



# Collaboration Elevates Analysis of Social Determinants of Health and Enhances Performance

## Key Takeaways

### Profile

#### UCSF Benioff Children's Hospital Oakland

- Oakland, California
- 190 Licensed Beds
- 162,204 Total Outpatient Clinic Visits
- \$506,736,000 NPIR

### Challenges

- Social determinants of health affect health outside of treatments
- External factors are difficult to track and provide resources for, but impact overall health

### Solutions

- UCSF Benioff Children's Hospital helped to develop a platform to connect patients with geographic health resources
- Screening patients through basic need surveys aids in pinpointing health and education gaps

### Results

- Surveys report 20% of treated children are hungry, 14% have developmental concerns, and over half need activity resources
- Caregivers gain a better understanding of who the patient is and the concerns of the parent

Variables such as access to nutrition, a safe environment, education, socialization, and activities are all part of the social determinants that make up a patient's daily life. Without tracking these factors, a caregiver may not know the overall picture of a patient's health. However, these are often difficult to track and offer proper resources for. Some have begun to work on technologies that connect needs to geographic resources based on patient surveys.

After researching and treating child asthma as a pediatrician, Dr. Dayna Long, Medical Director of the Department of Community Health and Engagement at UCSF Benioff Children's Hospital in Oakland, seeks to dive deeper into the health disparities and address teachable moments directly with families. To support this work, the organization collaborated with Digable Inc. to develop the FINDconnect platform, which tracks patient health data in connection to certain geographic resources.



Technology plays a large role in making this vision a reality. With the platforms to analyze data and provide the locations for necessary resources, healthcare providers can assess the health discrepancies that may stem from a greater environmental factor. Offering a broader access to food, housing, treatment facilities, or even proper education may influence the way healthcare is provided.

### Integration of Social Determinants

UCSF has been conducting the research and design for FINDconnect since 2012, focusing on the feasibility of screening families when they enter medical homes. The initial survey was conducted as a randomized trial, asking questions about food, housing, caregiver, mental health, issues of discrimination, immigration issues, and violence in neighborhood homes and schools, among other things. Based on initial research, along with the utilization of validated national surveys, Benioff Children's pulled together an opportunity assessment for a tool. This led to the development of a device-agnostic, cloud-based platform to support the relationship between coordinators and patients and families.

The partnership with Digable Inc. to create the FINDconnect platform was planned to allow for navigators—nurses, providers, or other caregivers—to enroll patients and assess needs through the patient survey. The survey—designed in part by Dr. Long at Benioff Children's—recorded information relating to health data and relevant demographic data such as location. This information, along with health data from the EHR, has given navigators a high-level view to more successfully treat the social and environmental aspects of developmental health issues of the child population. Furthermore, gaps in the resources can also be identified, including needs to endorse more funding.

"The notion that we need to universally screen and refer to community based organizations to address determinants of health is a very new conversation in healthcare," Dr. Long explains. "As of today, there are no data systems or capacity building tools necessary within medical homes to systematically, universally screen and then de-identify the data to look at population health."

### Benefits of Screening Patients

Dr. Long suggests that FINDconnect works as a triangle. The base of the triangle is the standard of care in medicine and community based organizations, where caregivers universally screen families for basic unmet needs that are impacting health and educational outcomes. The data then shows in real time the continuous quality improvement on an organizational level which could be resolved for an individual and ultimately a population.



## UCSF Benioff Children's Hospital Hierarchy of Needs for Population Health



*By driving the use of standards of care and measuring success through performance surveys, Benioff Children's has created a framework for population health and building healthy individuals.*

**"Without these tools, it is challenging for safety nets to even start to think about and ask the questions. [You need to be] pairing patients with resources, interventions, and care coordination. It all goes hand-in-hand."**

– Dr. Dayna Long  
Medical Director at the Department of Community Health and Engagement  
UCSF Benioff Children's Hospital

At Benioff Children's, for example, caregivers note that 20% of the children they see every day are hungry, 14% have developmental concerns, and over half of the families the organization serves on a regular basis are concerned about not being able to access activities for their kids, such as after school groups, developmental activities, and tutoring.

FINDconnect can directly refer resources to the families based on the needs they have, making recommendations based on the survey at a question-specific level. In the process, the system gains a better understanding of who that person is, who the caregiver is, and allows that understanding to form a better narrative for the patient's whole health and recommend resources within the community.

## Scientific Method Frames Lessons Learned

"People theoretically understand that social determinants of health impact outcomes, but nobody had a concrete framework to address them," Dr. Long says. "It was clear that the scientific method could be applied to the field of population health. For every evidence-based question, we created algorithms and workflows based upon the subjective information, the objective information, the assessment, and the plan, which allowed us to target interventions based on how families answered the questions. Those algorithms were mapped into flows that then became coded into the software."

The workflows developed through the scientific method determined much of the employee training as well. Benioff Children's seeks to keep all members of the caregiver staff performing at the top of their license. Additional screening around unmet social needs seemed like an extra step, but with the team-based care and algorithms in place, Benioff Children's incorporated the survey into caregiver workflows seamlessly.

Utilizing technology such as FINDconnect to understand social determinants of health and the impacts to the overall health of the individual is a crucial starting point for population health. While the tools may not currently exist within healthcare for this type of data collection, getting to the point of addressing social determinants of health, no matter the size of the organization, will be a crucial point in developing technology and providing resources within a community.

"When you collaborate, you elevate everybody's thinking," Dr. Long says. "We need to work across our silos to think outside of the box on how we can creatively support each other. Without these tools, it is challenging for safety nets to even start to think about and ask the questions. [You need to be] pairing patients with resources, interventions, and care coordination. It all goes hand-in-hand."

## What does this mean for you?

### Industry

- Population health starts with patients' abilities to access basic health resources
- Collaboration with outside services is crucial to supporting population health
- Data regarding need should direct funding for resources within communities

### Peers

- Pediatric hospitals need to be responsive to social determinants, such as hunger and development
- Over half of pediatric caregivers struggle to find resources for activities outside of school
- Technology platforms can directly match patients and caregivers with geographic resources to meet population health needs