

Tulane team develops monitoring system to provide early warning of COVID-19 hotspots

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Dr. Thomas LaVeist, dean of the School of Public Health and Tropical Medicine, is the principal investigator on the project, which has been funded by the Centers for Disease Control and Prevention.

Researchers at the Tulane School of Public Health and Tropical Medicine hope they can help metro New Orleans avoid a second spike in COVID-19 cases thanks to a new symptom monitoring application to be piloted in September.

New Orleans experienced one of the first spikes in cases of COVID-19 in the early days of the outbreak. After months of stay-at-home orders mandated by Mayor

LaToya Cantrell, the city began returning to more normal operations over the summer. Some local private schools have now opened for the fall semester, and many public schools are expected to reopen for in-person classes in September. The city's efforts were effective at "flattening the curve," but the risk of a second rise in cases remains a concern.

The Tulane Epidemic Monitoring and Prevention System (TEMPS) will provide a method for city residents ages 14 and older to report symptoms such as fever, cough, fatigue, muscle aches, loss of taste or smell, difficulty breathing, sore throat, congestion, nausea, or diarrhea. Participation will be voluntary, and those who register will provide a cell phone number, home address plus other addresses they or their children regularly visit, race/ethnicity, and year of birth. The app will also provide the option to add additional personal data including gender, history of COVID-19 testing and infection, and other health information. Names will not be collected.

Researchers hope to enroll 1,200 participants during the pilot phase. Each participant will receive a daily text with a link to report symptoms, either by checking off choices or by using voice commands.

Tulane public health researchers will map symptoms reported across the region to find locations and populations among whom COVID-19 may be starting to spread. Using this data, city officials will be able to arrange mobile testing services in likely areas, which they hope will prevent early hotspots from spreading through the general population, even as the region remains open.

The pilot phase is expected to last four to six weeks. "We will consider the pilot successful if people consistently submit reports, and if we are able to detect increases in symptoms in specific locations," said Dr. Janna Wisniewski, assistant professor in the Department of Health Policy and Management. "We will compare our symptom data with COVID-19 testing data to evaluate whether TEMPS is in fact detecting early hotspots." At the end of the pilot, researchers will also survey users to determine their satisfaction with TEMPS. They will make any changes necessary before rolling the application out to more residents in Orleans, Jefferson, and Saint Bernard Parishes.

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Wisniewski and Dr. Julie Hernandez are also actively involved. Dr. David Mushatt with the School of Medicine serves as the team's medical advisor, and Noel Wong and Bryan Stroebe in Tulane's Information Technology department provided support on the technology side. Student Caitlin Robbins was recently hired to support the team.