UC San Diego Health

2021 Sautter Award Application
UC San Diego Health Information Services

Project title: CA Notify Exposure Notification System (ENS)

Submitter's name, title, and contact information: Melinda Battenberg, Communications Lead UC San Diego Health IS, mbattenberg@health.ucsd.edu

Names of project leader(s) and team members:

UC San Diego Health
Christopher Longhurst, MD, CIO and Associate CMO, UC San Diego Health (Exec sponsor)
Nicole May, PMO Director, UC San Diego Health Information Services (Lead)
Florgin Dela Luna, Program Lead, UC San Diego Health Information Services
Aaron Reyes, Senior Business Analyst, UC San Diego Health Information Services
Ming Tai-Seale, Director of Outcomes Analytics at UC San Diego Health Information Services
Amy Sitapati, MD, CMIO Population Health, UC San Diego Health
Marc Sylwestrzak, Information Systems Director, UC San Diego Health
Eliah Aronoff-Spencer, MD, Director of Design Lab Center for Health, UC San Diego

UC San Diego Campus
Vince Kellen, CIO, UC San Diego
Matthew Hale, Interim Director for Strategy, University Communications, UC San Diego
Erin Shepler, Executive Director, Marketing, UC San Diego
Jessica Hutchinson, Director of Digital Strategy, UC San Diego

On behalf of UCSF, UC Berkeley, UC Davis, UCLA, UC Santa Barbara, and UC Riverside

Project Statement: CA Notify is an exposure notification system designed by Google and Apple, piloted at UC San Diego, and rolled out across California with support from UC San Diego Health to augment California COVID-19 contact tracing efforts.

Project Narrative:
The Problem
The global COVID-19 pandemic created the need for a quick, efficient, and privacy-preserving method of exposure notification. Google and Apple collaborated to design a smartphone exposure notification system (ENS) to complement and expand the contact tracing efforts of public health organizations.

The Solution

After extensive advocacy with state officials, UC San Diego and UCSF partnered with the California Department of Technology (CDT) and the California Department of Public Health (CDPH) to leverage novel Google and Apple technology for an exposure notification system in California. Branded "CA Notify," the ENS launched for use by students and staff at UC San Diego in September 2020. During the initial pilot phase, the UC San Diego Health IS team worked with the campus Marketing and Communications team to develop a website and marketing plan to educate potential users about the ENS and encourage its adoption among the UC San Diego population. The CA Notify ENS was advertised as a part of UC San Diego's comprehensive "Return to Learn" program which created a roadmap for the safe return of students, faculty, and staff to campus. The pilot program also provided valuable end user feedback on the project's communications and marketing, allowing the team to refine their messages prior to expanding the ENS to other partners.

The success of the pilot program at UC San Diego demonstrated that the ENS could be an important tool to augment contact tracing. The UC San Diego Health team led an initiative to bring the exposure notification system to other UC schools at the request of Executive Vice President for UC Health, Dr. Carrie Byington. By mid-November 2020, the CA Notify ENS was being used by six UC campuses including four of the five UC health systems. UC San Diego Health also began offering the notification system to its patients. The CA Notify pilot and subsequent expansion across multiple UC campuses demonstrated to the state of California that ENS could be helpful in statewide contact tracing efforts. In late November 2020, leveraging best practices and messaging refined during the pilot phase, the state contracted with UC San Diego Health to help bring CA Notify to the general population of California, launching publicly on December 10. Team members from UC San Diego Health designed and created the state website, ran the state call center, provided project management, and created messaging used by the state that explains the technology to users.

Technology

For people who have enabled the ENS on their smartphones, Bluetooth technology allows their phones to exchange digital "keys," which are anonymous, randomly generated numbers. These keys log a close interaction between two phones lasting 15 minutes or more. If a person later tests positive for COVID-19 and agrees to share that information with CA Notify, then the other will receive an alert that they have been exposed and are provided information on the next steps they should take.

While the technology was created by Google and Apple, the pilot in California was the first public deployment of the Exposure Notification Express (ENX) product, which was first

announced in early September. This required close collaboration with Google and Apple, and feedback from the pilot was used to continually improve the product.

Measuring Success

During the pilot phase of the program, tracking adoption rate of the system was challenging due to the anonymous nature of the ENS. However, by tracking website visits as a proxy metric, the UC San Diego team was able to measure the system's adoption rate. The website visits indicated that the CA Notify pilot was quickly adopted by students and staff on the UC San Diego campus. Prior to the statewide launch, over 300,000 users in the UC system began using the CA Notify ENS. Once CA Notify launched statewide in California, adoption of the ENS was rapid. To date, over 10 million Californians (approximately one-third of smartphone users in the state) have downloaded the CA Notify ENS. This is the best adoption rate for an ENS in the United States. Furthermore, the system is now notifying an average of 4.1 people for every positive infection (compared to 2.1 people being contacted by a traditional contact tracing approach) and **preliminary analysis, to be submitted for peer review, suggests tens of thousands of COVID infections have been averted with hundreds of lives saved**.

Collaboration & Partnerships

The CA Notify ENS project is the culmination of many partnerships within the UC system and with outside organizations. The initial partnership was with CDT, CDPH, Google, and Apple to bring the pilot program to UC San Diego and UCSF. Within UC San Diego, there was close collaboration between UC San Diego Health IS, UC San Diego ITS, UC San Diego Health Patient Experience, the UC San Diego Design Lab Center for Health, and Marketing & Communications. Following the pilot phase, UC San Diego collaborated with UC Davis, UCLA, UCSB, UC Berkeley, Berkeley Lab, and UC Irvine to bring the ENS to those campuses. For the statewide expansion, UC San Diego partnered with the California Department of Public Health, the California Department of Technology, and Healthcare Human Factors to launch CA Notify across California.

Additional Information

CDPH press release 9/11/20
CDPH press release 11/5/20
CDPH press release 12/10/20
CA Notify ENS website

UC San Diego Health

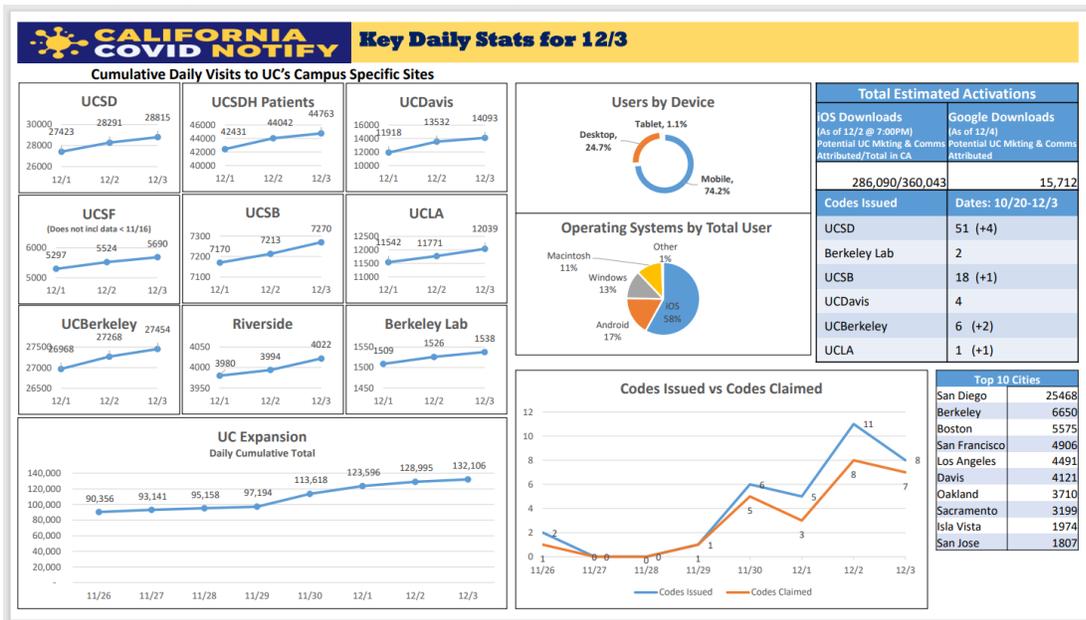## CA Notify Adoption across the University of California

Figure 1

This dashboard shows the number of users who adopted the CA Notify ENS within the University of California. The 12/3/20 date of this dashboard is a snapshot of the adoption rates among UC campuses and health systems prior to the California statewide launch on 12/10/20.
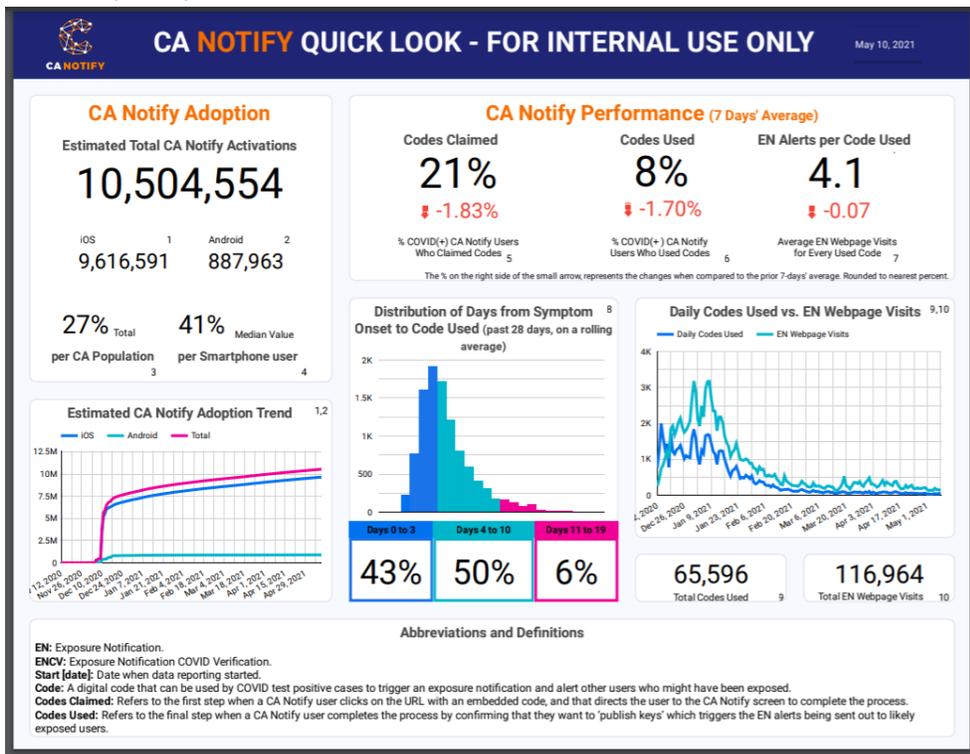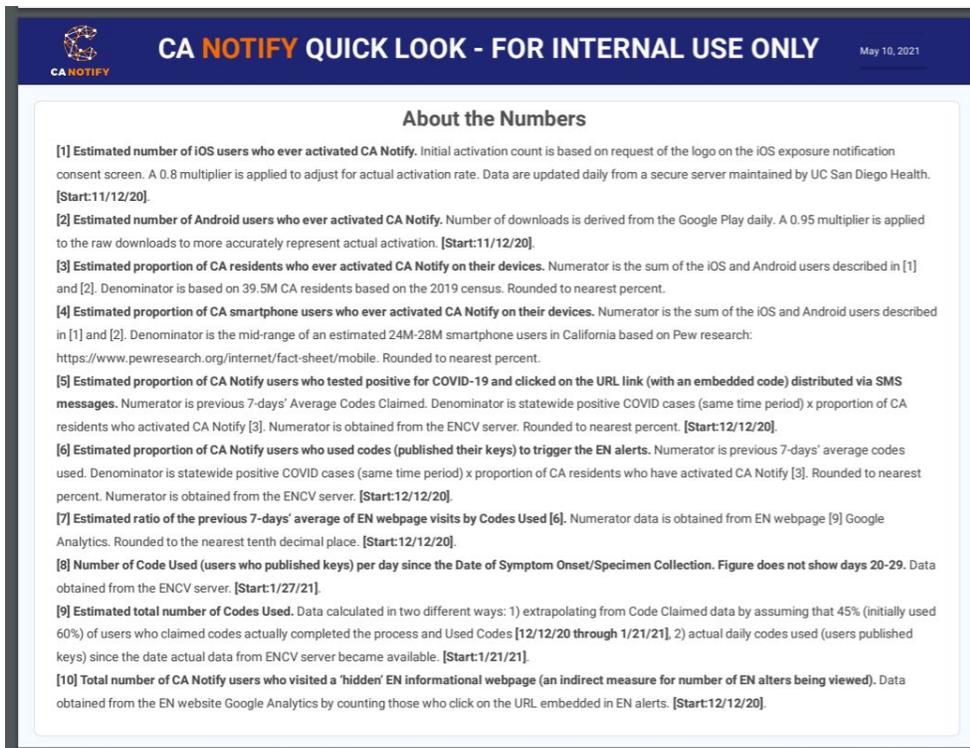
Figure 2

CA Notify Daily Dashboard "About the Numbers" background information.