

## **Evaluation of Sara Alert<sup>TM</sup>**

### **Development, implementation, use, and impact during the COVID-19 response in US public health jurisdictions, February 2020 – December 2021**

#### *Overview of Sara Alert*

Sara Alert<sup>TM</sup> is a standards-based, open-source tool that automates active symptom monitoring by state, tribal, local, and territorial (STLT) public health jurisdictions and their staff. Sara Alert allows STLT jurisdiction staff to easily enroll and monitor persons with COVID-19 or who have been exposed. Individuals report symptoms daily via text, email, or telephone, providing STLT jurisdictions with real-time information and allowing staff to focus their time and resources more efficiently. While current use of Sara Alert is focused on active monitoring of persons exposed to SARS-CoV-2 or diagnosed with COVID-19, active monitoring is used more broadly in public health practice to rapidly identify individuals infected with a disease of interest. [1] Sara Alert can be adapted to support additional public health responses that could potentially expand the capacity of jurisdictions to respond efficiently to emerging threats.

The public health community, including STLT jurisdictions and national associations, has been closely involved in Sara Alert development to ensure that it meets the evolving needs of STLT jurisdictions. Partners include the Centers for Disease Control and Prevention (CDC), National Association of County and City Health Officials (NACCHO), Association of State and Territorial Health Officials (ASTHO), Council of State and Territorial Epidemiologists (CSTE), Association of Public Health Laboratories (APHL), and the CDC Foundation.

#### *How STLT Jurisdictions Use Sara Alert*

Twenty-three jurisdictions, including STLT jurisdictions of varying size and resources, used Sara Alert to conduct active symptom monitoring during their COVID-19 response. These jurisdictions chose to use Sara Alert because of its functionality and fit with their organizational needs. Jurisdictions reported the fact that Sara Alert was available at no cost allowed them to adopt and implement the system efficiently. Once implemented, jurisdictions most commonly reported using Sara Alert to perform daily symptom monitoring for persons with COVID-19 and their close contacts, students and staff in K-12 schools, healthcare workers, and travelers. Sara Alert was able to support a rapidly scaling workforce through easily accessible, modular trainings offered in a variety of formats and an easy-to-use interface that public health staff could learn quickly.

#### *Sara Alert Impact*

In an analysis of 11 STLT jurisdictions using Sara Alert during June 29 – August 30, 2021, 12,450 persons were monitored per day on average. Responses were recorded for 74% of these persons (9,242) and nearly all responses were sent directly through Sara Alert (86% did so without any public health intervention). [2] While specific goals for monitoring are set by jurisdictions using the system, Sara Alert response rate was higher than for other similar automated monitoring systems. [3] These results suggest Sara Alert was accepted by many people, an encouraging finding, particularly given current and historical evidence for mistrust in public health authority. [4] [5]

At the jurisdiction level, Sara Alert likely saved staff time and costs for STLT health departments. In a study of three jurisdictions, Sara Alert saved health departments \$2.8 million to \$52.5 million over approximately a year, depending on the monitoring use case and volume of persons monitored. [6]

### *Lessons Learned through Sara Alert Implementation*

The Health FFRDC identified six key lessons learned through the successes and challenges jurisdictions and partners faced implementing Sara Alert. These lessons are supported by Sara Alert evaluation findings as outlined in this report.

1. The Sara Alert development process **efficiently addressed the evolving COVID-19 response needs of multiple jurisdictions** and allowed for economies of scale.
2. Engagement with **trusted public health partners and clear communications** with STLT jurisdictions and the public were important for the acceptance of Sara Alert.
3. **Equity considerations in design decisions** improved accessibility and reduced barriers to use of Sara Alert.
4. Sara Alert offered a **range of interoperability capabilities**, which allowed it to be integrated into workflows across jurisdictions with a wide range of technical capacity.
5. Optimizing **privacy, security, and efficiency** in data collection and retention **limited the ability to evaluate outcomes** and make decisions using Sara Alert data.
6. Automated monitoring has potential to **produce efficiency and save costs**, but evidence for impact on public health outcomes is still needed.

### *Sara Alert Use Beyond COVID-19*

Sara Alert's approachable user interface, configurable monitoring parameters, as well as the disease-independent documentation and training modules readily poise the system for application to new use cases. Sara Alert provides the most utility for situations where STLT jurisdictions need to send information to and receive information from populations of interest and then be able to act on that information in a timely manner. The Health FFRDC developed five criteria to help identify responses where Sara Alert could be rapidly modified to support monitoring of potentially exposed persons:

1. Active monitoring of potentially exposed persons has the **potential to burden public health resources**.
2. Monitoring **occurs outside of a hospital** and **does not require direct observation** by a health professional.
3. The onset and severity of the condition **requires a timely** (e.g., within one day), **but not immediate, public health intervention**.
4. Monitoring reports require gathering of **simple information**.
5. There is a **defined monitoring period** (e.g., maximum incubation period).

Recent examples of responses that fit these criteria include the 2014-2016 monitoring of travelers returning from Ebola-affected countries, and responses to domestic measles outbreaks. To apply Sara Alert to either of these or other public health responses with similar monitoring needs, the system will require changes to monitoring settings that are easily changed in a configuration file or with minor code changes. Additional development efforts to allow jurisdictions to further customize their use of Sara Alert at the jurisdiction level (e.g., allowing jurisdictions to select their preferred monitoring period) would facilitate rapid response to a range of public health threats that require active monitoring.

## Bibliography

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