ORIGINAL RESEARCH

Clinician and Staff Perspectives on a Social Drivers of Health Program Implementation

Stacie M. Vilendrer, MD, MS, MBA,† Samuel C. Thomas, MD, MSc, MS,† Kim Brunisholz, PhD, MST, Grace Ann Kumar, MPH, Ishita Singh, BDS, MPH, Nancy Song, MD, MBA, Raj Srivastava, MD, MPH, and Sara J. Singer, PhD, MBA

Introduction: **Health systems are increasingly pursuing efforts to screen for and address social drivers of health (SDOH), the nonmedical factors that contribute to health outcomes and inequities. A large integrated health system (Intermountain Health) launched a program in 2019 to universally screen for and address SDOH.**

Methods: **Five primary care clinics within Intermountain were purposefully chosen for diversity of setting and practice type (family medicine and pediatric). We conducted 20 semistructured interviews with frontline clinicians and staff from 7/1/2020 to 9/1/2020 to explore attitudes related to feasibility, workflow processes, and facilitators and barriers to successful implementation. We conducted an inductive-deductive analysis to identify key themes and best practices.**

Results: **Five clinics conducted 16,659 SDOH patient screenings from 12/1/2019 to 11/30/2020 (705 to 7,723 screens per clinic with rates ranging from 7.4% to 52.8% per clinic). Respondent perspectives about the program were mixed. Dominant implementation barriers included staff time constraints, limited availability of social services, and reduced morale. Key facilitators included triage protocols for positive screens independent of the primary care clinician, standardizing previsit digital screening, and instilling a culture of shared ownership through education and team SDOH-focused huddles.**

Conclusions: **This evaluation of an early systemwide SDOH program implementation called into question the feasibility of universal screening in primary care given staff time constraints and social service availability. Future investigations should explore the impact of targeted screening approaches in diverse clinical settings and quantifying trade offs between SDOH programs and other clinical and organizational priorities. (J Am Board Fam Med 2024;37:1103–1122.)**

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Introduction

Health systems are increasingly being called on to address social drivers of health (SDOH) to improve health care quality, equity, and value.[1–4] While a growing literature links adverse SDOH with these outcomes, less is known about widescale implementation of patient-level SDOH screening and resource provision in diverse clinical settings.[5–7]

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From the Division of Primary Care and Population Health, Department of Medicine, Stanford University School of Medicine, Stanford, CA (SMV, GAK, NS, SJS); Healthcare Delivery Institute, Intermountain Health, Murray, UT (SCT, IS, RS); Department of Health Policy, Stanford University School of Medicine, Stanford, CA (SJS).

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†Co-first authorship of equal contribution.

Corresponding author: Stacie Vilendrer, MD MBA MS. Division of Primary Care and Population Health, Stanford University School of Medicine, 211 Quarry Road Suite 102, Palo Alto, CA 94305 (E-mail: staciev@stanford.edu).

Widespread implementation of patient-level programs to screen and address adverse SDOH must overcome numerous challenges. Clinicians have reported personal and patient discomfort with discussing social challenges.[8–12] Perspectives on the extent to which health systems should be responsible for addressing patients' social needs are also mixed.[13,14] Most clinicians do not have formal SDOH training and may be unfamiliar with screening tool content or its integration into clinical practice.[15,16] Clinical teams also face difficulties addressing positive screens due to limited resources.[8,9,17] Finally, ongoing data collection requires significant investment by health care systems.[18,19]

Despite these challenges and fueled by nationwide incentive programs[20,21], a growing number of health systems have adopted SDOH programs with reported improvements in equity and health system performance, and mixed effects on health outcomes.[15,22–25] Supporting factors include standardizing SDOH screening tools, involving multidisciplinary teams, and strengthening the regional social services network.[17,26] Less well understood are how this seismic shift to bring social care under the purview of health care clinicians across the US is impacting frontline clinicians and staff in primary care as they simultaneously seek to perform their clinical duties on a day to day basis. In addition understudied is how variations in implementation at the clinic level may contribute to program success or failure.

We used qualitative interviews with frontline clinicians and staff to understand attitudes related to feasibility, workflow processes, and facilitators and barriers affecting implementation of a health system-wide program to screen for and address SDOH needs in a subset of primary care clinics within a large integrated health system.

Methods

Setting

In July 2019, Intermountain Health, a large integrated not-for-profit health system based in Salt Lake City, UT, which operated 24 hospitals and 160 clinics (including 14 internal medicine, 41 family medicine, and 16 pediatrics outpatient clinics) with 38,000 employees, launched an institution-wide program to screen for and address SDOH across its patient population of 1.65 million patients. In the primary care setting, the program was implemented in coordination with a 3-year community demonstration project called the Alliance for Determinants of Health ("The Alliance").[27] As part of The Alliance, a subset of Intermountain Health care clinics (including Sites 1 and 5 in our sample, see below) and community partners aimed to address social needs of SelectHealth Medicaid members in Washington County and Weber County through deployment of validated screening tools, and implementation of a digital platform to facilitate referrals to and closed-loop communication with social services (UniteUs, New York, NY). All clinics could refer to national and local SDOH resources (eg, 211 Helpline[28]), Between September 1, 2019, and December 1, 2020, primary care clinics deployed standardized SDOH screening tools in use throughout the US that focus on food, housing, utilities, safety, transportation, mental health/stress, and substance abuse concerns among patients. Specifically, the organization used a shortened "LITE" version of the NACHC and AAPCHO's Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE) in its adult population ages 18 and over; the Division of Child Protection, Department of Pediatrics at the University of Maryland School of Medicine Department of Pediatrics' Social Check assessment for children ages 6 to 18, and the Safe Environment for Every Kid (SEEK) one page screen for caregivers of children ages 0 to 5. Additional screening protocols can be found in the organization's SDOH Care Process Model publication[29] and Appendix A.

Sample

We purposefully selected 5 primary care clinics that were at least 12 months into their initial launch of the SDOH program with at least 100 screens performed and varied in terms of screening rates (range 7.4% to 52.8%), population served (3 family medicine, 2 pediatric), setting (1 rural, 3 semiurban, 1 urban) involvement in The Alliance (2 Alliance clinics, 3 non-Alliance clinics), and staffing (Table 1).

At each clinic, we sought interviews with individuals performing all clinician and staff roles involved in SDOH program execution: primary care clinicians (PCC) including medical doctors, doctors of osteopathy, physician assistants, and

Table 1. Characteristics of Participating Intermountain Primary Care Clinics

		Site 1	Site 2	Site 3	Site 4	Site 5
Clinical Features	*Intermountain Overall*					
Type of Practice		Family Medicine	Family Medicine	Family Medicine	Pediatric	Pediatric
Setting [Rural vs Urban]		Semi-urban	Rural	Semi-urban	Urban	Semi-urban
Alliance Clinic, associated with access to closed-loop social services referral platform		Yes	No	No	No	Yes
Number of Patients on Clinic Panel 12/2020	1,651,333	8,702	2,910	9,533	17,684	10,650
Total SDOH screenings 12/1/2019-11/30/2020	333,631	4,599	913	705	7,723	2,719
Percent of patients screened[a]	20.2%	52.8%	31.4%	7.4%	43.7%	25.5%
Clinic Staffing	*Description*					
Family Physician serving as Primary Care Clinician (PCC)	Medical Doctor or Doctor of Osteopathy who leads the clinic visit.	8	2	7	9	7
Advanced Practice Clinician serving as Primary Care Clinician (PCC)	Physician Assistant or Nurse Practitioner who leads the clinic visit.	0	0	4	0	1
Nurse Care Manager (NCM)	Person responsible for assisting patients diagnosed with complex issues, recovering from a traumatic clinical event, managing multiple clinical co-morbidities, or supporting SDOH needs.	1	1, part time	1	1	1, part time
Care Guide (CG)	Person who guides and coordinates care according to an established care plan. A care guide promotes patient's self-care skills and knowledge of their medical conditions.	2	2, each part time	1	2	1
Practice Manager (PM)	Person responsible for overseeing the administrative and business aspects of the clinic.	1	1	1	1	1
Registered Nurses (RN)	Person with a nursing license who provides a wide range of patient services, including preventative and primary care and the administration of medications, and educates patients about disease prevention.	0	0	6	6	0
Medical Assistant (MA)	Person trained to perform administrative and clinical duties, including rooming patients and completing health screenings.	12	4	15	14	13

Continued

Table 1. Continued

		Site 1	Site 2	Site 3	Site 4	Site 5
Patient Service Representative (PSR)	Person who supports scheduling, runs the front desk, and prepares printed patient facesheets for appointments.	11	3	13	7	3
Licensed Clinical Social Worker (LCSW)	Person licensed to provide and/or facilitate connection to a diverse array of social services as called upon.	0	1	2	1	0

[a]Patient level data was not available. Instead, we calculated this number assuming clinics screened patients no more than once. While this assumption is reasonable given the system-wide protocol was to screen patients during a primary care visit if they had not been screened in the prior 12 months, we cannot rule out the possibility that individual patients received more than one screening per year. Thus, our calculation may overestimate the actual percentage of patients screened.

Abbreviation: SDOH, social drivers of health.

nurse practitioners; nurse care managers (NCM), who managed care coordination and social services; and care guides (CG), who worked under the NCM to facilitate care coordination. We interviewed individuals performing additional roles, considered related to the SDOH workflow, as available: Practice Managers (PM), Medical Assistants (MA), Registered Nurses (RN), and Licensed Clinical Social Workers (LCSW).

Data Collection

We conducted qualitative, semistructured interviews with frontline clinician and staff involved in SDOH-related activities from July to September 2020. A novel interview guide sought to elicit information about how primary care practices screen for and address SDOH, specifically capturing variation across practices, facilitators and barriers to program success, and best practices (Appendix B). We asked a point of contact at each clinic, typically a medical or administrative director, to suggest individuals who could be available at times when our team could conduct interviews. We then invited participants by e-mail to participate in an online interview and obtained verbal consent before initiating the interview. At least 2 researchers with qualitative training were present during each interview, alternating roles between conducting the interview and taking notes. Interviews were recorded and transcribed (Rev.com, San Francisco, CA) for analysis (NVivo Version 12, released March 2020). The primary interviewer also prepared summary notes following each interview. From these summaries, we compiled a Field Note for each clinic, which provided context during data analysis.

Data Analysis

We drew on the interview topic guide to generate an initial set of deductive codes. Four research team members independently applied deductive codes to an initial transcript and generated additional inductive codes, which were then shared and discussed with the larger group until consensus was reached.[30] We added the agreed-on inductive codes to the working codebook. We repeated this process twice more, with the team meeting regularly to compare and align coding practices and to brainstorm, discuss, and adopt new inductive codes. We then divided the remaining transcripts among the 4 researchers for coding, with 1 reviewer per transcript. Researchers

met regularly during the analytic phase to clarify coding, review emerging themes, and generate a novel theoretical framework based on the data that described how factors influenced SDOH program implementation. We did so with reference to the implementation science literature, particularly Proctor et al. (2011)[31] and the Consolidated Framework for Implementation Research (CFIR).[32]

We further explored thematic categories using a matrix to identify facilitators and barriers to successful SDOH program implementation by framework category, where rows represented key themes and columns represented individual participants grouped by practice setting. We mapped these factors to CFIR in Table 2 to translate findings for an audience familiar with CFIR.[32] The matrix also supported our ability to assess convergence of opinion at the clinic level, which we used to characterize consistency of support for a given factor.[33] Finally, we followed a nominal group technique including individual ideation, sharing within the group, discussion, and ranking to compile a set of best practices for health systems adopting similar programs.[34] We shared early learnings with health system leaders to inform operational improvement and confirm findings. The Institutional Review Board at Intermountain Health approved this research (Protocol #52491).

Results

We conducted 20 total interviews, 3 to 5 per clinic, and consisting of 5 PCPs, 4 NCMs, 5 CGs, 2 PMs, 2 RNs, and 2 MAs.

Our analysis revealed 4 categories of factors—contextual, organizational, patient, and processual—influenced SDOH activities (Figure 1). Table 2 reports the themes within each of these categories, maps them to CFIR, and provides examples of how they served as facilitators or barriers to successful SDOH program implementation.

Contextual Factors

Contextual factors are elements internal or external to the clinic, not directly related to the SDOH initiative, that nevertheless influence the SDOH program.

Time Constraints

Clinicians and staff in every role, with few exceptions, reported insufficient time to complete SDOH activities. Respondents cited understaffing or increasing work burden as key systemic challenges. Consequently, some reported working late, and MAs reported being unable to complete all rooming activities, including SDOH screening. Some physicians felt that despite their best intentions, they could not adequately address both clinical and SDOH needs during an encounter. In particular, social needs could "blow up a well visit," typically scheduled for 15 to 20 minutes, causing a clinician to be late for the rest of the day (PCP/017). No satisfactory solutions were reported.

Availability of Community Services

Respondents repeatedly identified lack of social services in the community as a barrier to clinicians' ability to successfully address positive SDOH screens. Particularly in rural areas, mental and dental health, housing, and transportation services were scarce, and some felt the default resource endorsed by the health system (ie, the 211 Helpline app) was inadequate. In an effort to secure local resources, NCMs proactively built custom inventories of local SDOH resources and shared this information during monthly NCM meetings with other local clinics. Sometimes the closest organization that accepted public insurance was over an hour away. When a patient was unable to make the journey or no service could be located, the clinical team would simply "do the best we can down here [rural area]" (PCP/005).

Community Organization Follow-up

Respondents noted that community organizations varied in their responsiveness to referrals in terms of initial patient outreach and in providing closed-loop communication to the referring clinical team. For the 2 clinics with access to a digital platform built to facilitate referrals to social services (ie, UniteUs), respondents highly valued its provision of confirmation that the service has been received. However, the additional consent form, which required patients to release medical information to each social service organization to which a patient was referred, presented a barrier to use, as it was challenging to engage patients outside of a clinical encounter.

Organizational Factors

Organizational factors are aspects of the larger health care system or localized clinic that impacted the SDOH program.

Table 2. Emergent Factors Mapped to the Consolidated Framework for Implementation Research (CFIR) Influencing SDOH Program Implementation in Primary Care in a Large Integrated Health System as Derived through Qualitative Interviews with Frontline Clinicians and Staff

Emergent Factors	CFIR Construct	Description	Impact and Clinician Response, If Applicable	Exemplary Quotation, Including Role as Facilitator/Barrier to Successful Program Implementation
Contextual factors				
Contextual factors: Time constraints	Outer setting	There is insufficient time and flexibility in the working day to complete SDOH activities, which is a trend throughout the industry	Clinicians and staff report working late. Some screening is reportedly missed due to time constraints.	***Barrier:*** "I would say the time constraints is the biggest reason that they're not screened." (CG/004) ***Barrier:*** "It [SDOH need] will sometimes blow up a well visit, which you're trying to get done within 15, 20 minutes? Yes, sometimes it blows it up, and then you're late for the rest of the day. But, I would say clinicians always have every intention to just address the need that minute, or that hour. But does it stress us as clinicians? Sometimes it does, yes. [. . .] And then the question is, should social determinants of health really be always part of a well visit that is so limited in its timeframe, where there's so many other things you need to address as well?" (PCP/017) ***Barrier:*** "Yeah, and we're all so swamped, we're all overworked. Honesty, sometimes I am charting until the middle of the night. . . So I mean, we don't really have time. Nobody in the team has time to really do the [SDOH work]" (NCM/011)
Contextual factors: Availability of community services	Outer setting	System-provided resources vary based on geography and insurance.	Rural areas in particular lack mental and dental health, housing, and transportation. The resource provided by the health system is seen as insufficient in rural areas, so clinicians create their own clinic-specific resources. They rely heavily on the subset of organizations that take Medicare/Medicaid. Clinicians try to support patients despite not having specialty support.	***Barrier:*** ". . .we're screening for this, but sometimes, we don't even know where to point them for help." (NCM/011) ***Barrier/Facilitator:*** "Yeah. I actually put together some binders for the doctors they'll have in their room of just our local resources, because the 2-1-1 option that they have, isn't that big. . . There's only like one place that takes Medicaid patients for counseling. And so, we refer to that place a lot based off of insurance." (CG/007) ***Barrier/Facilitator:*** "Before, we would just say. . . 'Call your dentist', but a lot of people don't have dental insurance. So, our care management team went through and made several calls and came up with this sheet of people who offer lower income [options]. . . It's hard when you're rural, because there's not a ton of resources." (PM/006)

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Table 2. Continued

Emergent Factors	CFIR Construct	Description	Impact and Clinician Response, If Applicable	Exemplary Quotation, Including Role as Facilitator/Barrier to Successful Program Implementation
Contextual factors: Community organization follow-up	Outer setting	Community organizations vary in their responsiveness to referrals.	Patients, staff, and clinicians become frustrated when community organization follow up is suboptimal.	***Barrier:*** "Well, once we do that referral [to the community-based organization], it's kind of out of our hands. They take over it, but then we will know that the patient will call back and say, 'Well, I haven't heard anything yet. Nobody's contacted me.' So it's not something that we track so much as we just hear back from the patients... We're like, 'Okay, sorry about that. It's been a month and you haven't got the help that we tried to refer to get for you.' It's frustrating, sometimes. (PCP/005) ***Facilitator [UniteUs shared digital platform]:*** "The nice thing is they created a digital platform... If a family gets referred into that platform, their information is on the platform, and then whatever services are needed, they're documented in that platform. Therefore, they're not falling through the cracks. The community health worker can make sure that a referral is completed to its fulfillment." (PCP/017)
Organizational factors				
Organizational factors: SDOH-related Culture	Individuals involved	Local and organization-wide administrative and clinician leaders vary in their commitment to SDOH activities relative to other priorities.	Where SDOH activities are not valued, they are viewed as a burden. Where SDOH activities are valued, frontline clinicians and staff also go out of their way to focus on SDOH activities. In some clinics, emphasis on SDOH activities take place during team discussions where input is welcome from all members.	***Barrier:*** "So when it first came out, it was kind of presented as like, this is one more thing we have to do. Like I said, it slowed down the intake process. It just took that much more time away from the clinician spending time with their patients." (RN/009) ***Barrier:*** "We don't always get the 'why' of what we're doing. We just get told 'what' to do, but we don't really know the 'why' of what we're doing." (CG/004) ***Facilitator:*** "Because we have these [SDOH] resources and everyone's pretty fluent on, because again, we do huddles and we talk about what we've done for families and help them when random things come up in conversations, even in a WIC [Nutrition Program for Women, Infants, and Children] visit the MAs are now knowledgeable and they know like, 'Hey, I just heard you say something that seems a little concerning or you were just stating that you might lose your insurance next month. We have someone that can help with that.' So now naturally we're just screening through conversations as well." (CM/014)

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Table 2. Continued

Emergent Factors	CFIR Construct	Description	Impact and Clinician Response, If Applicable	Exemplary Quotation, Including Role as Facilitator/Barrier to Successful Program Implementation
				Facilitator: "So we have a monthly meeting and that's with like the lead physician in the clinic and the manager and the care manager and then the care guides. And so we go over the processes at those meetings when we have something that is a good idea or a change, we usually go over it and get people to all agree on it. . ." (CG/007)
Organizational factors: Technology	Inner setting	EHR technology provides the ability to access, document, and trigger reminders for clinicians related to SDOH care, including communication between clinicians.	Clinicians and staff track and view SDOH activities in the EHR alongside other health history (standard workflow). Clinicians and staff easily communicate via EHR to address social needs. Team does not always believe EHR is correct.	***Facilitator:*** "In [our EHR], they [patients] go through everything, like we [medical assistants] do their smoking, we do their social history, and then there's a tab for the social determinants. So, they will enter that in, and then if they don't have any need, then we just mark that, but if they do have needs, then we have a binder and the MA just pulls out" (MA/006) ***Facilitator:*** "So in our computer program, we actually send messages back and forth and we'll tell them sometimes they don't get added to the care manager [caseload]. . . So sometimes it's just quick tasks that we do and message back to that team there to go and continue coordination because the patient doesn't necessarily need to be followed, just needed a quick help with something." (CG/007) ***Barrier:*** "Because that's another problem is sometimes the computer will say something is due, though that's not actually true. And so then they have to actually scratch it out and say, 'No, you can ignore this one'. (PCP/002)
Organizational factors: Communication & division of responsibilities within clinical team	Intervention core component	Communication among clinicians and staff about patient needs, goals, plans, and resources provided to ensure that information transmits and plans get implemented.	Health and social service clinicians within the health system coordinate their approach primarily via EHR messaging. Some staff felt inadequate in their abilities to offer appropriate resources for patients.	***Facilitator:*** "Usually I will make a plan with the care manager and she interviews them [patients] and then she sends me a note that indicates needs and goals and what resources were provided. And then I suppose the follow-up process would be if I'm seeing them for follow-up appointments, I try to put things in my notes and then follow up with them on specific concerns, both social needs as well as their healthcare needs and try to make sure that we're addressing that. And then the care manager also follows up on that and she puts those in her notes and send those to me. And then if I have concerns, she and I communicate." (PCP/003)

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Table 2. Continued

Emergent Factors	CFIR Construct	Description	Impact and Clinician Response, If Applicable	Exemplary Quotation, Including Role as Facilitator/Barrier to Successful Program Implementation
				Barrier: "But I don't have a deep knowledge about the. . . [insurance-related] waivers and there's different waivers and programs. And there's just so much to know that I do feel inadequate sometimes trying to navigate or direct a patient towards these resources because sometimes I don't know what they can offer. I just know that they have more information than I have maybe. So I do feel a little bit inept and out of my depth there sometimes." (NCM/001)
Patient factors				
Patient factors: Beliefs and characteristics	Individuals involved	A minority of patients are reluctant to participate in SDOH screening due to stigma/embarrassment, fear related to immigration status, and/or lack of awareness that clinics can support SDOH needs.	Clinicians and staff recognize occasional patient reluctance to complete SDOH screening. Some clinicians and staff rejected SDOH activities due to patient discomfort. Forms are more acceptable for patients to complete than answering MA questions directly.	***Barrier:*** "Yes, we do have some undocumented immigrants, so I think that you are right there as far as they don't want to fill out the Medicaid application because they're afraid. . . They're afraid they're going to be notified that they're not here legally, or they don't qualify because they're not a citizen." (PM/006) ***Barrier:*** "Having the whole family there makes them not want to admit to SDOH need. . . Because sometimes mom may not want to tell dad that they're struggling or dad may not want to tell mom. " (CG/013) ***Facilitator:*** "We had a form that was printed out and laminated that we were asking our patients to fill out because when we first rolled this out, we found that it was a little awkward for the patient. And a lot of them were actually getting offended that we were asking that question. The typical response that we heard from them was 'If I have a problem, I'll let you guys know.'" (RN/009) ***Barrier:*** "It's just not something that [patients] think to bring up to their doctor. It's something they thought they had to live with. They had no idea there were resources out there to help them." (CG/007)

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Table 2. Continued

Emergent Factors	CFIR Construct	Description	Impact and Clinician Response, If Applicable	Exemplary Quotation, Including Role as Facilitator/Barrier to Successful Program Implementation
Patient factors: Desire for change	Individuals involved	Patients vary in their interest and commitment in seeking help.	Some patients do not accept help, sometimes due to mental illness. Some clinicians and staff set boundaries in terms of supporting patient seeking additional social services, whereas others invest a significant amount of time into a single patient.	***Barrier:*** "I think there's mental health barriers. Some say it can go hand in hand, mental health with their social health. And I think that when people suffer from depression, honestly, that they can't make that call to that resource. They don't have the energy to do it." (NCM/001) ***Barrier:*** "But we've been told that, no, we can't work harder than the patient works sometimes. So, that's been a barrier too. I think it's mental health status of the patient. People that are depressed typically don't take care of themselves. . . That's a big barrier for us to help someone who has needs." (NCM/001) ***Facilitator:*** "[The patient] couldn't do it himself. He was too confused, and he didn't understand the process; so, we just called him and had him come into the clinic and filled out the paperwork with him while he was here" (CM/006). ***Facilitator:*** ". . .[patients are] coming to me, asking me to help them fill out an application for disability. I say, well, all I can do is, I can point you to where to go, where you can fill it out. But you have to do it, because I actually tried to help when I was new, because I forgot I was [not] supposed to do it. I actually tried to help a patient fill out and it and it took us entire afternoon, we didn't even finish it." (NCM/011)
Patient factors: Comorbid disease	Individuals involved	Patient disease burden varies.	Patients who are seen more frequently for healthcare needs are more likely to have their social needs addressed. Social needs are often addressed at the same time as medical needs.	"So the patient that has more of those chronic health conditions and is coming in often, we're much more connected and aware of their needs, and we're following up on their needs often. Versus someone who comes in once a year or it's their first time to our clinic, and we may not see them again. We may give them the [SDOH] form and the information, but we don't necessarily follow up with them." (PCP/005) "I use [our NCM] in different ways. . . Some of [patient need] is the social determinants, like financial problems

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Table 2. Continued

Emergent Factors	CFIR Construct	Description	Impact and Clinician Response, If Applicable	Exemplary Quotation, Including Role as Facilitator/Barrier to Successful Program Implementation
				or food problems. . . versus for some people I use her for. . .follow up, as maybe I've changed their insulin and I want her calling them to check on how well they're doing with checking their blood sugars. . . Though often, that kind of gets wrapped up into. . . You're aware it's all mixed together. There's no clear boxes [between social determinants and health needs], things are all mixed together." (PCP/003)
Processual factors				
Processual factors: Stratifying SDOH needs	Intervention adaptation	Patients have needs of differing acuity levels. Patients with high acuity needs require a more thorough and customized response.	Positive SDOH screens are immediately categorized into low, medium and high risk needs, which determines the response and frequency of follow-up. NCM, CG, and PCC customize the response for individual patients with high-risk needs.	***Facilitator:*** "We have the needs addressed as a low, medium, and high risk needs and that depicts on which person I guess gives the referral for the services. So if it's a low risk need that would be. . . Smoke alarm questions or a way to quit program questions, or anything like that that would seem more low risk and just a referral. The MAs will give the resource for that." (Care manager/014) ***Facilitator:*** "A young, little 19-year-old couple came in a few weeks ago and. . . We set reminder messages and just follow-up with them every two weeks until they got their family set up on Medicaid and food stamps, and housing. . . We track them until they're happy and successful, and they feel like they don't need [additional] follow-up." (NCM/014). ***Facilitator:*** "I pulled a social worker from our NICU, so a social worker that's really not even part of our office setting, and staff, and I just felt like, 'You know what? You're in Intermountain social Worker, I need a social worker right now.' And I pulled that person from the NICU, who kind enough to come up, spend probably an hour with that mom, looking at all the resources and shelter options, and we found that mom help that day." (PCP/017)

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Table 2. Continued

Emergent Factors	CFIR Construct	Description	Impact and Clinician Response, If Applicable	Exemplary Quotation, Including Role as Facilitator/Barrier to Successful Program Implementation
Processual factors: Workflow variation	Processes	Standard workflow may not account for all types of patients; adherence to standard workflow varies.	Some clinics built redundancy into the SDOH screening process to prevent human error. Charts are prepared the evening before an appointment, so patients scheduled the same-day or as a walk-in appointments often do not have SDOH screening. Patients who could benefit from additional social support may not receive it if physicians do not make the referral during an encounter.	***Barrier:*** "So sometimes when patients [are] scheduled the same day, and it's a last-minute thing, they can slip through the cracks." (CG/007) ***Barrier:*** "They [PSR during preparation] put a sticker on the front of it, of the actual patient chart to notify the MA that it needs to be done. And then once it's done, when the MA assess is that, they put it in the chart, but I guess, no one's really circling back around to make sure it's checked off, I guess. [. . .] That might be a hole in our process." (NCM/001) ***Facilitator:*** "So, we do, it's like a buddy system. So, all of my forms, I give to my pod partner, the person who sits next to me, and she will go through all of my forms to make sure that I entered them. So, both of us will initial the forms at the end of the day so that they've been double checked and we know for a fact that they're entered in the computer. . ." (MA/016) ***Barrier:*** "I feel like in the beginning we were definitely a lot better about it and more diligent. . . Now that the year is coming up for a lot of those patients to be re-screened, I don't know if we're doing the best at getting them re-screened, mostly because it's not talked about a whole lot. . . more recently it just hasn't been as much of a focus." (MA/008) ***Barrier:*** "That's really the doctor's discretion. If the doctor doesn't send them to us [Care manager] then they don't necessarily get that help. We rely on the team at the back the MA's and the doctors to get us the information of the patients that need it. And sometimes they just don't give them a paper handout of the resources that I have and patients are left to do it on their own. Sometimes they could need [benefit from] more assistance from us." (CG/007)

Continued

Table 2. Continued

Emergent Factors	CFIR Construct	Description	Impact and Clinician Response, If Applicable	Exemplary Quotation, Including Role as Facilitator/Barrier to Successful Program Implementation
Processual factors: Intake paper burden	Processes	Patients are handed several paper forms to complete at the outset of their appointment.	Patients can be overwhelmed or irritated by the number of paper forms to complete. Patient access to computers, or lack thereof, must be taken into account as processes are reconsidered.	***Barrier:*** "Oh, sometimes the moms just get upset, but I feel like every time they come in there's a new form that we've added for them to fill out. So it does take some time. And if their kids aren't feeling well or they're unruly, then they don't want to sit and fill out 12 pages of questions." (RN/012) ***Barrier:*** "…for medicine attempting to be paperless and having things in an electronic health record, we sure have a lot of paper." (PCP/003) ***Barrier:*** "Certain families don't have access to computer, wifi, that sort of thing, so I definitely think we should always have the paper as an option." (PCP/015)

Abbreviations: CFIR, Consolidated Framework for Implementation Research; SDOH, Social Drivers of Health; EHR, Electronic Health Record; NCM; Nurse Care Manager; CG, Care Guide; PCC; Primary Care Clinician.

Figure 1. Emerging factors impacting efforts to screen for and address social determinants of health in a large integrated health system.

SDOH-Related Culture

Respondents' comments revealed variation in the degree to which a clinic's leadership emphasized the importance of SDOH activities, which in turn impacted how frontline clinicians and staff viewed their work. In the clinics where SDOH activities were presented unfavorably, staff viewed the program as a burden:

> "So when it first came out, it was kind of presented as like, 'this is one more thing we have to do.' Like I said, it slowed down the intake process. It just took that much more time away from the clinician spending time with their patients." (RN/009)

"At other clinics with greater reported success, leaders held team discussions at which they highlighted success stories and welcomed input from all members. These meetings reportedly fostered a sense of shared ownership. A few respondents regarded the overall health system favorably for pursuing an SDOH agenda: "…when you look at other medical platforms… They may care less about social drivers of health because it does not help their balance sheet… I mean, that is why I am working for [Intermountain]." (PCP/017)

Technology

Participants reported using both "high-tech" (eg, electronic health record, EHR) and "low-tech" (eg, sticky notes, article folders) tools to support SDOH program activities. The EHR facilitated automated advisories noting when patients were due for SDOH screening and interclinician messaging regarding SDOH services. These features were sometimes substituted with other article-based reminders such as file folders and sticky notes: "The [patients] that have been tracked and have

been positive—those I just keep on my back burner, and I have a file and a folder with their names in it" (CG/018). At least one clinician noted the need to occasionally override an EHR advisory that was inappropriately triggered for a patient, suggesting ongoing EHR challenges.

Communication and Division of Responsibilities within Clinical Team

Respondents described needing to communicate about patient needs, goals, plans, and resources provided to ensure coordinated follow-up, and indicated that such communication generally went smoothly. While not all forms of assistance required following-up with patients (eg, referral to poison control phone number for pediatric patients), the NCMs and CGs performed patient outreach when follow up was required. One respondent said: "We set an [EHR] reminder to remind us to call them and to see how they are doing" (CG/004). Staff used EHR messaging for basic communication and phone calls for more interactive conversations. Respondents cited closed-loop communication as a best practice: "So our care manager does provide feedback. Like if we refer someone to her and she accepts them, as far as 'This is a patient of mine now'" (PCP/002).

All clinics relied on NCMs and CGs to help address SDOH needs if they were not adequately addressed in the initial visit. However, not all staff felt comfortable with this role. At least one NCM without formal social work training in a clinic without an LSW felt uncomfortable with paperwork required to connect patients to social services. As application requirements and services changed frequently, this led to discomfort among some staff.

Patient Factors

Patient factors are how clinicians and staff perceive patient characteristics, beliefs, desires, and SDOH needs to impact SDOH activities.

Beliefs and Characteristics

Respondents regarded some patients themselves as a barrier. Reported patient reluctance to be screened stemmed from fear of legal reprisal in the case of noncitizens, personal reprisal in the setting of domestic violence, financial instability, or shame, especially for those living in a small town: "Patient embarrassment—shame—is a barrier to screening, particularly given [this] small town in which 'everyone knows everyone'" (PCP/002).

In one clinic, staff responded to reported patient hesitation by temporarily boycotting the SDOH program due to the "awkward situation for the medical assistants to ask these questions" (RN/009). Strategies for making patients feel more comfortable included providing a dry-erase board that could be wiped clean between visits, rephrasing questions in a nonthreatening way, and having a physician revisit the SDOH screen toward the end of the visit after building rapport with the patient. All clinics eventually shifted to screening via a silent article or digital form, rather than having MAs ask questions aloud.

Desire for Change

Respondents noted that not all patients accepted support with SDOH needs following a positive screen. The organization's on-the-job training addressed patient readiness as well as insurance as potential barriers. One respondent explained: "... we've been told that, 'no, we cannot work harder than the patient works" (NCM/001). Some respondents, however, felt uncomfortable setting boundaries and limiting the work they would do on behalf of a patient, particularly when confronted with mental health challenges. In one example, "...[the patient] could not do it himself. He was too confused, and he did not understand the process; so, we just called him and had him come into the clinic and filled out the paperwork with him while he was here" (NCM/006). This approach was reportedly rare, but a few respondents felt extreme efforts were occasionally necessary.

Finally, a few respondents described a sense of futility in the health systems' role in addressing SDOH: "I think we all are interested in helping our families function better. But... I feel like sometimes, by the time we recognize everything that had gone wrong, it is a little bit late... I think in that regard, there's only incremental help available" (PCP/017).

Comorbid Disease

Respondents noted that patients' coexisting clinical conditions influenced how they screened for and addressed SDOH needs. Patients with high burdens of comorbid clinical disease, who more regularly visited the clinic for appointments, were therefore more likely screened for SDOH needs. Frequent visits also enabled staff to more easily

follow up on social needs. A few clinicians noted difficulty separating social and medical needs—these were ultimately "all mixed together" (PCP/003). NCMs often addressed both simultaneously during appointments and follow up calls.

Processual Factors

Processual factors are the processes that facilitated completion of SDOH activities within clinics throughout the large integrated health system.

Stratifying SDOH Needs

Respondents in all clinics described some type of triage approach to account for variation in number and acuity of SDOH needs. One clinic explicitly categorized each patient with a positive SDOH screen as having low, medium, or high acuity needs. These levels determined the response and frequency of follow-up. A high-acuity SDOH need received more intense attention relative to a low-acuity concern. For example, a patient who needed the poison control number (considered low acuity) received a magnet with this information, whereas a high-acuity need prompted a referral and "warm handoff" from a lead clinician to the NCM who thereafter conducted regular outreach regarding both clinical and social needs, pulling in a licensed social worker (LSW) in a minority of cases as needed. This triage process took place both formally and informally. One respondent said, "We would just follow up with the phone calls. There are some where if it is a higher intensity... our care manager will ask us to follow up weekly or monthly. We set our own reminders just to double check and see how the patient's doing. Some of it is required. Some of it is just our own choice" (CG/004). LSWs were not readily available in 2 clinics, yet at least one clinician from one of these clinics felt comfortable calling a social workers from an external clinical setting (eg, inpatient) to help a patient in need.

Workflow Variation

Standard workflow did not account for all types of patients, and adherence to standard workflow sometimes varied. Some respondents pointed out that, because CGs or PSRs prepared physical article charts the evening before an appointment with a flag for patients who required SDOH screening, patients who were scheduled for a same-day or walk-in appointment often did not undergo SDOH screening. No solution to this challenge was discussed. Human error also accounted for some variation. To prevent missing screens due to human error, one clinic built redundancy into its SDOH screening process by pairing MAs to check each other's work at the end of the day, an estimated 10-minute exercise.

Some respondents described physicians' discretion as a source of variation in determining which patients received additional services. Following a positive screen for a higher-acuity need, physicians sometimes, though not always, referred patients to the NCMs and CGs to determine eligibility for services.

Intake Article Burden

Respondents at nearly every clinic felt that patients received too many article surveys at the start of their encounter, including consent, release of information, and now SDOH screening, among others, noting some forms duplicated questions. Respondents felt this risked irritating patients, particularly those managing small children. Staff hoped to capture these data electronically in the future, including allowing patients to complete forms digitally before their visit, if possible. At the same time, respondents identified the need for flexibility in the process for families without digital resources.

Discussion

This qualitative study assessed frontline clinician and staff perspectives of a program to universally screen for and address SDOH needs in primary care within a large integrated health system. We identified contextual, organizational, patient, and processual factors, which roughly aligned with CFIR's categories and influenced SDOH activities.

Our contribution is novel for its setting in an integrated health system at the forefront of universal SDOH screening in 2019 and inclusion of diverse disciplines involved in frontline primary care. Despite reports of patient benefit and pockets of beneficial adaptations to universal SDOH screening, the overwhelming barriers identified by diverse members of the clinical team call into question the feasibility, acceptance, and appropriateness of widescale SDOH screening in the primary care setting. Our data suggest universal screening may reduce workflow variability and staff bias while unveiling opportunities to support patients, yet also necessitates unfavorable and unmeasured trade-offs against other clinical and organizational objectives.

Our data validated previously identified barriers to implementation including time constraints, disparate availability of social services at the local level, and the need for SDOH-specific clinician and staff training. However, variability in processes across clinics provide novel insight into how health systems might better implement SDOH programs. The authors compiled a set of best practices for the implementation of an SDOH program in primary care based on the qualitative data and following a nominal group technique (Table 3). These included the need to triage positive screens with adequate staffing resources reserved for high acuity needs, to encourage previsit digital screening, and to invest in a digital system to streamline closed-loop social service referrals[35], among others.

As suggested in Table 3, a subset of clinics benefited from triaging social needs without necessarily relying on the PCP. Whereas simple needs could be addressed by the MA or NCM, higher acuity needs (eg, domestic violence) were flagged for the PCP, discussed during the visit, and then responsibility transferred in a "warm handoff" to NCMs. Removing the bottleneck of relying on the busy PCP as the key decision maker for all social service referrals appeared to unlock efficiencies in alignment with a team-based care model.[36]

Shifting to previsit, digitized screening where possible was also identified as a way to reduce the time and paperwork burden on staff and facilitate patient privacy.[17] Indeed, the literature suggests previsit digital screening could free workflow resources while focusing attention where needed[37,38], but it also suggests high need patients may be less likely to complete digital screening.[39] Further, primary care visit screenings may present an opportunity to destigmatize social needs discussions.[40] Future studies might explore a combination approach where in-person screening is still used for patients flagged as potentially high need (eg, those Medicaid insurance[39]), patients with walk-in/same-day appointments, and patients without "smart" digital resources.[41]

In contrast to prior work where health care workers were found to generally accept SDOH programs[42], insufficient local availability of social services contributed to mixed staff acceptance of the program and motivation to complete screenings. While particularly rural clinics collaborated to identify and maintain an inventory of local resources to address SDOH needs, major gaps remained (eg, housing, dental, mental health). The promise of SDOH screening programs is to highlight social service gaps to better direct limited government or health system funding.[40,43] Our data suggests a negative feedback loop wherein MAs who roomed patients were reluctant to complete screenings if they did not believe resources existed to support those with identified needs. The resulting incomplete datasets could ultimately limit future social investments, particularly in rural areas. Even within a single health system, clinic screening rates in this setting varied widely. This is in line with other SDOH program implementations.[17] Our data underscores the need for robust frontline staff education—including standardized workflows, resources available to patients, use of data to garner future investment in social services, and benefits to social screening outside of the referral pathway such as care tailored to the patient and enhanced patient-clinician relationship[40,44]—should be a priority in all SDOH programs so the clinical team understands the 'why' behind new work processes.

Ideally, health systems would benefit from the positive potential of capturing social needs data without placing undue burden on frontline clinicians and staff. Of the recommendations uncovered in these data, only a few (ie, Previsit digital screening, triage processes) had the potential to address the time barriers so many clinicians and staff described without significant new investment. Instead, alternatives to the current 'every patient every year' SDOH screening approach may be explored. A targeted approach could trigger an SDOH screen based on objective factors such as patient age (eg, turning 18, 65, etc.), patient diagnoses (eg, giving birth), comorbidities, care utilization events (eg, emergency department encounters), area deprivation index[45], and insurance and/or socioeconomic changes (eg, job loss, divorce).[45] The optimal setting to conduct SDOH activities also requires further attention. While primary care may be best suited to address social needs from a longitudinal perspective, patients with the greatest social needs often enter the system through higher acuity settings such as the emergency department.[46] A site-agnostic approach to SDOH screening that facilitates multiple points of entry may better serve patients. Further investigations to optimize SDOH programs should test the impact of such variations on screening and social referral rates and quantify trade-offs against other clinical and organizational priorities. Buy-in to such investigations at the national level may be needed given the current emphasis on universal screening.[20,21]

Table 3. Recommended Practices for SDOH Program Implementation in Primary Care Derived from Qualitative Interviews with Frontline Clinicians and Staff

Category	Recommended Practices	
	Screening for SDOH	Addressing SDOH
Contextual factors	• Conduct pre-visit SDOH screening where possible, facilitated by technology to save staff time; maintain paper option to screen walk-in and same day patients and families without digital resources • Where digital screening is not possible, standardize SDOH screening processes during rooming through team conversations and data monitoring	• Maintain an updated inventory of local resources to be shared across clinics • Invest in a digital system to facilitate external referrals and closed-loop communication with social services (e.g. UniteUs) • Nurture relationships with social service organizations at the clinic level • Provide financial and other support for social service organizations addressing high need areas (e.g., housing) at the health system level
Organizational factors	• Provide SDOH-specific training to all frontline clinicians and staff including standardized EHR and communication workflows, resources available to patients, and non-referral benefits to SDOH screening (e.g. ability for PCPs to tailor care based on patient need) • Share SDOH success stories and invite feedback on processes from all disciplines at the clinic level to motivate staff's completion of SDOH screening • Develop EHR-based SDOH screening solutions that are accurate and account for patient's choice to decline screening	• Emphasize the health system's ongoing commitment to addressing SDOH needs at the system and clinic levels • [As above] Invest in a digital system to facilitate external referrals and closed-loop communication with social services (e.g. UniteUs) • Provide social worker support to frontline clinicians working to address social needs (e.g. help navigating insurance paperwork)
Patient factors	• Normalize SDOH-related conversations where appropriate in individual and population-level patient communications • [As above] Provide SDOH-specific training to all frontline clinicians and staff including standardized EHR and communication workflows, resources available to patients, and non-referral benefits to SDOH screening (e.g. ability for PCPs to tailor care based on patient need) • [As above] Conduct pre-visit SDOH screening where possible, facilitated by technology to protect patient privacy; maintain paper option to screen families without digital resources	• Promote community awareness around health system's role in connecting patients to SDOH services • Streamline process to capture patient consent to share health-related information with social service organizations
Processual factors	• Standardize and streamline SDOH screening process to ensure data accuracy, including for same-day/walk-in patients whose records are not reviewed in advance • Streamline and digitize all intake paperwork to reduce redundancy	• Formalize risk stratification triage protocol based on acuity of identified SDOH need; empower non-PCP team members to make referrals • Provide adequate resources including time for social work team (e.g., social worker, nurse care manager) to address high acuity social needs in a timely manner

Abbreviations: SDOH; Social Drivers of Health; PCC, Primary Care Clinician.

This study is limited by the timing of interviews, which took place within the year following program implementation during the COVID-19 pandemic. The health system has since shifted toward a virtual social work model; more work is needed to understand how early successes and challenges evolved over time within the new model. In addition, we worked with a large, well-resourced health system in which a majority of patients are managed under an affiliate health insurance and a relatively small proportion of patients have identified needs.[47] This health system is at the forefront of investing in SDOH services among others[48–51]; additional research is therefore needed in other settings. We were also unable to interview all clinicians and staff members from each clinic due to resource constraints; a diversity of perspectives was sought to mitigate this bias. Finally, future studies will benefit from inclusion of the patient perspective to further optimize SDOH clinical workflows.

Conclusion

Intermountain Health was one of the first health systems to embark on an ambitious universal

SDOH screening program in primary care in 2019 with mixed results. While clinicians and frontline staff reported benefits to patients, they also outlined significant workflow challenges given barriers of time, local availability of social services, and others. Robust clinician and frontline staff education regarding underlying benefits from SDOH screening is needed. Given significant barriers to implementation and wide variation in screening rates, future investigations should explore the impact of targeted screening approaches in diverse clinical settings and quantifying how SDOH programs trade off against other clinical and organizational priorities.

To see this article online, please go to: http://jabfm.org/content/36/7/1103.full.

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