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Winifred Ann Shouse
wspitza01@bellarmine.edu

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Screening for Social Determinants of Health in the Primary Care Setting: A Quality

Improvement Project

Winnie Shouse MSN, APRN, FNP-C

Bellarmine University

Social determinants of health are the conditions in which individuals are born, age, work, and live that affect health status and outcomes (Rivich et al., 2019). These social and environmental factors can create barriers to patients being able to access and adhere to recommendations for chronic disease management (Gold, et al., 2019). Communication gaps between patients and primary care providers make it challenging for healthcare providers to be completely aware of the financial burdens their patients encounter (Patel et al., 2016). Research supports that identifying and addressing the barriers related to social determinants of health can improve the management of chronic diseases and lead to improved patient outcomes (Frier et al., 2019). However, there are no current policies or structured procedures for screening and addressing social determinants of health in many primary care settings (Page-Reeves et al., 2016). To address the lack of screening for social determinants of health, the Core 5 Social Risk Screening Tool is a five question, evidence-based tool that provides a comprehensive evaluation of social determinants of health (Bechtel et al., 2022; Bradywood et al., 2021). This DNP scholarly project aimed to increase patient self-reporting of social determinants of health in a primary care office using the Core 5 Social Risk Screening Tool from 0% to 50% within a 30-day period.

Core 5 Social Risk Screening Tool

The Core 5 Social Risk Screening tool has been identified as a feasible and validated tool for assessing patients' social needs is written on a fifth grade reading level and contains five "yes or no" questions that provide a comprehensive evaluation of social determinants of health. The tool screens for social needs related to the following domains: food, housing, utilities, transportation, and interpersonal violence (Bechtel et al., 2022; Bradywood et al., 2021). A pilot study utilizing the Core 5 Social Risk Screening Tool determined 59% of patients were

effectively screened for social determinants of health. Ten percent of these patients were identified as having at least one social determinant that needed to be addressed. After these social needs were identified, referrals were placed to social work and interventions were provided to patients as appropriate to address their identified social need. A staff usability survey of the Core 5 Social Risk Screening Tool identified the tool as a positive intervention noting the tool should continue to be utilized and as a “vital part of the process for pre-surgical visits” (Bradywood et al., 2021).

Another pilot completed by Bechtel et al (2022) noted 43% of patients who were screened using the Core 5 Social Risk Screening tool had at least one social determinant of health need. In addition, food insecurity was noted as the most prevalent social need at 62.2%. This study also reviewed the number of emergency room visits after implementing the Core 5 Social Risk Screening Tool. Three months post-intervention, the study determined the number of emergency room visits had decreased significantly compared to the three months prior to the implementation of the Core 5 Social Risk Screening Tool (Bechtel et al., 2022).

Current State

Currently, there are no policies or procedures in place for screening and addressing social determinants of health at a large urban primary care medical group in the Midwest. As a result, patients are not being screened for social determinants of health. Therefore, social determinants are not identified until patients inform the provider or medical staff they are unable to afford medications, have difficulty with transportation, are unable to afford healthy food, etc. As a result, multiple social needs are going unaddressed.

When social determinants are identified, this primary care medical group utilizes a software for referral placement. This software is built into their electronic medical record. Once a

social need is identified, the nurse navigator or primary care provider obtains physical or verbal consent from the patient to provide their information to community resources. Then, the nurse navigator or primary care provider selects the patient's identified social needs in the software and the software populates a list of community resources available to meet the identified social needs. The nurse navigator or primary care provider then selects and places referrals to the appropriate community resources. The community resources will then reach out to the individual directly to address their social needs.

Project Objectives

The purpose of this scholarly project was to a) increase patient self-reporting of social determinants of health in a primary care office using the Core 5 Social Risk Screening Tool from 0% to 50% within a 30-day period and b) implement the Core 5 Social Risk Screening Tool to improve identification of social needs and subsequent referrals to community resources. The Plan, Do, Study, Act (PDSA) cycle was used as a guiding framework (Institute for Healthcare Improvement, 2020). IRB approval was obtained.

Methods

Setting

The project setting was a large primary care medical group in the Midwest. This medical group was part of a larger healthcare organization. The primary care office included one director, one manager, three physicians, four nurse practitioners, eight medical assistants, two nurses, and several support staff. The primary care office utilized an electronic health record. The office conducted approximately 425 patient visits weekly and saw patients for a variety of office visit types including new patient, preventive care, chronic disease follow-up, and acute issues. The project took place beginning November 2022 and lasting for a 30-day period.

Participants

Participants for the study were required to be adults at least 18 years of age. They were an established patient of the office, had a scheduled office visit with a primary care provider in the primary care office, were English speaking, and were literate. Patients were excluded from the study if they missed their appointment, declined to complete the Core 5 Social Risk Screening Tool, were scheduled for a virtual visit, were non-English speaking, or were illiterate.

Intervention

Training was conducted with clinic staff to provide instruction on the implementation process. During appointment check-in, the front desk staff provided a paper copy of the Core 5 Social Risk Screening Tool (Figure 1).

Figure 1

Core 5 Social Risk Screening

Please answer the questions as honest as possible by marking an “x” in the box that best describes your current living situation.

	YES	NO
1. Do you/your family worry about whether your food will run out and you won't be able to get more?		
2. Are you worried about losing your housing, or are you homeless?		
3. Are you currently having issues at home with your utilities such as your heat, electric, natural gas, or water?		
4. Has a lack of transportation kept you from attending medical appointments or from work, or from getting things you need for daily living?		
5. Are you worried that someone may hurt you or your family?		

Next, the staff encouraged the patient or patient family to complete the questionnaire while they waited for their appointment. The medical assistant then transferred the patient from the waiting room to an exam room. During the rooming process, the medical assistant collected the paper survey from the patient. The medical assistant reviewed the survey to see if the patient answered

“yes” to one or more questions. If the patient did not, no additional screening or referrals were needed. If the patient did answer “yes” to one or more questions, the medical assistant obtained verbal consent from the patient or patient’s family to place an electronic referral. Once this referral was placed, the clinic referral resource reached out to the patient or patient’s family directly and worked to connect them with local and community resources to address their identified social need. The medical assistant also notified the physician or nurse practitioner seeing the patient, ensured the patient’s name and date of birth were on the questionnaire, and scanned the paper copy of the Core 5 Social Risk Screening Tool into the patient’s electronic medical record. The paper copy was then placed in an envelope and stored in the locked provider office for patient privacy and confidentiality.

Data Collection Plan

During the project, several different types of data were collected to determine whether the objectives were met and to provide insight into the demographics of the participants. The first data that was collected was if the patients completed the screening form or not. This was measured by comparing the paper questionnaires with the schedule and reviewing whether the questions were answered. Next, data was collected from the paper questionnaires including the social risk factors identified by the Core 5 Social Risk Screening Tool: housing instability, food insecurity, utility needs, transportation, interpersonal violence. After reviewing the Core 5 Social Risk Screening tool, demographic data was collected from the electronic medical records from patients who completed the questionnaires including age, gender, race, insurance provider, and zip code. Once this demographic data was collected, the referral platform was reviewed to see if a referral was placed or not. Finally, of the referrals placed, data was collected from the referral platform to determine if the referral was resolved. The referral was considered resolved if the

patient was accepted by and connected with community resources. If the patient declined these services or was unreachable, the referral was considered not resolved. All data collected was recorded using an Excel spreadsheet and stored in a secure drive within the primary care medical office's computer system throughout the project. This data identified patients as a case number to maintain patient confidentiality. Once data was entered into the excel spreadsheet, the paper questionnaires were shredded per office protocol.

Results

Participant Demographics and Incidence of Screening

Data analysis was completed utilizing Statistical Package for the Social Sciences (SPSS). Descriptive statistics and frequency distributions were used to analyze patient demographics and summarize the patient population of those screened using the Core 5 Social Risk Screening Tool (Table 1, Table 2). Frequency distributions were used to analyze the incidence of screening, the identified social risk factors, if referrals were placed, and if referrals were resolved (Table 3).

A total of 205 patients were scheduled for office visits during the time this project was completed. Forty-two patients were found to be ineligible: 26 patients did not attend their appointment, 11 patients were under 18 years of age, and five patients were scheduled for virtual visits. After reviewing eligibility, no patients declined screening. Therefore, a total of 163 patients were determined to be eligible for screening. Eighty-two eligible patients were missed for screening. These patients were not provided a screening form by the front desk staff. However, 81 of the 163 eligible patients (50%) were screened for social determinants of health utilizing the Core 5 Social Risk Screening Tool.

Descriptive characteristics and demographics of the sample (n=81) that received the Core 5 Social Risk Screening are presented in Table 1.

Table 1

Demographics of Patients Participating in Social Determinants of Health Screening

Demographics	N	%
Gender		
Female	57	70
Male	24	30
Other	0	0
Race		
Caucasian	65	80
African American	12	15
Other	4	5
Insurance		
Commercial	52	64
Medicare	19	23
Medicaid	10	12
None	0	0
Zip code		
40059	4	5
40207	3	4
40218	3	4
40220	9	11
40222	8	10
40223	15	19
40241	4	5
40242	6	7
40245	5	6
		Mean (SD)
Age in Years	48 (17.39)	

The age of participants ranged from 19 to 88 years of age. The mean age of the sample was 48. Sixty-two patients were under 65 years of age. Fifty-seven of the patients were female (70%). Most of the participants were Caucasian (80%), followed by African American (15%), and other (5%). Sixty-four percent of the patients had commercial insurance and 23 percent had Medicare insurance. The majority of participants were from the state where the study took place (96%) with 19% of participants from the urban area in the 40223 zip code.

Identified Social Determinants of Health

Seven of the 81 patients screened (9%) utilizing the Core 5 Social Risk Screening Tool identified social needs. Descriptive characteristics and demographics of the patients who screened positive for social risk factors on the Core 5 Social Risk Screening Tool (n=7) are presented in Table 2.

Table 2

Demographics of Patients Who Screened Positive for Social Risk Factors

Demographics		N	%
Gender			
	Female	6	86
	Male	1	14
	Other	0	0
Race			
	Caucasian	5	71
	African American	1	14
	Other	1	14
Insurance			
	Commercial	4	57
	Medicare	2	29
	Medicaid	1	14
	None	0	0
Zip code			
	40006	1	14
	40204	1	14
	40207	1	14
	40222	1	14
	40223	1	14
	40229	1	14
	40216	1	14
		Mean (SD)	
Age in Years		43 (12.6)	

Six out of the seven patients who identified social needs were female (86%). Five of the patients were Caucasian (71%), one was African American, and one was considered another race. Fifty seven percent (n=4) of the patients had commercial insurance, 29 percent had Medicare (n=2), and 14% of patients (n=1) had Medicaid. Of the patients who screened positive, all the patients were under 65 years of age. Four out of seven patients were under 40 years of age. All patients had various zip codes.

Among the patients in which a social need was identified, Table 3 depicts the type and number of social needs, if a referral was placed, and if a referral was resolved.

Table 3

Descriptive Statistics of Screening and Referrals

Demographics		N	%
Screening Completed			
	Yes	81	50
	No	82	50
Identified Social Risk Factor (n=7)			
	Housing	1	14
	Food	4	57
	Utilities	4	57
	Transportation	3	43
	Interpersonal Violence	1	14
Referral Placed			
	Yes	5	71
	No	2	29
Referral Resolved			
	Yes	5	100
	No	0	0

Table 4 depicts the identified social risk factor by demographics. Among the seven patients identified to have social determinants of health, most patients identified issues with food insecurity (57%) and with difficulty paying for utilities (57%). Forty three percent of patients

Table 4

Identified Social Risk Factor by Demographics

		Social Risk Factor				
Group		Housing	Food	Utilities	Transportation	Interpersonal Violence
Gender						
	Female	1	3	3	3	1
	Male	0	1	1	0	0
	Other	0	0	0	0	0
Race						
	Caucasian	0	2	3	3	1
	African American	1	1	1	0	0
	Other	0	1	0	0	0
Insurance						
	Commercial	0	2	2	2	1
	Medicare	0	1	1	1	0
	Medicaid	1	1	1	0	0
	None	0	0	0	0	0
Zip code						
	40006	0	1	1	0	0
	40204	0	0	1	1	1
	40207	0	1	0	0	0
	40216	0	0	0	1	0
	40222	1	1	1	0	0
	40223	0	0	0	1	0
	40229	0	1	1	0	0

identified transportation barriers (n=3). One patient indicated housing instability and one patient reported interpersonal violence. Four out of the seven patients who screened positive for social determinants of health identified multiple social needs (57%).

Five out of the seven patients screened (71%) asked for assistance with addressing their social needs. Referrals were placed for the five patients who asked for assistance (100%). All five of these patients (100%) were connected with community resources to help address their social determinants. All referrals were initiated the same day as the patients' office visits. Within two weeks of placing referrals, all patient referrals were noted to be accepted (Table 3). This meant that community resources were reaching out to these patients to provide them with assistance with addressing their needs.

Discussion

In this scholarly project, the Core 5 Social Risk Screening Tool was administered to adult patients prior to their appointments in a primary care office. The main objective of this project was to increase patient self-reporting of social determinants of health in a primary care office using the Core 5 Social Risk Screening Tool from 0% to 50% within a 30-day period. Of the 163 patients who were eligible for screening, 81 (50%) completed the Core 5 Social Risk Screening Tool within a four-day period. This is a clinically significant improvement from zero and resulted in this objective being met within the 30-day period.

Another objective of this project was to implement the Core 5 Social Risk Screening Tool to improve identification of social needs and subsequent referrals to community resources. Seven of the 81 patients screened (9%) utilizing the Core 5 Social Risk Screening Tool identified social needs. Of those seven, five patients accepted assistance. Referrals were placed for these patients and all five patients were connected with community resources within two weeks of referral

placement. Therefore, this screening tool successfully assisted with identifying and addressing social determinants of health that may not have otherwise been noted.

The Core 5 Social Risk Screening Tool was easy to include prior to patients' office visits. Patients were able to quickly and easily complete the screening while waiting for their office visit. If patients identified a social need, the medical assistant recognized this when collecting the screening form and asked the patient if they would like assistance prior to the provider entering the exam room. Therefore, completing the screening tool did not take away time from the rooming process or from the office visit. In addition, the screening tool was successful in identifying all five social risk factor domains of housing instability, food insecurity, difficulty paying for utilities, transportation barriers, and interpersonal violence.

Patients were provided the Core 5 Social Risk Screening Tool on paper. This allowed patients the opportunity to complete the screening tool independently without supervision or prompting from staff. This offered the patients autonomy and allowed for a nonjudgmental approach to screening for social determinants of health. As a result, all 81 patients who were asked to complete the Core 5 Social Risk Screening Tool were agreeable. There were no patients who refused to complete the screening tool.

Limitations

While this project had several strengths, as anticipated, there were some limitations. The main limitation of the project was screening was not completed on some patients. The front desk staff was very busy and had several forms and questions they were required to ask of the patient. Therefore, asking the front desk staff to provide the Core 5 Social Risk Screening Tool to patients increased their workload. Although education and support were provided by the project lead, the front desk staff did not consistently provide patients the screening tool. As a result, 82

patients (50%) were missed for screening. However, if the project continued for a longer period of time and more education was provided to the front desk staff, this likely would have improved.

Another limitation of the project was that medical assistants had not previously placed referrals in the clinic referral system. This process was very cumbersome and although education and support were provided by the project lead, due to the extra time requirements and interruptions in workflow, the medical assistants were unable to place the referrals. This resulted in the project lead placing the referrals for patients who screened positive for social needs. This solution was feasible for the purpose of this project. However, future implementation would require another solution.

The project was completed in one clinical site within one healthcare system. In addition, the project was completed over a short period of time. Therefore, it was unable to be determined if screening for social determinants of health using the Core 5 Social Risk Screening Tool would have the same effect in other outpatient settings. In addition, as anticipated, there were limited resources in the community and some community resources required patients to meet specific criteria to qualify for assistance. This resulted in patients being ineligible for several community resources. However, these barriers were outside the control of the project and healthcare system.

Conclusion

In conclusion, social determinants of health are the conditions in which individuals are born, age, work, and live that affect health status and outcomes (Rivich et al., 2019). To assist in improving health outcomes for patients living in a lower socioeconomic status and with chronic illnesses, it is imperative to recognize the barriers social determinants of health pose on effectively preventing or managing chronic diseases. This scholarly project was successful in

increasing patient self-reporting of social determinants of health in a primary care office using the Core 5 Social Risk Screening Tool from 0% to 50% within a 30-day period. It also was able to successfully improve the identification of social needs which resulted in increased patient referrals to community resources. Therefore, screening and addressing social determinants of health in the primary care setting may assist providers in breaking down barriers to care and overall help to improve chronic diseases management, leading to improved patient health outcomes. Future research should focus on improving the utilization of this tool in the outpatient setting, improving the screening process and the referral process, and further investigate the relationship between health outcomes and addressing social determinants of health to assist in identifying patients at increased risk for social determinants and for addressing social and health inequities.

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