**AHRQ Grant Final Progress Report**

**Title of Project**
Safe delivery of primary care to vulnerable populations: Using simulation (Unannounced Standardized Patients) to assess team performance in responding to behavioral and social determinants of health

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## 2. STRUCTURED ABSTRACT

**Purpose:** Social determinants of health (SDoH) have significant impact on disease onset and treatment adherence. This project employed Unannounced Standardized Patients (USPs) to (1) describe how care teams respond to SDoH and (2) assess the impact of cycles of audit/feedback reports on that response.

**Scope:** This project was conducted with five teams of primary care providers at two public, ambulatory, safety-net clinics in NYC.

**Methods:** USPs are trained actors sent into clinical environments to provide an incognito assessment of provider skills. Six USP cases, each presenting with SDoH (financial hardship, housing insecurity, social isolation), were sent into clinics. USPs volunteered financial hardship while only sharing housing/social concerns when elicited. USPs recorded provider responses to volunteered and elicited/not-elicited SDoH. Results were distributed via quarterly reports that also included targeted educational content. Surveys of team members assessed attitudes toward SDoH.

**Results:** In total, 417 USP visits were delivered along with five cycles of audit/feedback reports to five primary care teams. Baseline rates of acknowledging SDoH were >66%; however referrals to resources were made in <33% of visits. Providers were more likely to elicit and follow up on SDoH related to housing than social isolation. Team members endorsed the importance of asking about and acting on patients' SDoH. Baseline rates of SDoH response did not differ by team. Preliminary results suggest the audit/feedback reports may have led to short-term improvements in SDoH response.

**Key Words:** Social Determinants of Health, Audit Feedback, Social Needs, Ambulatory Care, Simulation, Unannounced Standardized Patients, Medical Education

## 3. PURPOSE

Social factors can have a substantial influence on health, yet primary care providers and teams may not routinely elicit, record, and act upon this information when faced with a patient presenting with underlying SDoH. The purpose of this study was to use simulation (via Unannounced Standardized Patients, or USPs) to understand the degree to which patient-provided social information is elicited and responded to by primary care team-based clinical practices.

To this end, this project employed USP visits (conducted by actors trained to accurately portray a standardized clinical scenario) (1) to describe the degree to which SDoH information—essential to providing safe, effective primary care—is transferred from the patient to the primary care team and then within the team through the Electronic Health Record. This information was collected (2) to assess whether repeated "information transfer" audit and feedback reports are associated with improved transfer of both patient-level SDoH concerns and the subsequent relation to quality and safety of primary care practice, including especially responding to SDoH (eliciting, exploring, incorporating into treatment, connecting to resources) and documenting accurately in the patients' EMRs.

## 4. SCOPE

## Background:

It is widely recognized that social factors have a substantial impact on health. Estimates suggest that up to 40% of life expectancy and health status is attributable to social and economic factors, 30% to health behaviors, and "only" 20% to clinical care (1). Social factors such as poverty, health literacy, and social isolation are consistently found to have direct, significant health effects both the short and long term. These factors influence disease onset and progression and have indirect impacts by interfering with patients' ability to access and follow through on treatment and behavior change recommendations. In a national survey of primary care physicians, a majority reported that unmet social needs are leading to worse health (2). They responded that addressing unmet social needs is as important as addressing medical conditions while at the same time agreeing that unmet social needs are beyond physician control.

Social determinants influence the effectiveness of treatment and health outcomes, especially for vulnerable patients (from low socioeconomic status [SES], with ethnic minority backgrounds, with immigration-related concerns, or suffering from chronic disease, for example). These determinants are routinely neglected by healthcare providers and often are the result of common errors of omission, whether by choice or accident (3). An undomiciled or precariously housed patient with low educational levels and an underlying health condition requires services and a treatment plan that are responsive to these needs for effective, longitudinal clinical service utilization. Models for high-quality primary care practice share the foundational premise that social information is critical to safe, effective, coordinated care, yet little is known about how primary teams transfer and respond to information related to these determinants of health.

## Setting of Project/Provider Population:

This study was conducted at two public clinics in New York City, within the Bellevue and Gouverneur hospital systems. Bellevue Hospital Center is the country's oldest public hospital and has a long history of serving as a safety net for New York City's neediest patient populations. More than 80 percent of Bellevue's patients come from the city's medically underserved populations, for reference. Gouverneur Health's Ambulatory Care Center—also a public, city-run clinic—provides affordable and comprehensive services throughout NYC's Lower East Side. Together, Bellevue and Gouverneur provide an integrated network of hospital and primary care services for New York's vulnerable, underserved communities, a majority of which are first-generation immigrants, uninsured, and/or from low SES backgrounds. At both sites, this study was conducted within the adult, ambulatory care clinic and targeted resident physicians (internal medicine) as the primary healthcare providers on the team. Primary care team members included medical assistants, nurses, and providers (mostly resident physicians and their attendings).

## Population of Patient and USPs:

The patient population at Bellevue and Gouverneur represents acute social needs, many of which create a significant burden on the health system. Emergency Department visits are 38% uninsured and 36% Medicaid, while all other clinic visits are 45% Medicaid and 31% uninsured. The primary service area (representing 27 zip codes across the city) has a poverty rate of 31% for all families with children and 22% for all without. The makeup of the patient population is Hispanic (38%), Black (22%), and Asian (15%). The health

system has higher diabetes, obesity, high cholesterol, hypertension, asthma, and tobacco use rates compared to NYC as a whole. English is not the primary language for a number of patients, and the primary service area has a limited English proficiency rate of 32%. With more than 130,000 and 270,000 primary care clinic visits conducted annually at Bellevue and Gouverneur, respectively, both serve as a critical point of care for populations at high risk for disparity-related health concerns and those especially subject to the impact of social determinants. This is an at-risk, majority-minority population.

## 5. METHODS

### Study Design:

USP visits with standardized portrayals of patients with SDoH elements were delivered to five primary care teams at two facilities (Bellevue and Gouverneur). One team served as a proxy comparison group and did not receive audit/feedback reports on their team's response to SDoH (though they did receive overall team quality metrics on things like hand washing, patient centeredness). Data were collected prior to intervention for 10 months to establish baseline rates of team response to SDoH, and the intervention period—involving approximately quarterly audit/feedback reports with simple, easy-to-understand visualizations of team rates of SDoH response that included targeted educational content on addressing SDoH—began in Jan 2018 and continued until March 2019. At that point, Bellevue implemented a change in EMR from Quadramed to Epic, and we halted USP visits for 6 weeks during the rollout. Data collection for the follow-up period then began in late June and has continued to date. Survey data also were collected from team members to determine if differences in attitudes toward SDoH were associated with differences in how teams responded to SDoH and whether receiving the audit/feedback reports was associated with attitude changes. Throughout the study, the healthcare system introduced and refined existing approaches to addressing SDoH and the team compiled information on the timing and intensity of those environmental changes to map onto the study timeline.

### USP Protocol:

Outpatient safety depends on accurate collection and documentation of patient-provided information, yet there are few viable methods for systematically tracing patient-provided information through both a visit and subsequent health team interactions. Errors of omission are almost impossible to detect unless they can be traced to an adverse event. Unannounced Standardized Patients (USPs) are a form of in situ simulation in which highly trained actors are introduced into clinical settings as patients to portray standardized, controlled scenarios. USPs follow detailed scripts in order to volunteer and provide the same information, when properly elicited, in every visit. Thus, USPs provide an innovative method for exposing the healthcare team to standardized information that then can be tracked (4-6). They serve as a longitudinal data collection tool for understanding and improving clinical processes in outpatient care.

### USP Cases:

Six unique USP cases, each involving three unique SDoH elements (financial, housing, and social instability) were created by the study team prior to the start of the baseline study period. These cases included patients presenting with a common chief complaint

and masking their accompanying underlying SDoH issues unless given the opportunity to discuss. Chief complaints included asthma, joint pain, hepatitis B, fatigue, back pain, and a well visit/check up. Underlying SDoH issues were nested into each case. These determinants incorporated job or financial insecurity, social anxiety and isolation, unstable housing conditions, and lack of family support, among others. The clinical makeup of these USP cases and of the visit flow are detailed in Table 1.

| Table 1. USP Cases and Clinical Makeup | | | | | | |
|---|---|---|---|---|---|---|
| Case | 1 | 2 | 3 | 4 | 5 | 6 |
| Sex/Age | F, 25-30 | M, 30-35 | F, 25-32 | M, 25-28 | M, 40-45 | F, 40-45 |
| Chief Complaint | Asthma | Shoulder Pain Smoking | Abdominal Pain Hepatitis B | Fatigue Depression | Acid Reflux Smoking | Back Pain Opioid Use |
| Financial | Job security | Job benefits | Minimum wage | Supports mother | Supports mother | Job security |
| Housing | Mold | On friend's couch | Overcrowding | Late rent payments | Building sold | Late rent payments |
| Social | Anxious about asthma attacks | Spends most time working | Shy; spends most time with family | Broke up with girlfriend | Spends most time with girlfriend | New to NYC; few friends and family |

The USP cases utilized for this study were developed in conjunction with Bellevue clinic administration and hospital leadership with the goal of implementing realistic, patient population--relevant USP cases.

Actors were trained to portray a specified USP case, with distinct clinical presentations and underlying symptoms during two preparatory group sessions, each consisting of table reading, group practice, and question and answer sessions. Actors received six hours of training, which occurred in group format to provide opportunity for character story development, role uptake, and accurate standardized portrayal of their clinical vignette. Between four and six actors were trained for each case. Actors were sent to five teams at across two urban, safety-net clinics (within Bellevue Hospital and Gouverneur Hospital) in New York City. Six visits were scheduled weekly. During an encounter, USPs followed a standardized protocol of volunteering their financial hardship to medical assistants and providers (when given space in conversation to do so) to assess degree of information transfer between team members while hiding their social and housing issues unless specifically elicited by a provider.

| Table 2. Visits by Case and Time Period | | | |
|---|---|---|---|
| Visits | Baseline 2/2017-12/2017 (n=154) | Intervention 1/2018-3/2019 (n=214) | Follow Up 4/2019-10/2019 (n=49) |
| Asthma (n=70) | 27 | 38 | 5 |
| Hep B (n=63) | 22 | 32 | 9 |
| Well Visit (n=74) | 28 | 37 | 9 |
| Back Pain (n=61) | 21 | 33 | 7 |
| Joint Pain (n=66) | 29 | 28 | 9 |
| Fatigue (n=83) | 27 | 46 | 10 |

Cases were sent to teams in the clinics, targeting residents as the provider within those teams. Teams were aware that they would have USP visits but remained blinded to the when, how many, and the case make-up. Approximately six visits were scheduled weekly. Actor cancellations, scheduling challenges, and clinic changes affected consistent data collection progress, occasionally resulting in fewer weekly visits. Table 2 details the number of visits that were sent during the baseline, intervention, and follow-up period.

Responses and USP experience during the encounters were assessed through a post-visit USP checklist of questions designed to assess behaviorally anchored items. This checklist includes information on each provider's overarching skills, including communication, education, and activation, along with the items more specifically focused on capabilities in eliciting and response to social determinants and regarding clinical microsystem functioning. SDoH items included on checklist are included in Table 3.

| Table 3. Post-Visit USP Checklist Items | |
|---|---|
| **ITEMS** | **RESPONSE OPTIONS** |
| **SDoH – Financial Information Volunteered to PCA** | |
| **How did the PCA respond when you asked for a doctor's note for work?** | • I was not able to volunteer that information<br>• The PCA did not respond at all<br>• The PCA responded in a negative way<br>• The PCA acknowledged my concern<br>• The PCA acknowledged my concern and explored |
| **What did the PCA actually DO in response to your statements of concern about needing a doctor's note for work?** | • The PCA did not appear to take any action<br>• The PCA asked me what information would be needed on the note and/or printed the note for you<br>• The PCA said he/she would forward the information to the provider/team (did something about the issue)<br>• The PCA both asked what information would be needed on the note and/or printed the note AND said they would forward information to the team |
| **SDoH – Information Volunteered to Provider (Financial)** | |
| **How did the Provider respond when you asked for a doctor's note for work?** | • I was not able to volunteer that information<br>• The provider initiated a discussion before I could volunteer that information (clear that PCA had shared)<br>• Provider did not respond at all<br>• Provider responded in a negative way<br>• Provider acknowledged my concern and reassured me<br>• Provider acknowledged my concern and explored |
| **What did the Provider actually DO in response to your statements of concern about needing a doctor's note for work?** | • The Provider did not appear to take any action<br>• The Provider gave me a doctor's note<br>• The Provider gave me financial resources or a referral for dealing with my concerns<br>• The Provider both gave me a doctor's note and gave me financial resources or a referral for dealing with my concerns |
| **SDoH – Information Solicited by Provider (Social & Housing)** | |
| **Did the provider explore or ask about your social or housing situation?** | • No<br>• Yes |
| **What level of information were you able to share about your social or housing situation?** | • I was not able to share my full story<br>• I was able to share my full story (new to NYC, high workload) |
| **How did the provider respond when you discussed your social or housing situation?** | • The Provider did not respond at all<br>• The Provider responded in a negative way<br>• The Provider acknowledged my concern<br>• The Provider acknowledged and explored |
| **SDoH – Did the provider act upon the information about your social or housing situation?** | |
| **The provider did not take action**<br>**The provider acknowledged**<br>**The provider gave resources/advice**<br>**The provider connected me to an actual referral** | • No<br>• Yes |

Following each visit, research assistants conducted systematic chart reviews of each case through the clinic's electronic medical record system. Items that were evaluated with regard to documentation of SDoH and referrals can be found in Table 4.
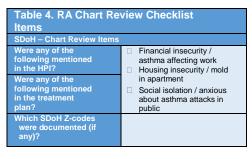
| Table 4. RA Chart Review Checklist Items | |
|---|---|
| **SDoH – Chart Review Items** | |
| **Were any of the following mentioned in the HPI?** | ☐ Financial insecurity / asthma affecting work |
| **Were any of the following mentioned in the treatment plan?** | ☐ Housing insecurity / mold in apartment<br>☐ Social isolation / anxious about asthma attacks in public |
| **Which SDoH Z-codes were documented (if any)?** | |

**Intervention: Audit and Feedback Process**

Data collected through checklists in Tables 3 and 4 were used to establish baseline rates of information transfer and provider SDoH responses/practices. After establishing the rate of information transfer, we developed and implemented monthly audit and feedback reports and disseminated to care teams at each site.

Reports consisted of two components (Figure 1): (1) data on how medical assistants and providers, including medical doctors (MDs), nurse practitioners (NPs), and physician assistants (PAs), responded to volunteered SDoH and if they were able to elicit undisclosed SDoH *and* (2) an educational component developed in conjunction with hospital leadership and the social work department. Educational components provided team members with additional information on what social service resources were available onsite.



**Figure 1: SDoH Report**

The dissemination plan for these reports can be found in Figure 2. Grant members and clinic leadership collaborated to distribute these reports t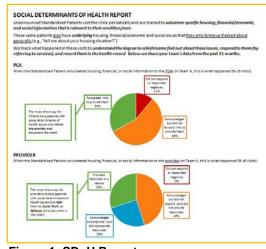hrough a strategic, multifaceted approach. Detailed, distribution methods evolved over time in response to changing clinical processes throughout the grant period but included distribution during residency meetings, during faculty meetings, on clinic bulletin boards, via email, and announced at morning huddles.



**Report 1 (January 2018)**
• Distributed bi-weekly to medicine residents

**Report 2 (May 2018)**
• Distributed bi-weekly to residents
• Attached to other routine reports

**Report 3 (September 2018)**
• Met with residents routinely
• Attended group "huddles"
• Reports posted on bulletin boards
• Distributed at faculty/ nursing meetings
• Attached to other routine reports

**Report 4 (March 2019)**
• Met with residents routinely
• Attended group "huddles"
• Reports posted on bulletin boards
• Distributed at faculty/ nursing meetings
• Attached to other routine reports

**Report 5 (October 2019)**
• Met with residents routinely
• Attended group "huddles"
• Reports posted on bulletin boards
• Distributed at faculty/ nursing meetings
• Attached to other routine reports

**Figure 2: Audit Feedback Report Distribution Channels**

**Clinic Survey on Attitudes Toward SDoH:**

Clinical team members (MDs [residents and attendings], NPs, RNs, medical assistants, and front desk/admin staff) were surveyed (Table 5). Survey questions covered (1) team member attitudes toward the impact of SDoH on patient health and the responsibility of their clinic to respond to SDoH; (2) team member referral behaviors in the clinic; and (3) whether team members could recall the routine feedback they had received during cycles of audit feedback report distribution. Surveys were collected annually during the third quarter of the year from 2017-2019.

### Patient Surveys:

Patient satisfaction and experience surveys were administered between July 2017 and December 2018 in the Bellevue Ambulatory Clinic. English- and Spanish-speaking patients were approached at the completion of their visit by research assistants. The survey asked patients about their feelings and attitudes toward healthcare providers, inquiring about their experiences of SDoH (Table 5).

| Table 5. Data Collected to Date | Baseline 2/2017-12/2017 | Intervention 1/2018-3/2019 | Follow Up 4/2019-10/2019 |
|---|---|---|---|
| Post-visit USP Checklist and Chart Review | 151 | 219 | 49 |
| Qualitative Feedback from USPs (number of free text responses) | 327 | 624 | 106 |
| Team Attitude Surveys | 81 | 77 | |
| Patient Surveys | 76 | Not Distributed | |

### Limitations:

The USP methodology presents unique challenges for successful implementation. Healthcare providers may, at times, identify that they are seeing USPs; this may impact the care they provide. However, detection rate appeared to be quite low, as evidenced by periodic surveys of healthcare providers and reports from attendings and healthcare administrative staff. We struggled to get survey responses from all members of the clinical teams. Also, initial rollout included a small number of standardization failures: USPs who failed to volunteer or divulge their programmed SDoH information. Our implementation plan included initial piloting of these cases, and our Q/A review caught these early issues, which permitted us to re-train USPs to provide accurate, standardized portrayals.
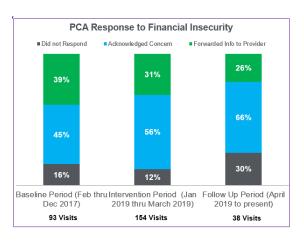
Fielding this study in the real world of clinical practice enhances the generalizability of our results but also presented many challenges to the internal validity of the study, including the many changes in the healthcare facilities and broader system that occurred throughout the study. These included turnover in the teams, changes in the structure of the adult outpatient clinics, and especially changes in how the system sought to address SDoH. These latter changes included the use of a self-administered SDoH assessment with patients, changes to procedures for referring to social work, and changes in how SDoH information could be documented in the EMR. One of the biggest challenges to our study was that the hospital changed EMR systems, implementing Epic toward the end of our intervention period. This led to a 2-month hiatus in the collection of data during the transition to the new EMR and unfortunately may have undermined our ability to capture the full impact of the audit/feedback reports and educational efforts, because this was the last quarter of our five quarterly cycles of audit/feedback reports. We've continued to collect data, however, to enhance our follow-up study period to compensate for the unfortunate timing of the Epic implementation.

## 6. RESULTS

**These results represent preliminary, descriptive analyses, largely from our baseline data. Analyses of the impact of the audit/feedback reporting are in progress. These analyses include efforts to account for the time series nature of our data, the impact of changes in the clinic, and the attitudes and composition of the targeted teams.**
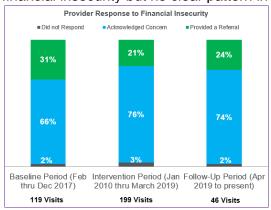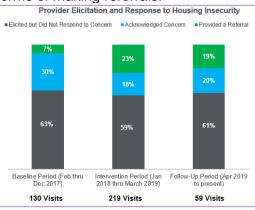
### Team Attitudes Surveys:

We conducted annual surveys of the teams, including medical assistants, nursing staff, and resident physicians, about their attitudes toward SDoH and their "treatment expectancies" regarding the impact of asking about and responding to SDoH. Our surveys (n=157) showed that most are confident in their ability to appropriately respond to SDoH. Providers expressed an understanding that addressing SDoH is an important part of their role (80%), that they know how to make referrals (86%), and that they make appropriate referrals for SDoH (63%).



### Assessment of Team Responses to SDoH:

Baseline USP checklist and chart review results suggest that, in practice, providers do not routinely respond as they suggest they do in the surveys. Medical assistants (PCAs) mostly acknowledged the patient's SDoH issues, but only about a third forwarded that information to the provider. Among providers, although about two thirds acknowledged volunteered SDoH information, fewer than a third actually made a referral. In many of our visits, providers missed opportunities for eliciting housing and social concerns. Even when they did elicit, for example, housing insecurities, 63% of providers did not respond with specific resources/referrals/action. Of the 37% who did respond, just 7% made a referral to a social service. Overall, more referrals for housing and social isolation were made during the intervention period, when audit feedback reports were being distributed. Among both PCAs and resident physicians, we see an increase in acknowledging the patients' volunteered financial insecurity but no clear pattern in terms of making referrals.
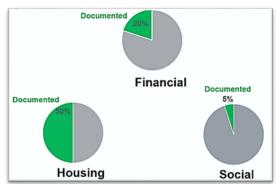
Documentation of SDoH in the clinic note in the EMR was assessed via chart review and, in general, we found significant under-documentation. Despite having the opportunity to use Z-codes to document SDoH, we found no instances of use of Z-codes in the >400 visits we reviewed.



Descriptive, qualitative responses (see examples in Table 6) showed a range of experiences during a visit but further highlighted some disconnects between providers' self-assessed capabilities and USP experiences during the clinical encounter. USPs experienced their providers as sometimes willing to probe once prompted but often glossing over the patient's SDoH concerns and focusing more specifically on the core chief complaint.

| Table 6: Descriptive Findings from Qualitative Feedback |
| --- |
| **Comments from USP Regarding Provider's Response to SDoH** |
| *"The physician acknowledged both with tone and body that it sounded like not the best of situations and times for me in general. She seemed a little reluctant to explore any further and didn't, preferring to focus back on the shoulder."* |
| *"Once I told her of my housing situation, she probed deeper, asking if everything was okay between me and my family. She also asked if I was okay and I felt safe, etc."* |
| *"The provider shared that he also recently moved here and found it hard to transition to NYC life and meet people, which made me feel understood by him."* |
| *"Spoke to me like another human being. Not condescending. Relatable, kind."* |
| *"One thing the provider could improve is his lack of empathy, as I never truly felt cared for by him during any part of the interview."* |
| *"Throughout the encounter, she kept good eye contact and was very engaging in our conversation. She explained things very clearly. She made me feel she really cared about me."* |
| *"I don't feel I got the story out. He locked into parts of the story but ignored other big aspects. He wasn't rude but I can't remember him seeming too concerned."* |
| *"The provider was very empathetic about my housing concerns around paying rent and understood my need to get back to work so I can pay the bills, which made me feel seen and supported."* |

### Patient Surveys:

To complement this study, we also conducted surveys of clinic patients to understand their views on healthcare system approaches to SDoH. Survey items asked patients asked about five significant social issues. When surveyed (n=79 patients), 92% of patients were comfortable or very comfortable with providers asking about these social issues, whereas just 79% of patients felt the same way about any another healthcare worker asking them these questions (Table 7).

| Table 7: Patient Survey Results (N=79) | | |
| --- | --- | --- |
| **During today's visit did your provider ask about…** | | |
| Legal issues - immigration, benefits, eviction | 37% | |
| Housing & neighborhood - housing conditions or safety | 35% | |
| Financial instability - employment, debt, medical bills | 37% | |
| Food insecurity | 40% | |
| Social issues - feeling lonely, little family support, partner violence | 40% | |
| | **Uncomfortable** | **Comfortable** |
| How comfortable would you feel about your provider asking you about these things? | 8% | 92% |
| How comfortable would you feel about another healthcare worker asking you about these things? | 21% | 79% |

**Analyses Currently Underway:**

We are finalizing our data collection to ensure that we have sufficient numbers of visits from post-Epic rollout to date (i.e., our follow-up period). Once those visits are complete (our goal is another approximately 30 visits), we will finalize the analyses, comparing the rates of responding to volunteered SDoH and the rates of eliciting and then responding to underlying SDoH across the three time periods (comparing baseline, intervention, and follow-up means/medians). We are also conducting a quarterly time series analysis to account for autocorrelation in these repeated-measures assessments. Both sets of analyses are designed to determine if teams differed in their rates over time, especially when comparing the four "intervention teams" to the one "comparison team" that only received an audit/feedback report about their general team functioning and did not receive information on their response to SDoH. In addition, team survey data is being used to determine if team characteristics are associated with both initial and post-intervention responses to SDoH.

## DISCUSSION

For this project, grantees used USPs to (1) understand if and how SDoH information is transferred from the patient to the primary care team and through the electronic health record and (2) used this information to assess whether repeated audit and feedback reports are associated with improvement in how teams responded to, elicited, and recorded the SDoH of their patients. USP checklist, chart review of EMR data, and care team and patient survey data were use to describe the baseline, intervention, and follow-up periods of this project.

Though descriptive, USP data trends showed that, when providers respond to SDoH, they do not do so uniformly. In cases when providers elicited appropriately, they more frequently elicited housing-related issues rather than social issues. USPs had difficulty sharing their financial concerns with the PCA during the beginning of the visit in upward of 25% of visits in each period. Figure 1 details the evolving report dissemination process that we developed in conjunction with clinical leadership across disciplines. Each report contained standardized information on how teams responded to SDoH. Despite this effort, close to half (42%) of providers reported having received formalized feedback on their team's responses to SDoH.

Providers tended to overestimate their capabilities in responding to SDoH. When surveyed, 86% of 2018 survey participants self-reported having referred a patient to appropriate services when a social need was identified. Despite this, and after receiving regular audit and feedback reports, a majority continued to not refer. The evolving clinical system makes it difficult to ascertain the impact of the reporting on providers, especially when taking into consideration the number of additional clinical changes that occurred outside of this study. These include staff and team member changes, the rollout of new EMR programs, and surveys to prescreen for SDoH.

Finally, findings show that patients would like to be asked (by providers) about SDoH, yet few are asked during routine visits. When surveyed, 92% of patients were comfortable or very comfortable with providers asking about SDoH. A less significant majority, 79%, were comfortable or very comfortable with another healthcare worker asking about these things. Although next phases of the project include continued data collected and a more through temporal analysis of the trends in referral through adjusted time series analysis, some patterns emerged in these initial, descriptive analyses after 3 years of successful implementation within an evolving, safety-net health system.

Our combined results suggest that a disconnect exists between how clinical team members see their role with regard to SDoH and how they respond when presented with (Unannounced Standardized) patients who present with SDoH. There is an accompanying gap in perceptions of patient and provider preferences in communicating about and sharing information on issues related to SDoH. These issues emerged throughout grantee data collection and exploration of data to date, without the inclusion of any additional confounding changes to the microsystem. Aside from a temporal analysis, next phases of the project will include a deeper dive into subsets of providers that are deemed high performers in the referral realm and additional study of the role of aforementioned microsystem changes on acknowledgment and accompanying referral rates.

A 2019 study found that physicians in family medicine who felt their clinic had the capacity to respond to social determinants of health reported lower rates of burnout (7). Continuing to focus on creating educational curricula and building stronger linkages between various hospital entities, including trainees, staff, patients, and social service departments, in the next phases of this research could be key in addressing address concerns over capacity and subsequent burnout. USPs provide opportunity for a context-rich assessment of systems in place within clinical settings. Ideally, grantee findings will be scalable within any hospital or research institution looking to assess communication transfer, EMR documentation, referral rates, or provider/patient attitudes related to the social determinants of health through USPs.

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