# CENTER FOR CARE INNOVATIONS CULTIVATE FUND:
## INNOVATION TEAM SPOTLIGHT –ADDRESSING SOCIAL DETERMINANTS OF HEALTH

## BACKGROUND

In a joint effort with Blue Shield of California Foundation, the Center for Care Innovations (CCI) launched a new competitive grants program, the *Cultivate Fund*, in November 2014. Similar in design to CCI's *Safety Net Innovation Challenge* competitive grants program, the *Cultivate Fund* enables safety net innovation teams to design and implement an innovation over a 10-month period, focusing on access to care, patient engagement, and/or population health management. Grant awards were up to $30,000, and innovation teams were given access to an innovation coach, evaluator, and an online learning community of safety net champions trained in human-centered design through CCI's Catalyst community. Teams were also given access to weekly curbside consult calls staffed by design coaches from Kaiser Permanente Innovation Consultancy. Innovation teams also participated in a series of periodic webinars (virtual meet-ups) to share lessons, tools, exchange ideas, and get feedback on similar projects.

Seven teams were selected with projects running from around mid-February 2015 through the end of January 2016. Innovation teams were expected to develop an initial design strategy including anticipated metrics, report on their midterm progress through a short video, and then prepare an "adoption guide" for their final report. The adoption guide is a useful way to structure an organizational plan needed to successfully adopt, implement, and sustain an innovation.

One of these teams, Petaluma Health Center, searched for a solution to help them address whole person care. This case study documents the team's experiences with testing software to help them capture data and then visualize the social determinants of health (SDOH) needs of their patient population, along with challenges faced and lessons learned along the way. A table at the end of this document also provides a summary of the team's "before" and "after" impressions across a number of factors of the two technologies that were used.

### SOCIAL DETERMINANTS OF HEALTH

Determinants of health, such as food insecurity and housing, while linked to overall health and health care utilization, have only recently been addressed in clinical settings as a way for health care organizations to manage population health. The Institute of Medicine's Committee on Recommended Social and Behavioral Domains and Measures for Electronic Health Records was charged with identifying domains and measures that capture the social determinants of health to inform the development of recommendations for Stage 3 meaningful use of electronic health records. The rationale was that standardized social and behavioral data could be incorporated into patient electronic health records and provide crucial information about factors that influence

health and the effectiveness of treatment. Such information can be used for diagnosis and treatment. The IOM Committee identified 12 measures related to 11 of the selected domains:

| DOMAIN/MEASURE | MEASURE | FREQUENCY |
|---|---|---|
| **Alcohol Use** | 3 questions | Screen and follow up |
| **Race and Ethnicity** | 2 questions | At entry |
| **Residential Address** | 1 question (geocoded) | Verify every visit |
| **Tobacco Use** | 2 questions | Screen and follow up |
| **Census Tract-Median Income** | 1 question (geocoded) | Update on address change |
| **Depression** | 2 questions | Screen and follow up |
| **Education** | 2 questions | At entry |
| **Financial Resource Strain** | 1 question | Screen and follow up |
| **Intimate Partner Violence** | 4 questions | Screen and follow up |
| **Physical Activity** | 2 questions | Screen and follow up |
| **Social Connections & Social Isolation** | 4 questions | Screen and follow up |
| **Stress** | 1 question | Screen and follow up |

**NOTE:** Domains/Measures in the shaded area are currently frequently collected in clinical settings; domains/measures not in the shaded area are additional items not routinely collected in clinical settings.
**SOURCE**: IOM (Institute of Medicine). 2014. *Capturing social and behavioral domains and measures in electronic health records: Phase 2.*Washington, DC: The National Academies Press.

## PETALUMA HEALTH CENTER'S EXPERIENCE WITH ADDRESSING SDOH

Petaluma Health Center (PHC) is an FQHC that provides primary medical care and mental health services to residents of Petaluma, Rohnert Park, Cotati, Penngrove and the surrounding areas. The innovation team has recently focused its attention on programs that address patient engagement as well as social determinants of health, which allows them to explore important ways to help patients outside of the four walls of the clinic. According to Dr. Danielle Oryn, Chief Medical Informatics Officer at Petaluma Health Center, "…it's important to find ways to bring social determinants of health into primary care so they can be addressed." Petaluma Health Center is also a "hub" of CCI's Innovation Center for the Safety Net and Dr. Oryn was trained as a Catalyst in CCI's 2014 Innovation Catalyst Program.

At Petaluma, 93% of patients live under 200% of the Federal Poverty Level and it is important to address the socioeconomic determinants of health, adverse childhood events, and behavioral health needs, as these heavily impact every patient's health status. According to Dr. Oryn, during medical visits, patients will bringing up what they think the provider wants to talk about (e.g., their inability to sleep well, blood pressure, anxiety, weight loss or gain) when the true issue may be related to loss of a job, housing insecurity, grief or another issue. The difficulty in coordinating care across this spectrum

is that caregivers have limited time with patients and patients present with many medical issues and also have little time let their caregivers know what their true needs are.

Dr. Oryn and the innovation team at PHC launched a SDOH survey to patients through its eClinicalWorks kiosk and patient portal. The results of the survey would be used to populate a SDOH dashboard, which would be included in PHC's monthly QI review. Through the use of its data visualization software, Tableau, the team then would be able to generate a graphical representation of their data using geo-mapping features, so they could better understand the health of their community and target appropriate interventions.

The team's first step was to figure out what data they wanted to capture, how they would capture it, and how it would be used. They worked collaboratively with West County Health Centers (another Innovation Center "hub") to identify a core set of SDOH measures to implement. In the review process, they examined many other standard tools and decided on a standard questionnaire based on the recommended domains from the Institute of Medicine (see table above). The survey was then incorporated into PHC's electronic health record system, eClinicalWorks, as structured, searchable data. Questionnaires were offered to patients through the patient portal, a check-in kiosk in the patient waiting area, and also during selected staff screenings.

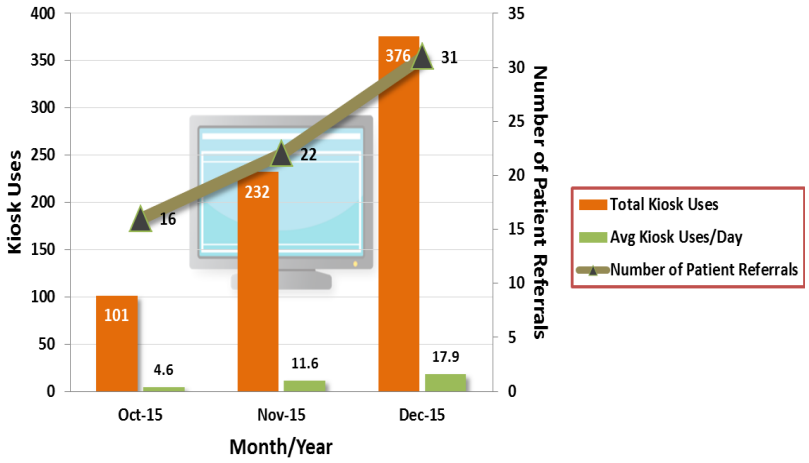
The team solicited input from their Patient and Family Advisors, who gave feedback about placement of the iPad kiosk in the patient waiting area. The initial set-up did not promote kiosk check-ins. Since the kiosks were located in a corner of the patient waiting areas, many patients would go directly to front desk staff to check in for their appointments. After relocating the kiosks to increase their visibility, staff noticed an increase in kiosk check-ins. Patients who participated in the program provided positive feedback on their user experience, stating they would use the kiosk again.

During the testing phase, the team uncovered some technical glitches around using the survey. They discovered that patients inadvertently skipped some questions and the team is currently working to resolve this. Also, the patient portal version of the questionnaire did not generate an alert that was intended to prompt web-enabled patients to participate in an online survey. As a result, most patients have completed their surveys through the kiosks in the patient waiting rooms until this issue can be resolved.

As part of the project, primary care and mental health clinicians received social determinants of health training. As a follow up to the training, the project leads developed a training matrix to map out the health center and community-based resources for each individual questionnaire category. This tool better equipped the clinical care teams and patient navigators/case managers in helping individual patients. The team also developed a huddle training video for the clinical care teams and front office staff to better prepare the organization for the implementation of the SDOH tool.

## MAKING THE SDOH DATA ACTIONABLE

After the team figured out what data to capture and how to collect it, they had to determine the best way to use the data. Using Tableau, the interactive data visualization software, offered the team with many new data visualizations and presentation options. The team presented the various data visualization and presentation options to stakeholders, all of whom had differing opinions on its usefulness and evaluation methods. The team is currently developing guidelines for PHC's various stakeholders to determine the most appropriate visualizations to gain a deeper understanding of the socioeconomic and behavioral factors that impact the health of their patients. The team initially planned to utilize the mapping function in Tableau to identify patterns in the SDOH data, but then realized they would need a higher volume and more standardized data to generate meaningful mapping visualizations. The team continues to use and develop its Social Determinants of Health and Health Equity dashboard, as it expands the use of the tool. It currently has 5 of its 20 SDOH measures on the dashboard.




The team also developed a risk stratification tool that helps the clinical care team determine what needs would warrant a referral to the case management/patient navigation team as opposed to addressing the patient's needs within the clinical care team:

<u>Mild – Works with home team to get needed resources</u>
Person with one or two needs

<u>Moderate = Work 1:1 with patient navigator</u>
Person with >2 needs (unless needs are only mental health)

<u>Severe = Work 1:1 with case managers</u>
Person >2 needs AND medical complexity
Medical complexity = ANY of the following
• 1 or more chronic illness (DM, COPD, or other) that are out of control
• 2 or more hospitalizations in the last six months
• 5 or more ED visits in the last six months

Staff was accepting of the new information once there were tools developed to help them help the patients. Mental health providers made kiosk check-in mandatory for all

patients coming in for mental or behavioral health appointments. Case managers and patient navigators expressed initial concerns about the number of referrals that could be generated when asking more patients about SDOH. The referrals did increase but not to a level that could not be accommodated. In response, the team developed a flow chart to prepare staff to troubleshoot or guide patients with any issues that may arise as they completed the SDOH assessments.

Overall use of the kiosk has been steadily increasing, as are the number of case manager/patient navigation referrals (see figure). The project leads continue to work with the patient navigators, case managers and care coordinators to promote the utilization of the patient portal option. The team is also closely monitoring new workflows to ensure that staff members feel supported to help patients obtain the resources that they need. Given the team's success to date with implementing the SDOH tool and data visualization software, Petaluma Health Center plans to expand this project across the organization. The team will continue to collect SDOH data through kiosk check-ins and plans on installing new kiosks in three other main patient waiting areas. In addition, the team plans to continue working with its data team to further develop the SDOH/Health Equity dashboard so it can be used to monitor SDOH patient needs. Finally, the team will use the data gathered through this project to guide decision-making and forge partnerships with local community-based organizations to collectively address the social determinants of health.

## Lessons Learned for Other Safety Net Organizations

**Careful selection of social determinants of health (SDOH) measures is important** – The innovation team went through a careful selection process to identify the domains to include in its EHR, based on the potential strength and usefulness of the data to improve individual and community health outcomes, the feasibility of capturing certain data, and, most importantly, the potential sensitivity of the data (comfort of patients in revealing potentially personal information). The team also reviewed a number of published standards, including those of the Institute of Medicine and the National Association of Community Health Centers to gain a robust understanding of which standardized social and behavioral factors most significantly influence health. PHC also sought the input of its Patient and Family Advisory Councils in determining which socio-behavioral factors to potentially include.

**Health centers should be strategic around how the data are used** – The PHC innovation team reported a slow influx of data for SDOH, but the team was able to explore the best strategy for visualization the data. It is also critical that health centers be thoughtful about how many new measures to incorporate into the EHR system, as the process, if not implemented gradually, can be overwhelming for clinical providers and support staff. Health centers or other safety net providers interested in implementing a similar project should work in concert with their compliance team and clinical teams to develop and implement protocols and procedures, determine and modify the new staff workflow, and ensuring security and HIPAA compliance. In order to use the data collected in a meaningful way and promote improved patient outcomes, it

also was vital to provide primary care providers with trauma-informed care training during an all-provider meeting. The adoption of a trauma-informed approach to care allowed PHC's primary care providers to better empathize with patients and reinforce their patient-centered medical home model.

**Training of staff around social determinants of health** – The team at PHC learned that it was important to train the front office staff to help and guide patients through the SDOH assessments utilizing the kiosks. It also was crucial to ensure that resources, such as patient navigation and case management, are readily available to assist patients with their individual needs as determined by the SDOH assessments. The team also trained primary care providers on providing trauma-informed care that responded to the project's overarching objective to address the social determinants of health. PHC also developed a huddle training video for clinical care teams and front office staff to better prepare the organization for the implementation of the SDOH tool.

| | VENDOR | Tableau | | eClinicalWorks Kiosk | |
|---|---|---|---|---|---|
| **Innovation Team Impressions Before and After Experience with New Technology** | | First Impressions | After User Experience | First Impressions | After User Experience |
| **Use cases:** | | | | | |
| Check-in | | | | x | Good with some challenges |
| Assessment | | | | x | |
| Eligibility | | | | x | x |
| Patient Satisfaction | | | | Good | Some challenges with screens; mostly challenges with mapping Spanish to specific visit types |
| Demographics | | | | x | x |
| **Criteria/Factor:** | | | | | |
| Easy to use and provides engaging way to gather feedback from patients | | | | x | x |
| Compatible for low literacy (non-English speaking) patients | | | | Moder-ate | Somewhat but not perfect |
| Ability to streamline how we gather information from patients | | | | x | x |
| Ability to turn the data into actionable information we can use | | x | x | | |
| Ability to integrate the data gathered from patient into the EMR | | x | Some tech work | | |
| Ability to provide the aggregated data back to us in an easy to view format | | x | x | | |
| Flexibility in platform for multiple use cases and modes of delivering/collecting information (e.g., visual, audio, phone, desktop, tablet) | | x | x | x | x |
| Scalable/potential for spread to other sites | | x | x | x | x |
| Affordable/perceived to deliver high value relative to cost | | x | x | x | x |
| Company has customer traction/experience implementing in the safety net | | x | x | x | Some challenges |
| Company is financially viable | | x | x | x | x |

Note: any cell left blank means that staff felt the technology did not fit that particular criterion