Project Stories

ONE MILLION AND COUNTING: BROADENING ACCESS TO SYMPTOM MONITORING FOR PANDEMIC RESPONSE

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Topics: Public Health, Health IT, Disease Outbreaks, Health Innovation

As the coronavirus spread disproportionally affecting low-income communities, MITRE's Sara Alert™ emerged to support public health's response to COVID-19 with remote symptom monitoring and contact tracing.

The novel coronavirus has brought issues of equity and public health to the forefront of our nation's response to the pandemic. Providing increased efficiency in tracking active and potential cases of the virus leads to earlier containment and reduces the burden on public health resources.

Sara Alert™ provides increased support to communities by automating the process of public health monitoring and reporting and expediting necessary follow-up of individuals sick with COVID-19—or who have been exposed to or infected with SARS-CoV2 or other infectious disease.

Sara Alert allows individuals to report daily symptoms through web, text, email, and phone calls. As a standards-based, cloud-based open-source tool, it's available for public and private use and can be easily integrated with other tools.

Its design embodies equity in public health by providing free remote health monitoring and reporting regardless of broadband or cellular technology access. Because Sara Alert automates the process and includes multiple ways of reporting, households reliant on landlines are also able to enroll.

That's a key reason MITRE developed Sara Alert—to help bridge the resource gap found in many communities and offer a tool that can be used even for those who

don't have internet access or own a mobile or smart phone.

"Wealthier people tend to have more digital access and greater access to smartphones," says Dr. Paul Jarris, chief medical adviser for MITRE's health program and Sara Alert project lead. "About 60% of the country uses a smartphone, but that leaves at least 40% who don't.

"We basically level that with Sara Alert."

Supporting Rural, Native, and Frontier Communities

Sara Alert has launched in more than 750 jurisdictions, including 16 states, 10 tribes, three territories, and more than 400 other localities.

Offering various response options is important for all communities, but it's especially important in American Indian, Alaskan, and frontier areas which often don't have access to adequate cellular or internet services.

The system also allows group monitoring for multigenerational families and remote communities sharing phone access. This helps in situations where several families may share the same phone line or for elderly people who may need assistance reporting symptoms.

"In frontier and tribal areas, beyond broadband and cell service, you still can report symptoms through family reporting or with a landline. We built a tool that was accessible to everyone in this country," Jarris says.

Once users are enrolled, Sara Alert allows them to connect to a public health professional as soon as they have symptoms. They can then be contacted, evaluated, and sent for testing or other care if they need it.

Bringing Equitable Access to Maine and Puerto Rico

A Centers for Disease Control and Prevention report highlighting Maine CDC's use of Sara Alert found that remote contact tracing and symptom monitoring encourage exposed persons to quarantine, while providing health departments an opportunity to identify symptomatic people promptly and proactively.

The report also documented the primary language among 1,230 (75.8%) enrollees: 985 (80.1%) primarily spoke English, 86 (7.0%) French, and 81 (6.6%) Somali.

These findings suggest that using a symptom monitoring tool with options to accommodate enrollees' preferences for monitoring, method, time of day, and language might be important for increasing enrollment and improving contact monitoring. Almost all (96.4%) monitored contacts chose automated over direct symptom monitoring.

"We enabled Maine public health officials to have effective interactions because we were responsive to their community needs," Jarris says. "We worked with them to add Somali and French languages to reach these communities, many of which have large populations of immigrants and migrants."

Sara Alert is also currently live in Puerto Rico, which required customized translation to Puerto Rican Spanish because residents use different phrases and words from standard Spanish.

The Sara Alert team worked collaboratively with health officials in Puerto Rico on how the tool could be adjusted to meet community needs.

Sara Alert on College Campuses

MITRE has also partnered with Oak Ridge Associated Universities (ORAU) to deploy Sara Alert Academic, tailored specifically for university use and available by subscription. Sara Alert Academic enables students and faculty to enter their symptoms daily, providing real-time insights to university health staff working to contain the spread of the virus on campus.

Universities can also choose to use the source code to create a single version to meet campus needs and provide secure disease monitoring and reporting for students. Florida Atlantic University (FAU) stood up their own instance of Sara Alert as students returned to campus this fall. FAU is one of the most diverse campuses among public universities and has pioneering outreach programs that specifically attract students from low-income and urban communities.

As Sara Alert serves colleges and universities, it further broadens access to remote symptom monitoring and reporting. That eases the burden on local health systems and helps prevent spread back to communities where students return during breaks.

Reducing Disparities in Public Health Departments

As of today, more than one million people have been monitored in the Sara Alert system since April. By building a cloud-based system, Sara Alert provides access to a state-of-the-art system for public health departments with varying sizes and budgets.

With people being monitored in several U.S. states and territories like the Commonwealth of the Northern Mariana Islands, Guam, and Puerto Rico, as well as freely associated states like the Republic of the Marshall Islands and the Republic of Palau, Sara Alert's ability to reduce the workload in public health's response to coronavirus has been invaluable.

"Increased access is exactly what we developed it for—to make all communities safer," Jarris says.

Learn more about Sara Alert.

—by Aishia Caryn Freeman

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