individuals constantly bombarded with quizzes and marketing surveys. Furthermore, the news platform we used was able to reach the population who is at higher risk of complications from COVID-19, which is important to monitor and target in public health efforts during this pandemic."

The data gathered is unique because it comes from community residents rather than people who were hospitalized with the disease. The survey

revealed several interesting insights about patterns of symptoms.

- Those who reported loss of taste or smell and fever, symptoms associated with active SARS-CoV-2 infection, were more likely to have been tested for COVID-19.* Individuals reporting symptoms were more likely to report travelling more than 15 miles from their home within the past two weeks.
- Those without symptoms were significantly less likely to report being tested. However, testing infrastructure in the U.S. was limited at the time of the survey.
- The number of people reporting symptoms was correlated with the testing rates in U.S. states, indicating that [symptom](#) monitoring could be a proxy for testing in places where testing might be limited.

"This approach offers access to a wide audience, many of whom might not be captured in other data gathering methods," said study author Mary L. Gray, Ph.D., senior principal researcher at Microsoft Research and faculty at Indiana University Luddy School of Informatics, Computing, and Engineering. "This work sheds light on the potential uses of this method for the current pandemic and other circumstances where data gathering at scale is needed quickly."

"Based on our results, online news tools can be a useful strategy for reaching broad and diverse populations during emerging outbreaks. It is a quick and easy way to gather a significant amount of data and appears to accurately capture what is happening in the community at large," said study author Shaun Grannis, M.D., M.S., Regenstrief vice president for data and analytics and IU School of Medicine professor of family medicine. "Combined with other methods, online news tools can help public health organizations quickly assess trends in emerging infections before individuals seek treatment, allowing a faster public health response."

The research team launched a second [online survey](#) in December 2020 to expand efforts to track symptoms, understand population behavior, and gather insights on vaccine attitudes.

Provided by Regenstrief Institute

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