Development of a Novel Tracking & Reporting System for Community and Unknown Exposures to SARS-CoV-2

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AIM & BACKGROUND

AIM STATEMENT

Develop a comprehensive methodology for accurately and consistently tracking staff community and unknown exposures to SARS-CoV-2 for internal Methodist use by April 4, 2020 in support of the COVID-19 Employee Hotline's Return to Work process implementation.

TEAM MEMBERS

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FACILITY

Corporate

BACKGROUND

As the novel SARS-CoV-2 virus began infecting hospital staff in March 2020, a new Return to Work process was designed to guide Methodist employees in when to quarantine, test, and return to work. To support this process and inform communication and decision-making, a methodology was urgently needed to collect exposure data.

Our project studied, tested, and addressed this need by developing an Excel-based Tracker in less than two weeks that allowed for bilateral input of data from COVID-19 Employee Hotline staff and Employee Health and MMG nurses in order to document exposures and provide a high level of support to staff.

IMPROVEMENT METHODOLOGY

123-PDSA + Agile Development

TIMELINE

Project Start Date: *March 23, 2020*
Pilot Start Date: *April 4, 2020*
Project Implementation Date: *April 10, 2020*
Project End Date: *May 31, 2020*

MEASURE

BASELINE MEASURE

No standard process existed across the system for collecting data on employees with community or unknown exposures to SARS-CoV-2. Existing records were kept in localized spreadsheets without a centralized way to access and aggregate data.

LIST OF MEASURES

Process Measures:

As new requirements were identified through iterative sprints, Tracker functionality tests were conducted to assess: (1) ease of use, (2) alignment between Tracker and clinical guidance, (3) ability of Tracker to update and recall data, and (4) reporting capabilities. If the proposed solution did not satisfy these measures, the change was re-evaluated.

Balance Measures:

Daily huddles were used to identify any impacts or new requirements for stakeholders.

Outcome Measures:

Number of data entry points, percentage of staff trained on Tracker use, and bugs were monitored.

CHANGES

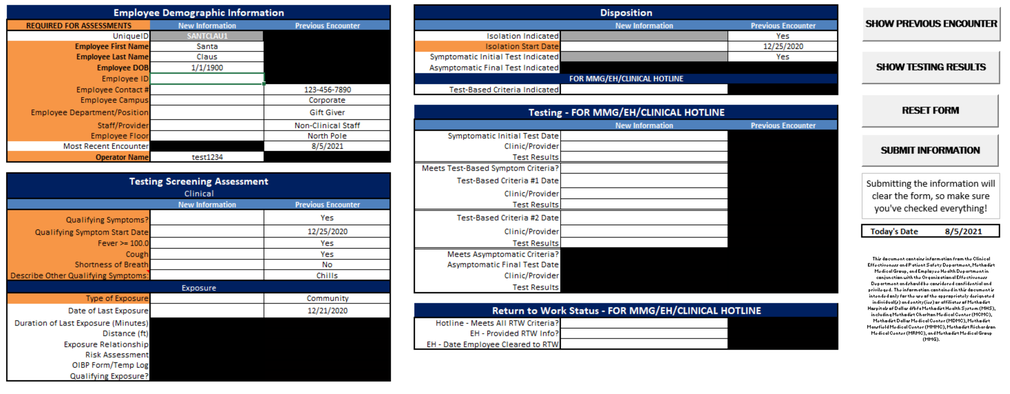
CHANGES TESTED

- Bilateral input from COVID-19 Employee Hotline staff and Employee Health and MMG nurses
- Ability to view and update previous records and add notes
- Modified input fields as clinical guidelines changed
- Controlled input via decision trees for ease of use and accuracy of data
- Input of historic data collected prior to project implementation to support smooth transition
- Development of reporting capabilities for dissemination and improved decision-making

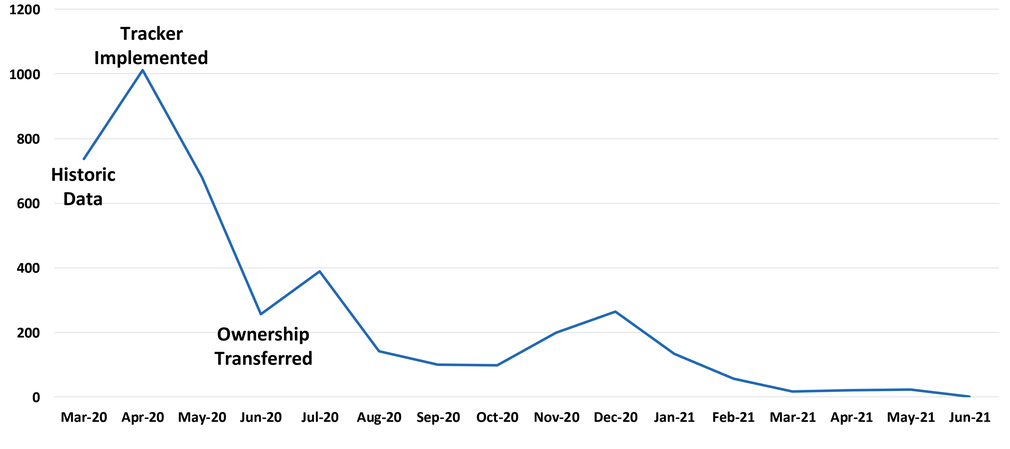
RESULTS

- Rapidly produced an Excel-based Tracker and Dashboard in less than two weeks and amid frequently evolving guidelines and requirements
- Recorded over 4,100 data points in the Return to Work process
- Trained 33 employees on use of the Tracker and the Return to Work process
- Provided continuous technology support to prevent and resolve bugs
- Developed reports to streamline processes, including scheduling tests, communicating results and Return to Work policies, and sharing data between departments
- Identified opportunities for improvement in communication and processes for Infection Prevention, Employee Health, and frontline management
- Allowed for data-driven decision-making regarding COVID-19 impacts on employee safety at all levels of leadership throughout Methodist Health System

TRACKER



RECORDS LOGGED OVER TIME



SUSTAINABILITY

OWNERSHIP

Upon closure of the initial COVID-19 Employee Hotline on May 31, 2020, Employee Health assumed ownership of Tracker and reports. Tracker continued to be in use until COVID-19 caseloads decreased to levels such that Employee Health could manage exposure tracking at a local level.

HARDWIRING

Inclusion of decision trees and data validation in the Tracker allowed for uniformity and accuracy of data entry. Use of change management techniques to obtain buy-in from relevant stakeholders allowed for collaborative development. This ensured the Tracker met their needs and the Return to Work process was consistently applied.

KEY LEARNINGS

- Communication among stakeholders is imperative in the design of new tools
- Agile methodology is useful for designing new processes when end-design is not clear
- Data security and adherence to HIPAA guidelines must be considered in the design phase of a project
- Early testing of tracker allowed for improvements in UX/UI design and more accurate data collection
- Investment in technology can allow organizations to quickly pivot in times of crisis, improve processes, and align stakeholders
- Excel can be used in more flexible and creative ways than previously understood

ACKNOWLEDGEMENTS

- Tanya Alosi
- Carmen Cava
- Jason Eddington
- Sondi Fiegel
- Dr. Leigh Hunter
- Steve Maffei
- Jeremiah Streetman
- Meron Tesfai
- David Trieu
- Stephanie Wells
- Marie Wilson
- Ashley Yen