An Analysis of Health-Related Social Needs Screening at an FQHC

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Abstract

The primary care setting is increasingly being called upon to address not only the medical needs of their patients, but also the social determinants of health that contribute to their health status. Unmet social needs are widely recognized as barriers to attainment of optimal health. Simultaneously, primary care clinics, and particularly federally qualified health centers (FQHCs), experience several challenges in screening for and addressing these needs. The aim of this project was to evaluate the current screening process at an FQHC in Oregon and use current literature review, interviews with pertinent stakeholders, and comparison to peer clinic practices, to develop an improvement plan. The overall goal of this project was to increase screening rates, but evolved to include organizational methodology to support sustainable and effective screening efforts from a patient-centered lens.

Introduction

Problem Description

Social determinants of health (SDOH), as defined by the World Health Organization, are the conditions in which people are born, grow, work, live, and age, and are the forces and systems that shape the conditions of their daily lives (Fiori et al., 2019). Unmet social needs are well-documented contributors to poor health status, increased incidence of chronic disease, and emergency department utilization (Buitron de la Vega et al., 2019). Healthcare providers are increasingly charged with tracking population health goals and reducing healthcare costs. Various initiatives and public health entities call for healthcare providers to screen for and address health-related social needs, as well as report on this data (National Association of Community Health Centers Inc. et al., 2019).

The current recommendation from the National Academy of Medicine regarding SDOH screening, advises that SDOH data be collected and stored in the electronic medical record (EMR) in order to facilitate exchange of information among care providers, follow the status of social needs and related interventions, and enable appropriate ICD-10 coding (Buitron de la Vega et al., 2019.) Another impetus for SDOH data collection and utilization is from Accountable Care Organizations (ACOs), which are moving away from a fee-for-service model, to value-based reimbursement, and are pressuring healthcare systems to provide more efficient, effective care (Buitron de la Vega et al., 2019.)

Available Knowledge

Although there are validated assessment tools based on the screening domains found to be related to poor health outcomes, the current literature acknowledges there is no standardized process for SDOH screening, nor for subsequent intervention for identified needs (National Association of Community Health Centers Inc. et al., 2019). Key questions asked in the current research include: What is the best way to identify patients' social and economic needs? How do we capture this information in the EMR and use the EMR to perform tasks related to the care of these complex patients? What are appropriate screening intervals? How do we decide what questions accurately assess patients' social needs? How do we address the identified needs? How does this data impact clinical decision-making? What is the optimal work flow to accomplish these goals? (Buitron de la Vega et al., 2019; Cohen et al., 2020; Cottrell et al., 2019). Although the answers to these questions are dependent on individual clinical site characteristics and resources, observational studies and quality improvement projects on this topic bear out common challenges, as well as common design principles associated with success.

Challenges in operationalizing SDOH screening and making meaningful use of the data include increased staff workload, need for staff training, low patient literacy level, and diverse language needs (Buitron de la Vega et al., 2019). Poor performance of SDOH screening programs has been attributed to lack of consistency and standardization, as demonstrated by data being in several places in the EMR and various team members being involved in entering and managing data (Cohen et al., 2020). Ability to track, prioritize, and communicate about information gleaned from screening was another thematic challenge. For example, clinicians have difficulty ascertaining the status of identified needs. This is compounded by information saturation and generally overabundant, redundant, and poorly summarized information in the EMR. Lack of electronic interface between clinics and their partner agencies for referral, asynchronous work schedules among team members, and informal ways that information is collected, shared, and understood all inhibit effective management of screening data (Cohen et al., 2020). Other common challenges to SDOH screening program success are the time constraints inherent in the primary care setting and lack of infrastructure to address identified social needs (Cottrell et al., 2019).

Conversely, the literature bears out common program features associated with greater success. Leadership support, leveraging the functionality of the EMR, incorporating feedback from stakeholders, and sharing data and program information regularly with frontline staff were positive factors identified during the iterative process of quality improvement (Buitron de la Vega et al., 2019.) Several studies described their journey as *iterative* and found that making real-time adjustments based on feedback was associated with more effective programs. Other key elements of successful SDOH screening programs include well-organized information displays in the EMR that prioritize and reduce information into a palatable visual grammar,

which speaks to the challenge of information saturation described above. Expanding the ability to exchange information between systems, having clear referral protocols, and using provider champions were also features associated with program success (Cohen et al., 2020; Fiori et al., 2019).

Much variability exists in the SDOH data collection and utilization workflow of various clinical settings. While some clinics find that food insecurity, paying for medications, and unemployment are the most common social needs reported, others may see childcare and suitable housing as the top identified issues (Buitron de la Vega et al., 2019; Fiori et al., 2019). This is relevant because whether or not a clinic's chosen screening domains should be actionable is a point of controversy (Buitron de la Vega et al., 2019).

Process details, such as who collects the data, were less emphasized in the literature than the need for relevant, actionable screening questions, an adapted EMR with built-in functionality around the SDOH data, and a consistent protocol for referrals and follow-up (Buitron de la Vega et al., 2019; Byhoff et al., 2019; Cohen et al., 2020; Cottrell et al., 2019; Fiori et al., 2019; Gold et al., n.d.).

Rationale

If SDOH are important predictors of health outcomes, then understanding which SDOH are relevant to a patient population is fundamental, so that health-related social needs can be identified and reflected in the complexity of these patients' care, and so that appropriate interventions can be provided. This project was developed using the Health Equity Framework (HEF). This model for public health research and practice acknowledges that health outcomes are dependent on complex interactions between individuals and their environments (Peterson et al., 2020). Importantly, this framework also moves beyond traditional public health

methodologies that focus on the individual's personal agency, skills, and self-efficacy, toward the upstream, systemic forces that influence an individual's attainment of optimal health (Peterson et al., 2020). The HEF is represented in a visual model with health and education outcomes at the core, surrounded by the spheres of influence: systems of power, relationships and networks, physiologic pathways, and individual factors (Peterson et al., 2020). This lens can be operationalized by prioritizing interventions within key spheres of influence for target health outcomes.

The quality improvement model used for this project is the Institute for Healthcare Improvement's (IHI) Model for Improvement. This model uses the National Academy of Medicine's six aims for improvement for healthcare to guide quality improvement objectives. The aim most applicable to this project is the aim of *Equitable Care*, which seeks to close racial and ethnic gaps in health status (Institute for Healthcare Improvement, 2021).

Specific Aims

The aim of this quality improvement project is to develop a locally relevant, evidence-based, and reliable SDOH screening program at an FQHC that achieves higher rates of screening, has simplified data management, and reliable referral to services.

Methods

Context

The clinical site for this project is Wallace Medical Concern, a FQHC in East Multnomah County. This site is a patient-centered medical home, providing medical, dental, behavioral health, laboratory, pharmacy, and insurance enrollment services in one facility. This site served 4,687 patients between May 2020 and May 2021. Of these, 33% identify as Hispanic ethnicity and 58% identify as non-white racial groups. Over 50% are Medicaid recipients, 13% uninsured,

and the remainder a mixture of Medicare, and privately insured. Twenty-six percent of patients speak languages other than English and require interpreter services (Giles, 2021).

The problem state identified at this site arises from the challenges FQHCs face in serving a disproportionate share of uninsured, Medicaid, and Medicare patients, while remaining financially viable. Funding for FQHCs is moving toward value-based reimbursement, which is measured by successful attainment of health metrics. FQHC patients are disproportionately affected by SDOH, which negatively impact their achievement of health metrics (National Association of Community Health Centers Inc. et al., 2019). The difficulty in accurately collecting SDOH data at this particular FQHC, involves several interconnecting factors. The COVID-19 pandemic temporarily shifted healthcare delivery to virtual care, changing and complicating processes for performing a variety of screenings. Additionally, staff turnover, facility upgrade and expansion, and organizational culture shift have all impacted standardization and consistency in processes.

Cultural and organizational values relevant to this project include a commitment to health equity and spirit of service to the community, as well as a belief that the screening process should not result in harm to patients through re-traumatization or loss of trust. Other contextual factors include staff perceptions of leadership support and viability of change, as well as inequitable task saturation among staff of different roles.

Interventions

The team involved in this project include this author and the following clinic staff: health data and quality manager Lydia Giles and assistant medical director Bethany Stairs, FNP.

The planned intervention is to perform an evaluation of low rates of capture of SDOH screening data and subsequent inconsistent data management and unreliable referral to services.

This will include developing a process map and an Ishikawa diagram, as well as semi-structured interviews with key collaborators, and utilization of the IHI's Failure Modes and Effects Analysis (FMEA) tool (Institute for Healthcare Improvement, 2017).

Study of the Interventions

The patient data will be disaggregated by sociodemographic features, including but not limited to age, gender, race, language, housing status, and patient status (established or new). This will aid in understanding barriers to successful screening in patient subpopulations. The process map and Ishikawa diagram will be developed using semi-structured interviews or focus groups of key staff involved in the process, including receptionists, medical assistants (MAs), patient navigators (PNs), and providers, as well as unstructured observation of the process in real-time. Semi-structured interviews or focus groups will be conducted using guidance from previous studies to elicit the interviewees' understanding of the process and the underlying purpose (Byhoff et al., 2019; Reavy, 2016). Data from interviews will be coded to extract salient themes and concepts. Critical theory, and specifically participatory action research, is the paradigm that will orient this qualitative data collection (Reavy, 2016).

Measures

- Outcome measure:
    - Complete understanding of the processes leading to suboptimal SDOH screening rates such that a corrective action plan can be developed.
- Process measures:
    - Disaggregated data comparing patient subpopulations being successfully screened to those who are not. Variables for review include age, race, ethnicity, insurance status, languages spoken, housing status, and patient status (new/established).

  - A process map depicting the screening to referral life cycle.
  - An Ishikawa diagram of environmental factors, people, materials and equipment related to the process.
  - A FMEA table depicting the steps in the process map, their associated causes, effects, likelihood of occurrence, severity, and suggested actions to be taken.
  - Core themes and contextual factors derived from focus groups with PNs, providers, MAs, receptionists, and leadership.
- Balancing measures:
  - Potentially uncovering inefficiencies in other parallel workflows, i.e., MA rooming procedures and utilization.
  - Identifying EMR functionality needs.
  - Disrupting current workplace culture around staff roles, distribution of tasks.

Analysis

This project used a mixed methods design, incorporating quantitative screening data, qualitative focus group interviews, and ethnographic observation. Following IHI's guidelines for FMEA we analyzed a process, in this case SDOH screening, in which harm may occur, and determined how and when system failures occur, and the potential impacts (Institute for Healthcare Improvement, 2017). In this case the population experiencing potential harm are the patients to be screened for health-related social needs.

Ethical Considerations

Increasing screening rates is meant to ultimately benefit patients. Potential ethical problems in screening could arise if the clinic is unable to meaningfully intervene on unmet social needs revealed through screening or if screening is delivered in a way that results in

psychosocial harm. Assessing SDOH and social needs can invite feelings of stigma, mistrust, vulnerability, and violation of privacy. It is crucial that screening be delivered in a manner that intentionally considers this and attempts to minimize harm (Oregon Primary Care Association, n.d.; Singer et al., n.d.). Increasingly, the need is for implementation science to focus on aligning our understanding of how structural racism affects health outcomes, with clinical and public health practices that dismantle these structures. When exploring the upstream factors impacting health status in this patient population, it is important to consider the role of structural racism and be mindful of how we approach including race in screening and for what purpose (Shelton et al., 2021). Additionally, the FMEA itself could uncover lack of transparency, aberrant staff practices, or other unsettling norms.

Results

Results

The rate of SDOH screening from May 2020 to May 2021 was 41% of all established patients, defined by those who had a clinic visit withing the prior 18 months (Giles, 2021). The screening rate at the end of December 2021 remained 41% (Giles, 2022). Disaggregation shows females are 9% more likely to be successfully screened than males, and minors (≤18 years old) make up a larger (4%) proportion of unscreened patients (Giles, 2021). There were not consistent, nor statistically significant differences in screening rates when disaggregated by race, ethnicity, language, sexual orientation, or insurance status (Giles, 2021, 2022).

Wallace's current goal is to screen every patient annually using an 11-question, adapted version of the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE) tool (National Association of Community Health Centers Inc. et al., 2019). The process map illustrates two discrete ways in which patients in need of screening are identified

and screened (Appendix A). Additionally, once data is captured, SDOH reports are generated and reviewed from the EMR (National Association of Community Health Centers Inc. et al., 2019).

The Ishikawa diagram (Appendix B) shows (1) Providers and medical assistants (MAs) are left entirely out of the screening process, (2) Screening materials and equipment used are outdated while available technology is not being optimally exploited, (3) Methods employed in the screening process do not include a formalized system of communication between the parties involved, and (4) Environmental challenges include staff turnover, asynchronous schedules, and negative culture around change.

The PN focus group was conducted by this author and Lydia Giles, and included the three PNs employed by the clinic. The data garnered from this focus group was coded into the following categories: (1) lack of perceived value and understanding of the PN role, (2) lack of interprofessional communication regarding the SDOH screening program, (3) deviation in standard work flow in the screening process, and (4) challenges in meeting patient expectations and making meaningful impact.

The provider focus group was conducted virtually during a monthly provider meeting and was attended by nurse practitioners and physician assistants working as primary care providers. The salient themes of this focus group were (1) lack of awareness of or involvement in the SDOH screening program, (2) difficulty finding social needs information and related PN interventions in the EMR, (3) acknowledgment that social needs are important to identify and are often considered in clinical decision-making, and (4) wide preference for utilizing Z-codes and the "problem list" as a way of communicating across disciplines about a patient's social needs.

A focus group was conducted with members of the reception staff. They pointed out that the PREPARE tool is embedded in the annual registration packet and is not distinguished as being completed, separate from consent for care and registration forms. When reception staff deconstruct the completed packet, the PREPARE tool is not scanned like the other documents, but placed in a folder for the PNs. If the PRAPARE tool is blank, they shred the form, thereby making data collection on patients who actively or passively declined screening impossible. Additionally, a reception staff member assigned as benefits manager is tasked with ensuring patients' consent and registration forms, and by proxy their PRAPARE tool, are up to date. However, if they are on leave, this task is not easily picked up by other staff and is likely to be omitted.

A semi-structured interview was performed with Lia Sebring, Social Determinants of Health Coordinator at OHSU Richmond Clinic, in order to compare peer-clinic practices and experiences in developing and implementing an SDOH screening program. This clinic was chosen because it completed a three-year quality improvement process in collaboration with Oregon Primary Care Association (OPCA) to develop an exemplar program (Schlobohm & Sebring, 2021). Key differences in Richmond Clinic's screening program are presented in Table 1. (Oregon Primary Care Association, n.d.; Schlobohm & Sebring, 2021).

Table 1

Differences in SDOH Screening Programs Between Peer Clinics

Program Feature	Wallace Medical Concern	Richmond Clinic
Stakeholder Input	Largely driven by regulatory requirements.	Patient advisory, health literacy, and trauma-informed care committees.

Method of Delivery	Paper screening in registration packet.	In-person during rooming by an MA who has special training.
Frequency of Screening	Annually for all established patients.	Every eligible patient encounter [a].
Methodology	None.	Empathic Inquiry.

[a] Eligible visits include patients scheduled to see a primary care provider and exclude MA or nurse visits (i.e., INR check or vaccination) (Schlobohm & Sebring, 2021).

A semi-structured interview was conducted with Ariel Singer MPH, creator of Collaborative Screening: Guidance for Person-Centered Inquiry. Ms. Singer was a key contributor to the development of Empathic Inquiry at OPCA and went on to conduct further research leading to the development of the Collaborative Screening methodology. Collaborative Screening is an approach that synthesizes principles from Empathic Inquiry, Trauma-Informed Care, Cultural Humility, and Motivational Interviewing and applies to all types of health and social screenings as well as organizational practices and norms (Singer, 2021). Concepts central to this approach are summarized in Table 2.

Table 2

Central Concepts in Collaborative Screening

Organizational Tenets	Individual Screening Interactions
• Creates environment hospitable to patients of diverse ability, language, and culture. • Commits to consistency: universal screening practices, all staff trained, consistent work-flow. • Invests in relationships with individuals and partner organizations	• Centers patients' autonomy and strengths. • Acknowledges power differential in patient/provider relationship and strives to avoid saviorism. • Listens and demonstrates empathy. • Incorporates patient perspective on how social needs impact health.

and involves stakeholders in decision-making.	• Uses neutral language and asks permission to discuss needs.

(Singer, 2021)

Analysis of the current screening process at Wallace and information gleaned from these interviews and focus groups were used to create an FMEA table (Appendix C), which scores each step in the process according to its risk. Risk is determined by how likely a step in the process is to fail and the degree of harm that results from failure. Analyzing the current state in this way allowed us to identify where the most impactful changes can be made and prioritize them in recommendations for quality improvement. Recommendations are summarized in a suggested Plan-Do-Study-Act (PDSA) cycle (Appendix D) and proposed new work flow (Appendix E) which utilizes a pre-screening tool adapted from OHSU Richmond Clinic (Appendix F) (Schlobohm & Sebring, 2021). This tool asks patients to select from visual icons instead of answer narrative questions, an approach that may have greater screening sensitivity and does not require literacy (Institute for Healthcare Improvement, 2022).

Discussion

Summary

The FMEA table shows that in the current state, the step with the highest risk is reception staff administering the screening as an embedded component of registration paperwork. Screening is likely to be missed and this miss is likely to go undetected, resulting in lost opportunity to address patients' health-related social needs or collect relevant data. The FMEA also indicates that tracking achievement of the current goal of annual screening is difficult and potentially inaccurate. There is no way to account for patients who received the screening and either passively or actively declined. The current screening program is largely built around an

institutional agenda of obtaining SDOH data and is without a clear or intentional screening methodology or framework that centers patient experience or impact.

Recommendations were aimed at simplifying the process, eliminating error in data collection, and adding an organizational framework to support meaningful, patient-centered screening. This project evolved from a narrow goal of increasing screening rates, to a broader conceptualization of screening that acknowledges the sensitive and sometimes intrusive information we ask of patients, as well as the skill and commitment screening requires of healthcare professionals and organizations.

Interpretation

Interviews with PNs, providers, and reception staff were essential in understanding the nuances of the current state SDOH screening process. These collaborators brought to light several opportunities for improvement that were not immediately obvious through simply mapping the process. For example, we realized we were not capturing data on patients who declined screening or otherwise did not complete screening although it was offered. Subsequently, interpretation of the data disaggregated by sociodemographic features was not fully possible, as the missing data raised questions about the fidelity of the current process and made inference about this data questionable. We were also able to uncover knowledge gaps across disciplines, such as confusion over the PN role and lack of understanding or awareness of the SDOH screening program as a whole.

A major insight of this project is that screening for health-related social needs screening is best performed face-to-face and calls for some level of connection with the patient being screened. The model we recommended (Appendix D) is analogous to Screening and Brief Intervention and Referral to Treatment (SBIRT), widely used for substance and alcohol use

disorder screening, in that it utilizes a pre-screen followed by a more in-depth full screening by a qualified professional (OHSU Family Medicine, 2022).

Limitations

Limitations in this project include lack of input from the MAs. Throughout this project staff shortages and turnover challenged our ability to involve key collaborators. The MA group is one that has direct involvement in the recommended future state process. Early in the project leadership indicated preference for MAs to be left out of the screening process, as they were perceived to be already task-saturated. However, the literature review and interview with Lea Sebring, indicated that MA involvement can be quite effective and efficient. Having their direct input would have helped anticipate potential challenges unique to Wallace's clinical setting.

Although we were able to solicit input from the PNs, their role is being restructured and combined with the referral coordinator role to form a new designation, the Patient Care Coordinator (PCC). Our recommendations are based on the existing PN role and it is unknown how the PCC role change will affect the recommended screening process. We anticipate the PCCs may initially question whether they have the necessary skill set for Collaborative Screening conversations, particularly PCCs coming from the referral coordinator role. Our hope is that the Collaborative Screening training provides the necessary skills and that working in assigned care teams with a provider and MA will promote equity and growth into the new role.

Remaining questions include: 1) which screening domains will be included in the final pre-screener and 2) how behavioral health referrals and other identified needs that require provider involvement will be handled by the PCCs. Questions this project did not address include: 1) how to change EMR features for more streamlined data management, 2) how

providers should use Z-codes consistently for social needs to reflect patient complexity, or 3) how this complexity can be reflected for billing and reimbursement.

Conclusions

This project demonstrates that peer clinics in the same county can have widely variable practices and resources with regard to SDOH screening. The results of this project can be used to impact the development of SDOH screening programs at other FQHCs with similar data reporting requirements and patient populations. The trend is for medical homes to provide comprehensive services to patients, including addressing health-related social needs. This project is sustainable in that it addresses not only data collection goals, but also the need for organizational scaffolding that support patient-centered screening programs.

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