DEVELOPING A SOCIAL NEEDS SCREENING TOOL

A white paper on the development of a social needs screening tool to support social case management practices in Whole Person Care

Elizabeth Hernandez, M.S., Sara Levin, M.D.,
Ashley Kokotaylo, MSW, Camella Taylor, B.S.

Introduction

CommunityConnect, Contra Costa Health Services' Whole Person Care program, is a Medi-Cal 1115 Waiver program aimed to reduce preventable, high-acuity utilization of Medi-Cal beneficiaries through coordination of physical health, behavioral health, and social services. The CommunityConnect program enrolls 14,400 Medi-Cal beneficiaries in social case management services to address Social Determinants of Health, with the hypothesis that preventable Emergency Department (ED) and inpatient utilization will decrease if these needs are addressed. The patient must agree to program enrollment and can decline services at any time. Depending on patient acuity, determined by an internally-developed predictive risk model, case management services are either provided in-person (by a public health nurse, mental health clinician, substance abuse counselor, social worker, homeless services specialist or community health worker specialist) or telephonically (by a community health worker). Case managers assess a patient's needs, create a patient-centered care plan, and work in partnership with the patient and other care team members to implement the plan, with the shared goal of improving the patient's health and well-being.

CommunityConnect developed a comprehensive social needs screening tool as part of the initial patient engagement phase of case management. Over the course of several months, CommunityConnect conducted nine Plan-Do-Study-Act (PDSA) cycles to develop a tool best able to engage a patient population that is receiving either in-person case management services or telephonic case management services. The initial social needs screening tool had 16 questions across 8 domains. After the PDSAs were completed, the final screening tool had expanded to 42 questions crossing 10 domains. Questions were modified to incorporate motivational interviewing, be more strength-based, and set the stage for care planning between the patient and case manager. This screening is administered by the patient's primary care manager (i.e. a public health nurse, mental health clinician, substance abuse counselor, social worker, homeless services specialist or community health worker) upon enrollment. It is administered both telephonically and in-person, depending on the level of case management the patient receives. As of February 2019, over 10,000 patients have been screened using the new screening tool.

Background

A person's health is influenced more by social factors than by their interactions with the health care delivery system.[1] Safe environments with access to outdoor space, stable permanent housing, food security, access to employment, education, and childcare, and safe and healthy relationships with family and friends, are some of the social determinants of health impacting a person's health and wellbeing.[2] However, the role of health care delivery systems to provide interventions in this arena has not been defined and there are no established

---

[1] B G Link and J Phelan, "Social Conditions as Fundamental Causes of Disease.," *Journal of Health and Social Behavior* Spec No (1995): 80–94, http://www.ncbi.nlm.nih.gov/pubmed/7560851; Steven M. Teutsch, "Comparative Effectiveness—Looking Under the Lamppost," *JAMA* 305, no. 21 (June 1, 2011): 2225, https://doi.org/10.1001/jama.2011.730.
[2] Donald M. Berwick, Thomas W. Nolan, and John Whittington, "The Triple Aim: Care, Health, And Cost," *Health Affairs* 27, no. 3 (May 2, 2008): 759–69, https://doi.org/10.1377/hlthaff.27.3.759.

methods for measuring effectiveness.[3] A hypothesis exists that intervening in the health care delivery setting to address unmet social needs will improve health and reduce health care costs; however, study rigor is often lacking to prove this hypothesis.[4]

With the move toward capitation and value-based payment models, payors and organizations responsible for health care delivery have an increasing interest in addressing social determinants of health. Since the establishment of the Affordable Care Act, Medicaid managed care organizations have begun adopting both upstream interventions and risk adjusting payments based on the delivery of nonmedical health determinant interventions.[5] In Pennsylvania and South Carolina, Medicaid managed care organizations are reimbursing for GED classes as a covered benefit.[6] The Commonwealth Care Alliance in Massachusetts provides meal delivery service for the dual eligible population.[7] Funding for supportive housing is part of New York's overall Medicaid redesign program.[8] And in California, the Whole Person Care pilot, a Section 1115 waiver program, aims to address social determinants of health to reduce preventable high-acuity utilization of Medi-Cal recipients.[9] CommunityConnect is Contra Costa County's Whole Person Care waiver pilot.

Within the last decade, social needs screening tools have emerged within the healthcare sector; however, there are no standardized practices, leading organizations to develop their own tools, modify existing tools, and/or combine domain-specific screenings.[10] In 2013, the National Association of Community Health Centers, the Association of Asian Pacific Community Health Organizations, the Oregon Primary Care Association, and the Institute for Alternative Futures developed a social determinants of health assessment tool, Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE).[11] PRAPARE covers a large array

---

[3] Laura M. Gottlieb, Holly Wing, and Nancy E. Adler, "A Systematic Review of Interventions on Patients' Social and Economic Needs," *American Journal of Preventive Medicine*, 2017, https://doi.org/10.1016/j.amepre.2017.05.011.

[4] Liz Bickerdike et al., "Social Prescribing: Less Rhetoric and More Reality. A Systematic Review of the Evidence," *BMJ Open*, 2017, https://doi.org/10.1136/bmjopen-2016-013384; Gottlieb, Wing, and Adler, "A Systematic Review of Interventions on Patients' Social and Economic Needs."

[5] Laura M. Gottlieb et al., "Clinical Interventions Addressing Nonmedical Health Determinants in Medicaid Managed Care," *American Journal of Managed Care*, 2016, https://doi.org/10.1007/s40471-014-0031-3.

[6] Mary Katherine Wildeman, "Select Health Program Demonstrates How Education Is Closely Tied to Health," *The Post and Courier*, November 27, 2017, www.postandcourier.com/features/select-health-program-demonstrates-how-education-is-closely-tied-to/article_220a76ce-cf8f-11e7-9055-774c31915d06.html; Phil Galewitz, "Medicaid Plans Cover Doctors' Visits, Hospital," *Philadelphia Inquirer*, January 7, 2019, https://khn.org/news/medicaid-plans-cover-doctors-visits-hospital-care-and-now-your-ged/.

[7] Seth A Berkowitz et al., "Meal Delivery Programs Reduce the Use of Costly Health Care in Dually Eligible Medicare and Medicaid Beneficiaries," *Health Affairs* 37, no. 4 (2018): 535–42, https://doi.org/10.1377/hlthaff.2017.0999.

[8] Dawn E Alley et al., "Accountable Health Communities-Addressing Social Needs through Medicare and Medicaid," *PERSPECTIVE n Engl j Med*, vol. 374, 2016, https://hbex.coveredca.com/stakeholders/plan-management/PDFs/CMS-Accountable-Communities-NEJM-2016-January.pdf.

[9] Lucy Pagel, Tanya Schwartz, and Jennifer Ryan, "The California Whole Person Care Pilot Program: County Partnerships to Improve the Health of Medi-Cal Beneficiaries," 2017, https://harbageconsulting.com/wp-content/uploads/2017/02/WPC-Summary_Final_02282017.pdf.

[10] Kate LaForge et al., "How 6 Organizations Developed Tools and Processes for Social Determinants of Health Screening in Primary Care: An Overview.," *The Journal of Ambulatory Care Management* 41, no. 1 (2018): 2–14, https://doi.org/10.1097/JAC.0000000000000221.

[11] In National Association of Community Health Centers, "PRAPARE Implementation and Action Toolkit," National Association of Community Health Centers, Inc., Association of Asian Pacific Community Health Organizations, Oregon

of domains with a total of 21 questions administered to the patient during a routine clinical visit, either before entering the exam room, between vitals measurements, during, or after the visit.[12] In 2014, the Institute of Medicine reviewed existing screening questions measuring Social Determinants of Health and issued recommendations on domains and questions that should be asked within the health care setting and captured by electronic health records (EHRs).[13] Questions were selected for clinical significance and relevance to collection in the clinical setting.[14] Reviewed, but excluded from final recommendations were questions in the domains of social support, transportation, educational opportunities, and employment opportunities.[15] The usefulness and/or actionability of these areas in the health care setting, as well as the evidence base on direct links to health outcomes, were the primary reasons cited for non-inclusion of these domains. In 2017, the Center for Medicaid and Medicare Services developed a 10-item screening tool, the Accountable Health Communities Health-Related Social Needs Screening Tool, to identify unmet patient needs in five domains: housing instability, food insecurity, transportation difficulties, utility assistance needs, and interpersonal safety.[16] This was modified in 2018 to include an additional eight supplemental domains: financial strain, employment, education, family and community support, physical activity, substance use, mental health, and disabilities.[17] This screening tool is a self-administered tool, completed by patients in a clinical setting while waiting for a scheduled visit. The SIREN Network based at UCSF provides a comparison publication of existing social needs screening tools, displaying the number of questions, domains supported, targeted population, and scoring requirements (See Appendix A).[18] While the above screenings aggregate domain-specific questions, many singular domain screenings are also being widely adopted and administered. For instance, the Hunger Vital Sign two-question screening is being adopted within health care settings to screen for food insecurity.[19] While no standard tool is universally being adopted across health settings, the emergence of various tools indicates interest and need by health providers and payers to assess and address social determinants of health within the health care setting.

Primary Care Association. (National Association of Community Health Centers, 2016), http://www.nachc.org/research-and-data/prapare/toolkit/.

[12] "PRAPARE - NACHC," accessed January 24, 2019, http://www.nachc.org/research-and-data/prapare/.

[13] Institute of Medicine (U.S.). Committee on the Recommended Social and Behavioral Domains and Measures for Electronic Health Records, *Capturing Social and Behavioral Domains and Measures in Electronic Health Records : Phase 2*, n.d.

[14] Institute of Medicine (U.S.). Committee on the Recommended Social and Behavioral Domains and Measures for Electronic Health Records.

[15] Institute of Medicine (U.S.). Committee on the Recommended Social and Behavioral Domains and Measures for Electronic Health Records.

[16] Alley et al., "Accountable Health Communities-Addressing Social Needs through Medicare and Medicaid"; Alexander Billioux et al., "Standardized Screening for Health-Related Social Needs in Clinical Settings The Accountable Health Communities Screening Tool," 2017.

[17] Centers Center for Medicare and Medicaid Services, "The Accountable Health Communities Health-Related Social Needs Screening Tool What's the Accountable Health Communities (AHC) Health-Related Social Needs (HRSN) Screening Tool? What Does the AHC HRSN Screening Tool Mean for Me? Center for Medicare and Med," accessed January 24, 2019, https://doi.org/10.1542/peds.2009-3146.

[18] Yuri Cartier, Caroline Fichtenber, and Laura Gottlieb, "Screening Tools Comparison," SIREN Netowrk, UCSF, 2018, https://sirenetwork.ucsf.edu/tools-resources/mmi/screening-tools-comparison.

[19] Sandra Hoyt Stenmark et al., "Lessons Learned from Implementation of the Food Insecurity Screening and Referral Program at Kaiser Permanente Colorado.," *The Permanente Journal* 22 (2018), https://doi.org/10.7812/TPP/18-093; Craig Gundersen et al., "Brief Assessment of Food Insecurity Accurately Identifies High-Risk US Adults," *Public Health Nutrition* 20, no. 8 (June 20, 2017): 1367–71, https://doi.org/10.1017/S1368980017000180.

Many established screening tools are self-administered via a paper or electronically. Other screenings are conducted upon intake by a registration staff, medical assistant, or a health care provider. These different techniques of question administration (written vs. oral) and the administrator's relationship to patient shape both the chosen questionnaire as well as the patient responses to that questionnaire.[20] On the one hand, paper screenings may indicate underreporting, compared to that of a skilled interviewer; on the other hand, social desirability response bias in oral-administration (where respondents tend to report answers in a manner that will be viewed favorably by others) may result in underreporting, especially when the person collecting the response has a specific relationship with the patient.[21] Perceived stigma, reluctance to discuss social situations, and uncertainty or distrust of why the health system needs is collecting this information may all result in underreporting of unmet social needs. EHRs may improve the integration and standardization of documenting and addressing the social determinants of health within health care settings;[22] however, the methods used by health care delivery systems to administer these screenings will greatly impact both response rates and results.

The CommunityConnect Social Needs screening is designed as an intake tool for a social needs case management program that aims to provide one year of case management services to a population at highest risk for preventable morbidity resulting in avoidable high-acuity services. The screening is used by case managers upon first or second meeting to build rapport with the patient, develop a relationship, understand a patient's situation, and identify areas of unmet needs that the patient would like to work on with their case manager. The tool itself directly informs the creation of a patient-centered care plan. There is no "score" for the screening, and its intent is neither to measure, assess, or evaluate need in a quantitative sense, nor to prescribe a specific set of actions for the patient or case manager. Each screening ends with the case manager asking the patient what is most important to them and what they would like to work on.

CommunityConnect has employed a variety of practice approaches to engage patients including Trauma Informed Care, Non-Violent Communication, Implicit Bias, and the Transtheoretical Model (i.e. Stages of Change). To assist case managers in prioritizing social needs and goal development, case managers use motivational interviewing (MI) techniques and approaches in their administration of the social needs screening to engage patients in ongoing case management, assess readiness to address a specific issue, and prioritize amongst multiple needs. While this framework was initially designed to work with behavioral-linked issues such as substance use and addiction counseling, it has also been used in social work, and in addressing health behavioral changes for disease-specific case management interventions, such as asthma and diabetes.[23]

---

[20] Ann Bowling, "Mode of Questionnaire Administration Can Have Serious Effects on Data Quality," *Journal of Public Health* 27, no. 3 (September 1, 2005): 281–91, https://doi.org/10.1093/pubmed/fdi031.
[21] Bowling; Anton J. Nederhof, "Methods of Coping with Social Desirability Bias: A Review," *European Journal of Social Psychology* 15, no. 3 (July 1, 1985): 263–80, https://doi.org/10.1002/ejsp.2420150303; Jennifer R. Powers, G. Mishra, and A. F. Young, "Differences in Mail and Telephone Responses to Self-Rated Health: Use of Multiple Imputation in Correcting for Response Bias," *Australian and New Zealand Journal of Public Health* 29, no. 2 (April 1, 2005): 149–54, https://doi.org/10.1111/j.1467-842X.2005.tb00065.x.
[22] Institute of Medicine (U.S.). Committee on the Recommended Social and Behavioral Domains and Measures for Electronic Health Records, *Capturing Social and Behavioral Domains and Measures in Electronic Health Records : Phase 2*.
[23] K. M. Knight et al., "A Systematic Review of Motivational Interviewing in Physical Health Care Settings," *British Journal of Health Psychology* (John Wiley & Sons, Ltd (10.1111), May 1, 2006), https://doi.org/10.1348/135910705X52516; Stephanie

Motivational interviewing is defined as "a collaborative conversation style for strengthening a person's own motivation and commitment to change."[24] Motivational interviewing intertwines the feelings of importance and confidence into an individual, and strengthens willingness to accept and procced with getting needed help. [25] After patients identify domains they would like to address, case managers use the Stages of Change framework (i.e. precontemplation, contemplation, preparation, action, maintenance)[26] to determine where the patient is with regards to the need, and to identify next steps in developing a patient-centered care plan.

An additional reason CommunityConnect employs the Stages of Change framework is the nature of how patients are enrolled into the program. CommunityConnect is not a referral-based program, instead patients are enrolled based on their risk profile identified in the internally-developed predictive risk model. Case managers proactively outreach to patients to engage them in identifying and addressing unmet social needs. Patients may not have been seeking help for any particular issue at the time of enrollment. Thus, the Stages of Change model is an appropriate framework to move patients into the contemplation phase, assist in prioritizing needs, and develop long-term solutions to address unmet social needs.

Methods

During the initial six months of the CommunityConnect pilot, the program used a social needs screening tool developed by Health Leads, a vendor in the electronic social resource database arena. A primary care clinic site within Contra Costa Health System uses a paper version of this screening tool. At this site, patients fill out the survey upon intake for their provider appointment, and, if positive, are offered a referral to a service desk staffed by volunteer students (called "advocates"). These advocates complete a brief intake with the patient to prioritize unmet needs identified on the screening tool and then utilize the Health Leads REACH database to link patients to appropriate resources in the community. This original screening tool was used by over 50 CommunityConnect case managers during the first six months of operations. During this time, staff provided feedback that the tool had limitations, specifically in terms of the types of questions asked, wording of questions, missing screening questions, overall organization, and question ordering.

In the Spring of 2018, CommunityConnect began a quality improvement project, "The Social Needs Think Tank", with the goal to identify problems and barriers for screening and assessing patients upon program enrollment and develop a more comprehensive social needs screening tool to engage patients in ongoing case management. Detailed process mapping was conducted as a first step in understanding the steps and best practices in patient engagement, need identification, and the establishment of an initial care plan. During this exercise, case managers provided examples where patient needs were unidentified because either screening questions were improperly worded or missing entirely.

Wahab, "Motivational Interviewing and Social Work Practice," *Journal of Social Work* 5, no. 1 (April 29, 2005): 45–60, https://doi.org/10.1177/1468017305051365.

[24] William R. (William Richard) Miller and Stephen Rollnick, *Motivational Interviewing : Helping People Change* (Guilford Press, 2013).

[25] Miller and Rollnick.

[26] Knight et al., "A Systematic Review of Motivational Interviewing in Physical Health Care Settings."

Using rapid improvement framework, plan-do-study-act (PDSA) cycles were used to iteratively modify the screening tool. Nine PDSAs were conducted over four months and traversed the following domains: housing, food security, behavioral health and social support, vision and dental, safety, housing composition, medical, and overall organization of the screening tool. Each domain experienced two to four PDSA cycles as the tool adapted to its final state. Twenty-four staff participated in administering the re-vamped social needs screening, and the new questions were tested with 94 patients. In addition to reviewing existing social determinant screening tools, the group, comprised of nurses, social workers, mental health clinicians, substance use counselors, and community health workers, drew on their own case management expertise to design and test screening questions.

Results

During the four-month period, the team used feedback from case managers and patients to modify the screening tool through rapid-improvement cycles. Efficacy of the questions was determined based on the following feedback from case managers: How well were patients able to understand the question? How well did the question garner an accurate result of the patient's situation? To what extent did the wording of the question provide an opportunity to engage the patient in developing a patient-centered care plan?

Table 1 displays the beginning and end state of CommunityConnect's social need screening and provides a summary of the key lessons learned.

Medical. The initial screening tool inquired whether patients were linked to a doctor. Feedback from case managers expressed the need to inquire further on whether patients were regularly seeing their doctors, inquire about their relationship, and provide education that the case manager could assist with switching their primary care provider. Additionally, a question about access to medications, durable medical equipment, or specialty care appointments was added. Case managers noted that this question gave patients the space to talk about ongoing medical issues, setting the stage for case manager follow-up.

Dental and Vision. The initial screening tool inquired whether the patient had a dentist; however, it did not inquire about dental concerns or needs. Staff reported that oftentimes a patient had a dentist, but major dental concerns only became apparent upon additional probing. Many staff reported that patients were unaware entirely that dental is a covered Medi-Cal benefit, and many patients reported that they still believed Denti-Cal only covered extractions. Based on this feedback, the current screening tool was expanded to inquire whether the patient has dental concerns, and if they do, if they need support connecting to a dentist. Vision care questions were not included in the initial screening. Feedback obtained from case managers included that vision was a vital need expressed by patients. Questions were developed, following a similar format to the dental questions and added to the current screening tool. Case managers provided additional feedback that patients do not always associate vision and dental as a perceived medical need, leading to the development of dental and vision to be a standalone domain.

Behavioral Health. Behavioral health questions were not included in the initial screening. Case managers noted that asking if patients wanted to be connected to behavioral health resources was a key question at assessing readiness for change, aligning with the framework of motivational interviewing. Behavioral health questions

were also moved to follow the medical, dental, and vision question to reduce stigma surrounding behavioral health discussion. While the current questions inquire about general mental health or substance use concerns, case managers also administer the SBIRT (and subsequent PHQ-9, DAST, or AUDIT) as a stand-alone screening.

Transportation. The initial screening tool inquired whether the patient had missed any medical appointments due to lack of transportation, and if they needed support with transportation. After feedback was gathered from the case managers, these questions were rephrased to get to the underlying need of the patient and help the case manager understand the current transportation situation of the patient. It was noted that patients oftentimes thought the case managers could help with transportation to personal ventures not just vital appointments. Setting clear boundaries on the travel assistance that can be provided helped avoid unnecessary ruptures in the therapeutic relationship that can hinder rapport and progress in case management. These newly phrased questions allow for more follow-up and ability to address long-term transportation plans.

Finances. The initial screening tool asked if the patient would like resources regarding utility discount programs. After receiving feedback from staff, it was concluded that this question best fit under the housing section which allowed for "better flow in the conversation." The initial screening tool also inquired whether the patient needed support with applying to public assistance programs, such as, SSI/SSDI, GA, or Cal-WORKs. Staff reported that it was pertinent to know if the patient had a source of income and what that income was prior to asking if they needed help to applying for income assistance. Whether the patient has applied for income assistance programs in the past, if they were ever denied, in an appeal stage, or never applied was also pertinent information to the case manager. These items were added to the current screening tool to allow for a more accurate gauge of the patients' current situation.

Food Security. The initial screening tool inquired whether the patient and their family struggle to have enough food, and if they would be interested in resources regarding food programs and food stamps. During the rapid-improvement cycles, the Hunger Vital Sign two-question screening was tested. Feedback from case managers included that the Hunger Vital Sign questions were not phrased well for both telephonic and field-based staff to obtain accurate information of the patients' situation. The time constraints of the questions (i.e. "within the last 30 days"), in addition to the Likert scale answer options, made the question seem more of an assessment or measuring tool, as opposed to a platform to engage patients. PDSA cycles also revealed that it was difficult to deliver the Likert scale when working with patients telephonically. For the current screening tool, the original questions were kept and the possible food programs and resources to provide the patient were expanded to establish a more defined care plan.

Education. The initial screening tool inquired whether the patient would like education or job training information. Feedback from case managers noted that separating these into different questions was important for gathering information. Knowing which type of educational opportunities, the patient was looking to gain information on was important in developing a care plan and was expanded in the current screening. Additionally, job training and job placement were noted as different resources and a separate question on whether the patient would like job placement program information was added to the current screening.

Housing. The initial screening tool simply asked if the patient would like housing information or assistance. During the rapid-improvement cycles staff reported that knowing the patients' current housing situation was

vital in supporting the patient. Even if the patient had stable housing now, knowing if they were at risk of losing housing down the road was a crucial piece of information when developing a care plan. Questions were also added to capture others living in the household. This included family, friends, whether the patient lives in a group home or even if they have pets living with them. Pets were cited as key barriers for identifying appropriate housing options. Additionally, as noted above, utilities questions were added to the housing section, and additional questions were added about if the patient wants information on home repair/weatherization programs, rental assistance, and/or shelters in the area. Case managers are given the liberty to ask applicable questions, as someone looking for shelter assistance does not want information on weatherization programs. Feedback noted that these questions assist the case manager in providing the best possible linkage to resources that truly fit the patients' situation and allow the case manager to continue support efforts where needed.

Legal. The screening tool legal question did not change. However, it was expanded to trigger a complete legal assessment (created by Bay Area Legal Aid) if a patient screens positive to the initial screening question.

Social Support. The initial screening tool inquires whether the patient has enough support within their lives. Staff expressed a need to expand on this question during the rapid-improvement cycles. The questions were modified to expand and ask an additional follow up regarding where the patient gets their support and explores something they like to do in their life. Case managers noted that this builds patient rapport and establishes a framework for a care plan. Additionally, the initial screening tool inquired whether the patient was a caregiver themselves and what those responsibilities took away from their own care. These questions were rephrased to better garner the patients' situation and now ask if they care for an adult or child and if they could use any additional resources or support with that care.

Safety. Safety questions were not included in the initial screening tool. After feedback from staff addressing the importance of identifying abuse, the current screening tool inquires on interpersonal and household safety. The questions around safety were developed from the screening administered by the Healthcare for the Homeless program and Public Health Clinic Services.

Screening Organization. The initial screening tool did not consider question organization or conversational structure for building patient rapport. For instance, the original screening tool asked whether a patient would like assistance with utilities before asking if the patient had housing. The screening was rearranged based on case manager feedback into a logical and comprehensive sequence that would help build a patient profile and establish rapport. Case managers may skip over non-applicable questions within a specific domain. Many case managers, especially those that provide telephonic services, conduct the social needs screening assessment over several sessions so as not to overwhelm the patient, and allow for the case manager and patient to begin working on expressed needs. As patients are engaged in a year of case management services, the sections of the social needs screening may be periodically revisited to assess readiness across different domains. Additionally, the screening tool also includes sections for "additional information" under each domain, so the case manager can document relevant details and background information. These free text sections are directly pulled into the patient's care plan in the electronic health record.

Discussion

Designing a screening tool to support motivational interviewing techniques meant that the screening tool itself would be less focused on measurement or identification, and more on engaging patients to move toward the care-planning process. Instead of a Likert scale format, conversational yes/no questions were used, with the ability to collect open-ended responses. The revised tool created space for open-ended answers, allowing the patient to express and explain needs in their own words. The new screening tool provides case managers a wide array of questions to choose from to support a variety of situations. Case managers may skip questions within a domain to move on to questions more relevant to the current scenario. The questions in each domain are meant to guide conversation and delve into each domain so the case manager has a more complete sense of the patient's situation when developing the care plan. As the tool is used both to assess needs and engage the patient in services, the length of time to administer the screening can vary significantly based on the interaction between the case manager and patient. The tool is seen as the first step in care planning with the patient and assessing where the patient is in the stages of change. When a patient screens positive to multiple needs, the case manager works with the patient in prioritizing.

Screening is not a comprehensive indication of a patient's social needs. Case managers report that frequently patients indicate not having a need, only to develop a relationship with a patient and identify an active need later. Social determinants of health are stigmatized, and screening may underreport needs. A skilled case manager/interviewer can minimize this; however, only time and a developed relationship may expose a patient's unmet needs. Understanding social desirability survey bias in the context of Social Needs/Social Determinants screening is something not well researched, and more examination is needed, especially if/when health payers and health systems move toward universal screening.

Modality of screening (either in-person, telephonic, or paper/electronic), the setting and timeline of collection (when patient has an acute concern or routine check-up), and the relationship of the person administering the screening can greatly impact results. Conducting a screening as a patient's ongoing case manager is different than conducting a screening as a health provider responsible for addressing acute medical concerns, or a researcher completing a community needs assessment. While this screening tool has been effective in the setting of an ongoing case management program, it is important to note that the tool itself will not be appropriate for all health care settings. At 42 questions in length, it would not be appropriate as a paper tool to administer upon intake, particularly with the number of open-ended questions. In addition, the limited time available in a clinical setting with a health provider where the intent for the visit was medical in nature would likely not be appropriate as well. Nevertheless, lessons can be learned from the work of the CommunityConnect social needs screening, in terms of phrasing questions that are strength-based, and questioning the rationale behind using Likert scales when the goal is to engage a patient in services, not measure or assess.

Modes of screening collection across various settings, relationship of the screening administrator to the patient, time of screening collection, and social desirability survey bias are important factors to consider when designing a tool, especially as health systems and payers move further towards value-based reimbursement. While the move toward standardization is necessary, it must be acknowledged that this can and should vary across settings based on the type of services provided in response to screenings and assessments. Health systems and payers interested in expanding social determinant screenings must determine which social domains are most actionable depending on the screening location (i.e. hospital-based, primary care, telephonic, community-based) and identify the most appropriate screening tool for that setting. EHR vendors will need to design flexible

collection tools able to aggregate results across various settings, accounting for differences in collection techniques per setting.

Conclusion

The CommunityConnect Social Needs Screening tool is unique in that it covers a magnitude of social domains while utilizing strength-based and motivational interviewing techniques to provide patients the best possible support for identified needs. This tool can be used in a clinical or community-based environment to support patients of all need levels with varying disciplines and is best tailored to be administered by a member of the patient's ongoing care team.

Table 1 – CMCT Social Needs Screening – Before and After

Domain	Initial Question(s)	Final Question(s)	Key Lessons Learned
Medical	Do you have a doctor?	Do you need assistance with connecting to a Doctor? Are there any medical supplies, medications, or specialty care appointments that you need that you haven't been able to access? Do you have any outstanding medical bills that you are concerned with?	Importance of using MI to identify barriers patients may have connecting to their doctor, inquire about medications or DME that the patient may need assistance accessing.
Dental	Do you have a dentist?	Do you have any dental concerns or needs? If yes, do you need assistance with connecting to a Dentist?	Many patients were unaware of Denti-Cal benefits and ongoing education on this covered benefit is needed.
Vision	n/a	Do you have any Vision or eye care needs?	Many patients needed vision care in addition to dental and medical care.
Transportation	Do you need help with transportation? Have you recently had to go without medical care because you didn't have transportation?	Do you need help with transportation to/from medical appointments or other important appointments? How do you currently get to/from your medical/other important appointments? (CIRCLE: Public transportation, private car, family members, taxi, Uber, CCHP, Other)	Patients needed to develop long-term transportation plans, not just one time passes. Expanded questions made it easier to identify current transportation modes and possible support.
Finances	Would you like information about utility discount programs? (ex: PG&E, water, phone) Do you need help applying for Social Security, Social Security Disability benefits or General Assistance benefits?	Do you have a source of income? If yes, what is your source of income? (CIRCLE: Employed, Self-employed, SSI/SSD, General Assistance, Inheritance, Cal-Works, Other) Have you received or are you currently applying to any income/public assistance programs, such as SSI, SSDI, GA, Cal-Works, or others? If yes, (CIRCLE: Currently applying, Applied in past, Never, Denied, Currently receiving) Would you like assistance applying for Income/Public Assistance Programs? (CIRCLE: SSI, SSDI, General Assistance benefits, Cal-Works, Other)	Patient income and source was pertinent when determining how to help establish public assistance programs or budgeting support.

Food security	Do you or your family have enough food to eat every day? Would you be interested in information about food programs and food stamps?	Do you or your family struggle with having enough food to eat every day? Would you be interested in information about food programs and food stamps? If yes, what programs/resources? (CIRCLE: CalFresh/Food Benefits, WIC, Food Pantries, Free/Reduced school lunches, congregate meals)	Likert scale style questions are not optimal for telephonic case management services.
Education	Would you like information about educational opportunities? Would you like information about job training programs?	Would you like information about educational opportunities? If yes, what programs/resources: (Circle: GED, ESL, Tutoring for a child, Adult education, Community College, Parenting classes) Would you like information job training programs? Would you like information about job placement programs?	Importance of MI to see barriers patients may be facing when trying to connect to education and job training/placement programs.
Housing	Do you need housing information or assistance with housing?	What is your current living situation? (CIRCLE: street, shelter, doubled up, Sober Living Environment (SLE), residential treatment, transitional housing, single room occupancy (SRO), board and care, own or rent) Do you believe you are at risk of losing your housing within the next 6 months? Do you live alone or with other people? (CIRCLE: Alone, Lives with people) • If living with other people (CIRCLE: Mother, Father, Sibling(s), Extended Family, Child/Children, Adult Child/Children, Friend, Spouse/Partner, Roommate/Housemate, Group Home, Other) Do you have any pets? Would you like information about utility discount programs? (Ex: PG&E, water, phone) Would you like information about home repair programs? (i.e. Weatherization Program)	Identifying patients who were at risk of homelessness was key for case management services. Additionally, the environment in which the patient was surrounded was pertinent in finding/keeping housing.

		Would you like information about rental assistance resources? Would you like information about shelters in your area?	
Legal	Do you need legal assistance information? (ex: immigration, child custody/support, tenant issues, restraining orders, etc.)	Do you need legal assistance information? (ex: immigration, child custody/support, tenant issues, restraining orders, etc.) *Patients expressing legal needs have a full legal assessment	n/a
Support System	When you feel stressed/overwhelmed, do you have enough support in your life? Are you a caregiver? If yes, do your care giving responsibilities make it difficult to attend to your own personal needs? (ex: go to medical appointment, work)	When you feel stressed/overwhelmed, do you need additional support in your life? If yes, Who/Where do you go when you need help or support in your life? What is something you like to do /something in your life you are proud of? Do you have any children and/or adults who are dependent on your care that you would like additional resource information for? (CIRCLE: Child Adult) What support/resources do you feel that you need?	Expanding support questions promoted strength-based practices, helping establish patient rapport and willingness to engage.
Behavioral Health	n/a	Do you have any mental health concerns? Do you have any substance use concerns? Would you like to be connected to resources to receive support/counseling/treatment for mental health or substance use? *In addition, case managers conduct the SBIRT screening and PHQ-9, AUDIT, and/or DAST if applicable	Strength-based questions were needed to allow space for case managers to gauge readiness for change.
Safety	n/a	Do you feel physically and emotionally safe where you currently live? Are you currently in a situation where you are being hurt or harmed in any way?	Identified importance of having interpersonal and household safety addressed with patients.

References

Alley, Dawn E, Chisara N Asomugha, Patrick H Conway, and Darshak M Sanghavi. "Accountable Health Communities-Addressing Social Needs through Medicare and Medicaid." *PERSPECTIVE n Engl j Med*. Vol. 374, 2016. https://hbex.coveredca.com/stakeholders/plan-management/PDFs/CMS-Accountable-Communities-NEJM-2016-January.pdf.

Berkowitz, Seth A, Jean Terranova, Caterina Hill, Toyin Ajayi, Todd Linsky, Lori W Tishler, and Darren A. DeWalt. "Meal Delivery Programs Reduce the Use of Costly Health Care in Dually Eligible Medicare and Medicaid Beneficiaries." *Health Affairs* 37, no. 4 (2018): 535–42. https://doi.org/10.1377/hlthaff.2017.0999.

Berwick, Donald M., Thomas W. Nolan, and John Whittington. "The Triple Aim: Care, Health, And Cost." *Health Affairs* 27, no. 3 (May 2, 2008): 759–69. https://doi.org/10.1377/hlthaff.27.3.759.

Bickerdike, Liz, Alison Booth, Paul M. Wilson, Kate Farley, and Kath Wright. "Social Prescribing: Less Rhetoric and More Reality. A Systematic Review of the Evidence." *BMJ Open*, 2017. https://doi.org/10.1136/bmjopen-2016-013384.

Billioux, Alexander, Katherine Verlander, Susan Anthony, and Dawn Alley. "Standardized Screening for Health-Related Social Needs in Clinical Settings The Accountable Health Communities Screening Tool," 2017.

Bowling, Ann. "Mode of Questionnaire Administration Can Have Serious Effects on Data Quality." *Journal of Public Health* 27, no. 3 (September 1, 2005): 281–91. https://doi.org/10.1093/pubmed/fdi031.

Cartier, Yuri, Caroline Fichtenber, and Laura Gottlieb. "Screening Tools Comparison." SIREN Netowrk, UCSF, 2018. https://sirenetwork.ucsf.edu/tools-resources/mmi/screening-tools-comparison.

Center for Medicare, Centers, and Medicaid Services. "The Accountable Health Communities Health-Related Social Needs Screening Tool What's the Accountable Health Communities (AHC) Health-Related Social Needs (HRSN) Screening Tool? What Does the AHC HRSN Screening Tool Mean for Me? Center for Medicare and Med." Accessed January 24, 2019. https://doi.org/10.1542/peds.2009-3146.

Galewitz, Phil. "Medicaid Plans Cover Doctors' Visits, Hospital." *Philadelphia Inquirer*. January 7, 2019. https://khn.org/news/medicaid-plans-cover-doctors-visits-hospital-care-and-now-your-ged/.

Gottlieb, Laura M., Kim Garcia, Holly Wing, and Rishi Manchanda. "Clinical Interventions Addressing Nonmedical Health Determinants in Medicaid Managed Care." *American Journal of Managed Care*, 2016. https://doi.org/10.1007/s40471-014-0031-3.

Gottlieb, Laura M., Holly Wing, and Nancy E. Adler. "A Systematic Review of Interventions on Patients' Social and Economic Needs." *American Journal of Preventive Medicine*, 2017. https://doi.org/10.1016/j.amepre.2017.05.011.

Gundersen, Craig, Emily E Engelhard, Amy S Crumbaugh, and Hilary K Seligman. "Brief Assessment of Food Insecurity Accurately Identifies High-Risk US Adults." *Public Health Nutrition* 20, no. 8 (June 20, 2017): 1367–71. https://doi.org/10.1017/S1368980017000180.

Institute of Medicine (U.S.). Committee on the Recommended Social and Behavioral Domains and Measures for Electronic Health Records. *Capturing Social and Behavioral Domains and Measures in Electronic Health Records : Phase 2*, n.d.

Knight, K. M., Linda McGowan, C. Dickens, and C. Bundy. "A Systematic Review of Motivational Interviewing in Physical Health Care Settings." *British Journal of Health Psychology*. John Wiley & Sons, Ltd (10.1111), May 1, 2006. https://doi.org/10.1348/135910705X52516.

LaForge, Kate, Rachel Gold, Erika Cottrell, Arwen E Bunce, Michelle Proser, Celine Hollombe, Katie Dambrun, Deborah J Cohen, and Khaya D Clark. "How 6 Organizations Developed Tools and Processes for Social Determinants of Health Screening in Primary Care: An Overview." *The Journal of Ambulatory Care Management* 41, no. 1 (2018): 2–14. https://doi.org/10.1097/JAC.0000000000000221.

Link, B G, and J Phelan. "Social Conditions as Fundamental Causes of Disease." *Journal of Health and Social Behavior* Spec No (1995): 80–94. http://www.ncbi.nlm.nih.gov/pubmed/7560851.

Miller, William R. (William Richard), and Stephen Rollnick. *Motivational Interviewing : Helping People Change*. Guilford Press, 2013.

National Association of Community Health Centers, In. "PRAPARE Implementation and Action Toolkit." National Association of Community Health Centers, Inc., Association of Asian Pacific Community Health Organizations, Oregon Primary Care Association. National Association of Community Health Centers, 2016. http://www.nachc.org/research-and-data/prapare/toolkit/.

Nederhof, Anton J. "Methods of Coping with Social Desirability Bias: A Review." *European Journal of Social Psychology* 15, no. 3 (July 1, 1985): 263–80. https://doi.org/10.1002/ejsp.2420150303.

Pagel, Lucy, Tanya Schwartz, and Jennifer Ryan. "The California Whole Person Care Pilot Program: County Partnerships to Improve the Health of Medi-Cal Beneficiaries," 2017. https://harbageconsulting.com/wp-content/uploads/2017/02/WPC-Summary_Final_02282017.pdf.

Powers, Jennifer R., G. Mishra, and A. F. Young. "Differences in Mail and Telephone Responses to Self-Rated Health: Use of Multiple Imputation in Correcting for Response Bias." *Australian and New Zealand Journal of Public Health* 29, no. 2 (April 1, 2005): 149–54. https://doi.org/10.1111/j.1467-842X.2005.tb00065.x.

"PRAPARE - NACHC." Accessed January 24, 2019. http://www.nachc.org/research-and-data/prapare/.

Stenmark, Sandra Hoyt, John F Steiner, Sanjana Marpadga, Marydale Debor, Kathleen Underhill, and Hilary Seligman. "Lessons Learned from Implementation of the Food Insecurity Screening and Referral Program at Kaiser Permanente Colorado." *The Permanente Journal* 22 (2018). https://doi.org/10.7812/TPP/18-093.

Teutsch, Steven M. "Comparative Effectiveness—Looking Under the Lamppost." *JAMA* 305, no. 21 (June 1, 2011): 2225. https://doi.org/10.1001/jama.2011.730.

Wahab, Stephanie. "Motivational Interviewing and Social Work Practice." *Journal of Social Work* 5, no. 1 (April 29, 2005): 45–60. https://doi.org/10.1177/1468017305051365.

Wildeman, Mary Katherine. "Select Health Program Demonstrates How Education Is Closely Tied to Health." *The Post and Courier*. November 27, 2017. www.postandcourier.com/features/select-health-program-demonstrates-how-education-is-closely-tied-to/article_220a76ce-cf8f-11e7-9055-774c31915d06.html.

Social Determinants of Health: Know What Affects Health. (2018, January 29). Retrieved from https://www.cdc.gov/socialdeterminants/

Social Need Screening Tools Comparison Table. (2018). Retrieved September 27, 2018, from https://sirenetwork.ucsf.edu/node/17826

Appendix A – Social Need Tool Comparison[27]

	Medicare Total Health Assessment (2012)	PRAPARE (2013)	Recommended Domains from Institute of Medicine (2014)	NAM Domains (2014)	MLP IHELLP (2015)	HealthBegins (2015)	Health Leads (2016)	AHC-Tool (2017)	*CMCT Social Needs Screening (2018)*
# Social Needs Questions	7	17	12	12	10	24	10	19	*32*
# Non-Social Needs Questions	30	4	9	12	0	4	0	8	*10*
Patient or Clinic Population	Medicare	CHCs		NS	NS	NS	NS	Medicare & Medicaid	*Medi-Cal*
Reported Completion Time	10-20 min	NR		NR	NR	NR	NR	NR	*NR*
Scoring	N	N		N	N	Y	N	Y	*N*
Benefits					1				*4*
Caregiver Responsibilities									*1*
Childcare Access & Affordability		1					1		
Civic Engagement						1			
Clothing		1							
Disabilities								2	
Education		1	2	2	1	3		1	*1*
Employment		1			1	1		1	*2*
Financial Strain			1	1		2		1	
Food Insecurity	2	1	1			1	1	2	*3*
Health Care / Medicine Access & Affordability		2					1		*10*
Housing Insecurity / Instability / Homelessness	1	2	1		2	2	1	1	*7*
Housing Quality	1				1	1		1	
Immigration / Migrant Status / Refugee Status		2			2	1			
Incarceration		1							
Income		1		1	3				*2*
Interpersonal Violence (IPV)		1	4	4	3	4		4	*1*
Literacy							1		
Neighborhood Safety		1				1			*1*
Power of Attorney / Guardianship					1				
Social Support	1	1	5	4		5	1	2	*2*
Stress	2	1	2	1		1		1	
Transportation		1				1	1	1	*2*
Utilities		2					1	1	*2*
Veteran Status		1							
Desire for Assistance / Urgent Needs							2		
Interests/Strengths									*1*
Legal Assistance									*1*
Health Behaviors / Behavioral Health / Health Status	DP, HS, MH			AA, MH, PA, TU		DP, PA		MH, PA, SU	

[27] Modified from Cartier, Fichtenber, and Gottlieb, "Screening Tools Comparison."

Appendix B – Final CommunityConnect Social Needs Screening Tool

MEDICAL

- Do you need assistance with connecting to a Doctor? Yes No
- Do you have any dental concerns or needs? Yes No
- If yes, do you need assistance with connecting to a Dentist? Yes No
- Additional Comments: ____
- Do you have any Vision or eye care needs? Yes No
  (CIRCLE ALL THAT APPLY: Help connecting to an eye doctor/optometrist, help making an eye appointment or help filling a prescription for glasses)
- Do you have any outstanding medical bills that you are concerned with? Yes No
- Are there any medical supplies, medications, or specialty care appointments that you need that you haven't been able to access? Yes No

BEHAVIORAL HEALTH*

- Do you have any mental health concerns? Yes No
- Do you have any substance use concerns? Yes No
- Would you like to be connected to resources to receive support/counseling/treatment for mental health or substance use? Yes No

*In addition, case managers conduct the SBIRT screening and PHQ-9, AUDIT, and/or DAST if applicable

SAFETY

- Do you feel physically and emotionally safe where you currently live? Yes No
- Are you currently in a situation where you are being hurt or harmed in any way? Yes No

HOUSING

- What is your current living situation? (CIRCLE: street, shelter, doubled up, Sober Living Environment (SLE), residential treatment, transitional housing, single room occupancy (SRO), board and care, own or rent)
- Comments/Additional Information: ____
- Do you believe you are at risk of losing your housing within the next 6 months? Yes No
- Do you live alone or with other people? (CIRCLE: Alone, Lives with people)
  - If living with other people (CIRCLE: Mother, Father, Sibling(s), Extended Family, Child/Children, Adult Child/Children, Friend, Spouse/Partner, Roommate/Housemate, Group Home, Other)
  - Comments:____
- Do you have any pets? Yes No
  Comments ____
- Would you like information about utility discount programs? (Ex: PG&E, water, phone) Yes No
- Would you like information about home repair programs? (i.e. Weatherization Program) Yes No
- Would you like information about rental assistance resources? Yes No
- Would you like information about shelters in your area? Yes No

FINANCES

- Do you have a source of income? Yes No

- If yes, what is your source of income? (CIRCLE: Employed, Self-employed, SSI/SSD, General Assistance, Inheritance, Cal-Works, Other)
- Have you received or are you currently applying to any income/public assistance programs, such as SSI, SSDI, GA, Cal-Works, or others? Yes No
  If yes, (CIRCLE: Currently applying, Applied in past, Never, Denied, Currently receiving)
- Additional Comments:____
- Would you like assistance applying for Income/Public Assistance Programs? (CIRCLE: SSI, SSDI, General Assistance benefits, Cal-Works, Other) Yes No

FOOD SECURITY

- Do you or your family struggle with having enough food to eat every day? Yes No
- Would you be interested in information about food programs and food stamps? Yes No
- If yes, what programs/resources? (CIRCLE: CalFresh/Food Benefits, WIC, Food Pantries, Free/Reduced school lunches, congregate meals)

TRANSPORTATION

- Do you need help with transportation to/from medical appointments or other important appointments? Yes No
- How do you currently get to/from your medical/other important appointments? (CIRCLE: Public transportation, private car, family members, taxi, Uber, CCHP, Other)

SUPPORT SYSTEM

- When you feel stressed/overwhelmed, do you need additional support in your life? Yes No
- If yes, Who/Where do you go when you need help or support in your life?_________________________
- What is something you like to do /something in your life you are proud of? _________________________
- Do you have any children and/or adults who are dependent on your care that you would like additional resource information for? YES NO (CIRCLE: Child Adult)
- What support/resources do you feel that you need? ____

EDUCATION/EMPLOYMENT

- Would you like information about educational opportunities? Yes No
- If yes, what programs/resources: (Circle: GED, ESL, Tutoring for a child, Adult education, Community College, Parenting classes)
- Would you like information job training programs? Yes No
- Would you like information about job placement programs Yes No

LEGAL**

- Do you need legal assistance information? (ex: immigration, child custody/support, tenant issues, restraining orders, etc.) Yes No

**Patients expressing legal needs have a full legal assessment