5-2024

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

Arifa Khan
Sacred Heart University, khana5@mail.sacredheart.edu

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

A DNP Project Submitted in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice

Sacred Heart University Davis & Henley College of Nursing

May 2024

Acknowledgements

Thank you to Dr. Susan DeNisco, DNP, APRN, FNP-BC, FAANP, my DNP Project Faculty Advisor for her guidance and expertise throughout the development of this project. Her mentorship and encouragement have been instrumental to my success and helping this project come to fruition. I would also like to thank Dr. Constance Glenn, DNP, MSN, APRN, FNP- BC, CNE, for her support and supervision during the culmination of this project. Her compassion and understanding are greatly appreciated.

Lastly, this project would not have been achieved without the support of the Federally Qualified Health Center in Connecticut. Thank you to the stakeholders who provided me with the privilege to carry out this project within their organization.

Table of Contents

Abstract

Significance and Background: Social determinants play a major role in the overall health of our nation. While screening for social determinants of health (SDOH) in the primary care setting is encouraged, there is no streamlined process in place. Studies have determined that improved SDOH screenings can result in better patient outcomes and a decrease in healthcare costs. A protocol to improve SDOH screenings was needed to guide patient outcomes at a Federally Qualified Health Center (FQHC) in Connecticut.

Purpose: Deliver education to providers and healthcare staff across the health system on significance of social determinants of health and PRAPARE screening protocol in order to increase SDOH screenings.

Methods: Plan-Do-Study-Act. *Plan:* A screening protocol for SDOH was developed at the FQHC. Educational presentation was developed. *Do*: An educational session was conducted Via Zoom. PowerPoint presentation and educational materials were disseminated to providers and reception staff with an additional brief presentation at a staff meeting. *Study:* Data was gathered on screening rates for SDOH, as well as referrals made. *Act:* Present data to stakeholders.

Outcome: Over the seven-week implementation period, there were a total of 1,837 patients eligible for SDOH screening. Of this total, there were 631 completed SDOH screenings completed, with a total of 371 positive screens. Areas with positive responses included food insecurity (29), housing insecurity (70), financial strain (226), and lack of transportation (46). Financial strain posed to have the greatest percentage of positive responses, at 60% of all positive SDOH screenings recorded.

Discussion: The implementation and reinforcement of SDOH screenings performed during patient intake identified many areas where patients at the FQHC need support.

Keywords: social determinants of health, screenings, SDOH, PRAPARE, screening tool

Problem Identification, Development of Clinical Question, and Evidence Review

Background and Significance of Problem

Description of the Problem

Primary health care refers to a broad range of health services provided to the community. Services include disease prevention, acute health care, diagnosis and management of a medical condition, and long-term management of chronic conditions, such as chronic heart failure and diabetes (Behera, Prasad, & Shyambhavee, 2022). One of the main focuses of primary health care is ensuring that health care is accessible and does not result in financial burden. Unfortunately, health inequities and poor outcomes persist in the United States. According to Whitman et al., (2022), main drivers of health inequities include race, ethnicity, sexual orientation, gender identity, and disability. Economic and community-level factors such as geographic location, poverty status, and employment also play a role in health disparities. All these factors may be referred to as "social determinants of health (SDOH)." A study done by Hood et al. estimated that as much as 50 percent of health outcomes are directly affected by SDOH (2016). Health outcomes that are directly affected by these inequities include infant and maternal mortality, heart disease, diabetes, hypertension, diabetes, mental illness, substance abuse, and overall life expectancy (Whitman et al., 2022).

As stated by the CDC (2022), social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. SDOH can be grouped

into 5 domains: economic stability, education access and quality, health care access and quality, neighborhood and built environment, and social and community context. More specific examples of SDOH include safe housing, transportation, racism and discrimination, education, income, and access to nutritious foods and physical activity opportunities (Centers for Disease Control and Prevention, 2022). These factors contribute greatly to health disparities and inequities. For example, a lack of education may make it difficult to find employment, therefore resulting in poor income.

There are many programs and agencies, both nationally and worldwide, that focus on promoting public health. The Healthy People initiative created by the U.S. Department of Health and Human Services sets measurable objectives based on the latest public health priorities and challenges to improve the overall health and well-being of the nation (U.S. Department of Health and Human Services, 2022). One of the overarching goals of Healthy People 2030 is directly related to SDOH: "Create social, physical, and economic environments that promote attaining the full potential for health and well-being for all (U.S. Department of Health and Human Services, 2023)." On a larger scale, the World Health Organization (WHO), a United Nations agency, leads a global effort to promote good health for all (2023). The WHO has many goals in place related to acting on social determinants of health equity, including a multi-country initiative, which was launched in 2021 and involves rallying key stakeholders to "work directly with affected communities and individuals to address the root causes of inequities and to implement solutions (World Health Organization, 2023)."

A multitude of screening instruments that can be used by healthcare professionals to assess social determinants of health in the primary care setting are available. The Protocol for Responding to and Assessing Patients' Assets, Risks & Experience (PRAPARE) tool is "a

national standardized patient risk assessment protocol designed to engage patients in assessing and addressing social drivers of health (SDOH) (National Association of Community Health Centers, Inc & Association of Asian Pacific Community Health Organizations, 2022).” The PRAPARE screening tool focuses on four domains: personal characteristics, family and home, money and resources, and social and emotional health. Additionally, there is a PRAPARE Implementation and Action Toolkit, which was designed to provide users with necessary resources to guide implementation, data collection, and responses to social determinant needs (2022). Use of the tool can help providers get a better understanding of their patients SDOH through data collection, which promotes well rounded, patient-centered care. The PRAPARE screening tool will be used for this quality-improvement project to help assess the social needs of patients in an urban, federally qualified primary care facility, and connect them with the appropriate resources.

Description of Local Problem

Connecticut ranks 5th among states in life expectancy, at 80.9 in comparison to a national average of 78.5. However, there are large differences in life expectancy across Connecticut areas, which are driven by racial and ethnic differences in poverty, education, and access to healthcare (Access Health CT, 2021). Similar to Healthy People 2030, Connecticut has its’ own program in place to combat health inequities among the state. The Healthy People 2025 Initiative, developed by the Connecticut Health Improvement Coalition, focuses on four priority areas: access to healthcare, economic stability, healthy food and housing, and community strength and resilience. The goal of Priority area A, access to healthcare is, “ensure all Connecticut residents have knowledge of, and equitable access to, affordable, comprehensive, appropriate, quality health care (Department of Public Health, 2023).” This goal is important for the state of Connecticut as

disparities exist among the Hispanic population, who continue to have high numbers of uninsured and/or limited healthcare coverage (2023). This goal also aligns with the Healthy People 2030 goal of attaining the full potential of health for people nationwide.

The city of Bridgeport, CT is among those most greatly affected by inequity. There is a plethora of community resources available to patients in Bridgeport, including housing support, and financial support to help cover medication and other healthcare costs. Bridgeport is also home to a large Hispanic population, who continue to lack adequate healthcare coverage (Department of Public Health, 2023). There is an effort to screen for SDOH in the primary care setting, however there are inconsistencies regarding the use of the tool and when the best time to screen is. This may result in missing patients who need referrals to case management, social services, and other community resources. Use of a SDOH (PRAPARE) screening tool at primary care visits is necessary to influence health outcomes at the individual and community level and link patients and families to resources.

Organizational Priority

The FQHC has incorporated the PRAPARE screening tool into Epic, which is their electronic health record documentation system. A study done by Gold et al. (2017) determined that using an EHR to standardize SDOH data collection may facilitate diverse pathways to improved patient and population health outcomes. Use of an EHR enables staff to tailor the data collection process to their own needs. For example, features such as referral or ICD-10 tracking tools could be created. Also, alerts to identify patients who are overdue for a screening can be created to ease the workflow of clinical staff (Gold et al., 2017).

The medical director held an in-service for healthcare providers in May 2023 where she introduced the PRAPARE Tool and encouraged its use. Screening for social determinants of

health in the primary care setting allows providers to identify barriers in care and address the needs of patients. Additionally, data reported on social determinants of health can impact reimbursement at the health center. The National Committee for Quality Assurance (NCQA) is a nonprofit organization in the United States that focuses on improving health care quality through evidence-based standards, measures, programs, and accreditations (National Committee for Quality Assurance, 2018a). NCQA created the Healthcare Effectiveness Data and Information Set (HEDIS), which is a health care performance improvement tool. According to NCQA, HEDIS data helps "calculate performance statistics and benchmarks and set standards in NCQA Accreditation (National Committee for Quality Assurance, 2018b)." HEDIS focuses on six domains of care, including access/availability of care and measures reported using electronic clinical data systems. HEDIS data is tracked on a yearly basis to measure performance and quality of patient care. Consistently low HEDIS scores can result in a health center losing accreditation (2018b).

This project will be used to increase identification of SDOH in an urban federally qualified health center, as well as increase the number of patient referrals to case management.

Focused Search Question

The PICO question developed for this project based on the evidence search is as follows: In an urban federally qualified health center (P), how does the implementation of the PRAPARE tool (I) compared to no screening of social determinants of health (C) increase the identification of SDOH (O) within 7 weeks.

Evidence Search

External Evidence

A search of the following databases was conducted; CINAHL, MEDLINE, and TRIP. The keywords searched included assessment tools or screening tools, PRAPARE tool, social determinants of health or determinants of health, primary care. Limits and/or filters for all searches included English language and published between 2017-2023. Criteria used when selecting articles for rapid critical appraisal included the use of a screening tool and patient outcomes.

Internal Evidence

A report generated by Quality Assurance from the electronic health record showed that there were 20,322 patients seen between January 1st, 2023, to June 30th, 2023, with only 819 SDOH screenings completed. Of the 819 patients screened, there were 179 positive screenings.

Evidence Appraisal Summary, Synthesis, and Recommendations

Appraisal of each article was performed using the Rapid Critical Appraisal Tools. Six articles were reviewed that focused on the use of a social determinants of health screening tool within the primary care setting. Two articles were systematic reviews, one article a randomized control trial, 2 qualitative studies, one exploratory and finally one observational study. An evidence summary table with details of all the appraised articles is found in appendix C. The evidence supports that use of a screening tool to assess social determinants of health in the primary care setting leads to better patient outcomes. Based on the evidence, the recommendation is to perform a SDOH screening on internal medicine patients in the primary care setting.

An exploratory study conducted in Ontario implemented a poverty tool in family medicine and pediatric care settings. After attending a training session, primary care providers were instructed to perform universal screening using a clinical poverty tool with the question

"Do you ever have difficulty making ends meet at the end of the month?" over a three-month implementation period (Purkey et al., 2019). The implementation of screenings was viewed by patients and providers as important, however low screening rates were observed. This study identified multiple barriers to performing screenings, both at the provider and organizational levels. One provider who participated in the study stated that the screenings would be easier to perform if it could be done in the EMR. Other provider-level barriers included the fact that screenings were time consuming, and being uncertain about available resources for patients who screen positive (Purkey et al., 2019). Ultimately, this study concluded that organizational engagement is a crucial factor in successfully implementing a screening tool for SDOH.

An observational study done by Buitron de la Vega et al. (2019) focused on implementing an EHR-based screening and referral system to address social determinants of health in primary care. The screenings focused on housing and/or food insecurity, inability to afford medications, lack of transportation, unemployment, and educational aspirations. The screening and referral program, called *THRIVE*, screened for SDOH, captured responses as standard ICD-10 visit diagnoses in the EHR, and provided patients with resource referrals guides to help address unmet social needs (Buitron et al., 2019). The study concluded that implementing a screening tool using an EHR was successful in not only identifying patients with SDOH needs, but also providing them with appropriate resources.

Howell et al. (2023) conducted a qualitative study that deployed the PRAPARE tool in the EMR to assess SDOH in an ambulatory clinic and emergency department setting. The team was able to integrate a dedicated PRAPARE tool template in the EMR, and it was administered and documented face-to-face with patients. Data was collected monthly during initial integration to assess accuracy and template adjustments were made as needed. Staff also met monthly to

discuss challenges in workflow integration and use of data by clinical staff. Data analysis revealed that patients may be confused by the wording of questions, resulting in inaccurate reporting. The team also found that there were many duplicate questions, and this redundancy could also cause confusion for patients. The most prevalent social need risks discovered were resource-related, including a lack of insurance, unmet medicine and healthcare needs, and being at or below 100% of the federal poverty line (Howell et al., 2023). While clinical staff found the intervention helpful to assess social needs, a standardized referral process had not been established at the time of this study. Overall, this study concluded that integration of the PRAPARE tool in the EMR provides valuable information on SDOH, however strategies to improve the use of that information are necessary.

A qualitative research study to implement health-related social needs screenings in primary care practices in Colorado focused on effective communication with patients. Broaddus-Shea et al. (2022) stated that although many primary care practices provide screenings for social needs, there is little empirical evidence available to guide communication and ensure that patients are comfortable during the process. In order to address this issue, Improving Messaging Around Gaps in Needs and rEfferals (IMAGINE) study was created to develop and test patient-centered messages about screening and referral for SDOH. Ten staff members participating in the western Colorado Accountable Health Communities (AHC) initiative and twenty patients responsible for SDOH screenings in primary care practices were interviewed. A rapid qualitative analysis process was used to summarize interview transcripts among domains of interest and identify themes within each domain using a data matrix. This process allowed researchers to examine current communication about SDOH screening, as well as suggestions that could improve communication practices. The study concluded that in most cases, patients were given a

screening form at visits with very little context provided. The recommendation was that patients be provided with information that "normalizes the screening and referral process, assures privacy, clarifies that the purpose is to help and support rather than judge or report, emphasizes community benefits and respects patient autonomy (Broaddus-Shea et al., 2022)." These findings provide actionable suggestions for improving communication related to SDOH screenings and referrals across primary care settings.

A systematic literature review titled *Measuring the Effect of Social Determinants on Patient Outcomes* by Knighton et al. was designed to understand current research on the effect that patient material and social deprivation has on health care delivery outcomes and the potential benefit of clinical interventions designed to mediate this effect (2018). Results of the study determined that a standardized method to measure social determinants of health is necessary. Moreover, further research is needed to assess the benefits of interventions designed to serve the needs of patient populations affected by social determinants. As stated in the study, understanding the correlation between social determinants and health care outcomes "can assist health care organizations in designing effective interventions that address the potentially distinct needs of these more vulnerable populations, reduce health care disparities and lower the cost of care delivery (Knighton et al., 2018)."

Another systematic review by Pourat et al. (2023) investigated evidence related to the integration of SDOH into primary-care practices. The conceptual framework used in this study focused on four key steps: collecting and organizing patient-reported and community-level SDOH data, presenting and integrating SDOH data in primary-care workflows, developing electronic health records (EHRs)-based automated support and action based on SDOH data, and evaluating the impact of integrating SDOH into primary care. One very specific focal point was

on understanding how EHR tools can be utilized to enable SDOH reporting, and identifying the most relevant community-level SDOH to include in the EHRs (Pourat et al., 2023). Many studies reviewed reported creating or utilizing a database of community resources for referrals, either in an EHR or generic handouts/guides provided for patients. In addition, the majority had a referral protocol in place for patients who required follow-up services. However, several studies did not share how data was leveraged during care, and less than half reported sharing the data with care teams or discussing them with patients (Pourat et al., 2023). Ultimately, the studies concluded that significant effort in SDOH data collection is prominent, but more work is needed in using SDOH information to make referrals and implement interventions.

The evidence summary table and outcome synthesis table are attached as Appendices B and C.

Project Plan

Project Goals

1. Develop a screening policy and process for the internal medicine department at SWCHC.
2. Implement the PRAPARE Tool to increase the identification of SDOH among patients attending a community health setting over 7 weeks.
3. Increase the number of screened patients from baseline to 25%.
4. Identify patients with social needs/risks.

Context

The project setting included the Internal Medicine department at one location of a FQHC in Bridgeport, CT. This FQHC is also a designated patient-centered medical home. Services provided at this health center include, but are not limited to, internal medicine, mental health,

obstetrics and gynecology, substance abuse treatment, McKinney Homeless Health Care, and WIC and SNAP. Participants included providers, ECC staff, and all internal medicine patients.

Project Team Members and Roles

Former Chief Medical Officer at the FQHC reviewed and approved of the project, the procedure, and all educational materials related to the project, serving as the practice expert. The practice mentor assisted with implementation and data input onsite. The Quality Assurance team at the FQHC reviewed the project plan to ensure it met the quality improvement standards of the organization. Susan DeNisco DNP, APRN, FNP-BC, FAANP, a Professor of the Family Nurse Practitioner/Doctor of Nursing Practice at Sacred Heart University, and an Internal Medicine provider at the FQHC, and DNP project faculty advisor. Constance Glenn, APRN, MSN, FNP-BC, CNE, a Professor of the Family Nurse Practitioner/Doctor of Nursing Practice at Sacred Heart University, also served as a project advisor.

Key Stakeholders and Buy-in

Key stakeholders for this project included the medical director of Southwest Community Health Center, healthcare providers, nursing staff, patients, and families. Key staff involved in the implementation of this project included the ECC staff, MAs, and reception staff, who were responsible for distributing, collecting, and documenting the SDOH screening tool.

Framework

The framework used for this project was the Plan-Do-Study-Act cycle from The Model for Healthcare Improvement. (Institute for Healthcare Improvement, 2023). This DNP student used the PDSA cycle to develop a PICO question, perform a literature search, and develop recommendations based on findings of this QI project.

Plan Phase

The initial PDSA cycle was created to include identifying key stakeholders involved in the process. It also included determining the scope of the project. This model is compatible with any change models that organizations may already be using, and has potential to accelerate improvement and change (Institute for Healthcare Improvement, 2023). The project leader was responsible for creating a protocol for SDOH screening, which was presented for approval prior to project initiation.

Do Phase

The implementation phase was proposed to begin with the project leader presenting social determinants of health (SDOH) and the importance of PRAPARE screenings to the internal medicine staff. A modified PRAPARE screening handout was created by the project leader and made available to reception staff and providers. (Appendix A). ECC staff members were proposed to be responsible for inputting data from the PRAPARE screening tool handouts into Epic.

Study Phase

Data collection for this project required the assistance of the Quality Assurance team in compiling data documented during the implementation period. Data obtained included number of total patients eligible for screening, number of patients screened, and number of positive screenings. Data was further broken down into number of positive screenings in four areas: food insecurity, housing insecurity, financial strain, and lack of transportation. This data was analyzed prior to beginning the project, and after the 7-week implementation phase. The student met with the project mentor and practice expert every 3 weeks to see if the PDSA cycle was continuing according to plan, if the project prediction was accurate, as well as any other observations that

may have occurred as a result. (IHI, 2023). The student also rounded twice to obtain feedback about progress from the reception staff, administrators of the screening forms.

Act Phase

The last step in this PDSA cycle involved determining next steps, as the initial PDSA informs the plan for the second. At this point, the project leader evaluated and revised any processes considered to hinder progress of the project.

Barriers to Implementation

As anticipated, barriers to implementation included lack of staff buy-in related to an increase in workload, short-staffing, and lack of access to the EHR. Plans to address barriers included making implementation unit-wide, as opposed to assigning it solely to ECC staff members. Other ideas to mitigate barriers include making the screening form available electronically, as opposed to on paper.

Sustainment

The implementation of a SDOH screening tool at SWCHC is supported by the evidence, organization, and the staff. Sustainability was highly influenced by staff compliance in completing SDOH screenings.

Estimated Timeline

The estimated timeline for project completion reflected the project plan, anticipated completion of various aspects of the project, as well as major tasks. (Appendix B)

Review for Ethical Considerations

This project was presented to the Chief Medical Officer of the FQHC and determined that this project met the criteria for a quality improvement project based on the DNP quality improvement checklist (Appendix C). Additionally, Institutional Review Board exemption was

granted following exemption request submission to Sacred Heart University following project leader's completion of Citi Training Modules. (Appendix J).

Dissemination

The purpose of dissemination is to raise awareness, educate, and engage internal and external stakeholders (Agency for Healthcare Research and Quality [AHRQ], 2014). The dissemination plan included implementation of a SDOH screening tool at an FQHC and poster board presentation. An executive summary for the practice setting, an abstract, and poster for Sacred Heart University have been completed.

Project Implementation, Evaluation, Return on Investment

Project Implementation

A 7-week-phase began on December 18, 2023, through January 26, 2024. This phase was initiated with the development of a modified PRAPARE screening tool, which was approved by the CMO and presented during an educational in-service for providers at the FQHC. Educational material was also provided in the form of a PowerPoint to all providers and staff. PRAPARE screening handouts were provided to all Internal Medicine patients at the time of their visit, to be completed during their check-in. Screening handouts were then collected by members of the ECC team to be entered into the electronic health record. During the implementation process, some barriers were encountered which resulted in deviations from the original project plan.

Barriers to Implementation

Lack of Staff Buy-in

This initial idea for this project was for the SDOH screenings to be administered and entered into the EHR by nursing staff. However, a great deal of pushback was displayed by nursing management and staff. The reasoning behind this was that there were a limited number

of nurses available, and they already had an extensive list of responsibilities. For this reason, the project was assigned to the social work (ECC) staff.

Short staffing

Like the nursing staff, the ECC team unfortunately had a limited number of members available to carry out this project. This led to delays in documentation of screening results, as well as lack of communication.

Lack of EHR Access

Due to institution policies and HIPAA compliance, the student was not granted access to the EHR at the FQHC. This further delayed electronic documentation of screenings. Additionally, the student was not able to assess progress of implementation through the EHR.

Paper screening handouts

The team decided that administering the screening as a hard copy while in the waiting room was the most feasible option for this project. Unfortunately, this came with its own challenges. For example, there was instances where patients did not record their name, accurate date, and/or date of birth on the form, therefore these screenings had to be voided. Moreover, the screenings had to be manually entered into the EHR by the ECC, which was very time consuming, especially considering the lack of staff available to assist, and the fact that the student did not have access.

Evaluation

After the 7-week implementation period, data was provided by the analyst to reflect the number of SDOH screenings documented during this period. Data included the number of completed SDOH screenings, the number of positive screenings, and the number of patients eligible for screening, from December 18th, 2023 to January 26, 2024.

Process Measures

The process measures included introducing the SDOH screening policy and providing educational sessions to staff in order to integrate the policy. The educational sessions included valuable information for all staff, including what social determinants of health are, how they impact patients, and what this means for the FQHC. Registration/front desk staff were encouraged to help answer any questions patients had while completing the screening form. Providers were made aware of community and facility resources available for patients with a positive screen. These patients will also be contacted by the ECC team.

A 30-minute virtual session was conducted, as well as individual one-on-one meetings with providers and ancillary staff on two occasions at the FQHC.

Outcome Measures

Outcome measures for this project include the number of screenings performed, number of positive screenings found, as well as the number of patients who asked for assistance. Over the seven-week implementation period, there were a total of 1,837 patients eligible for SDOH screening. Of this total, there were 631 completed SDOH screenings, with a total of 371 positive screens, compared to 819 screenings done over the initial 6-month period assessed. Areas with positive responses included food insecurity (29), housing insecurity (70), financial strain (226), and lack of transportation (46), displayed in Figure 2. Financial strain posed to have the greatest percentage of positive responses, at 60% of all positive SDOH screenings recorded.

Figure 1. *SDOH Data Pre and Post Implementation Period*

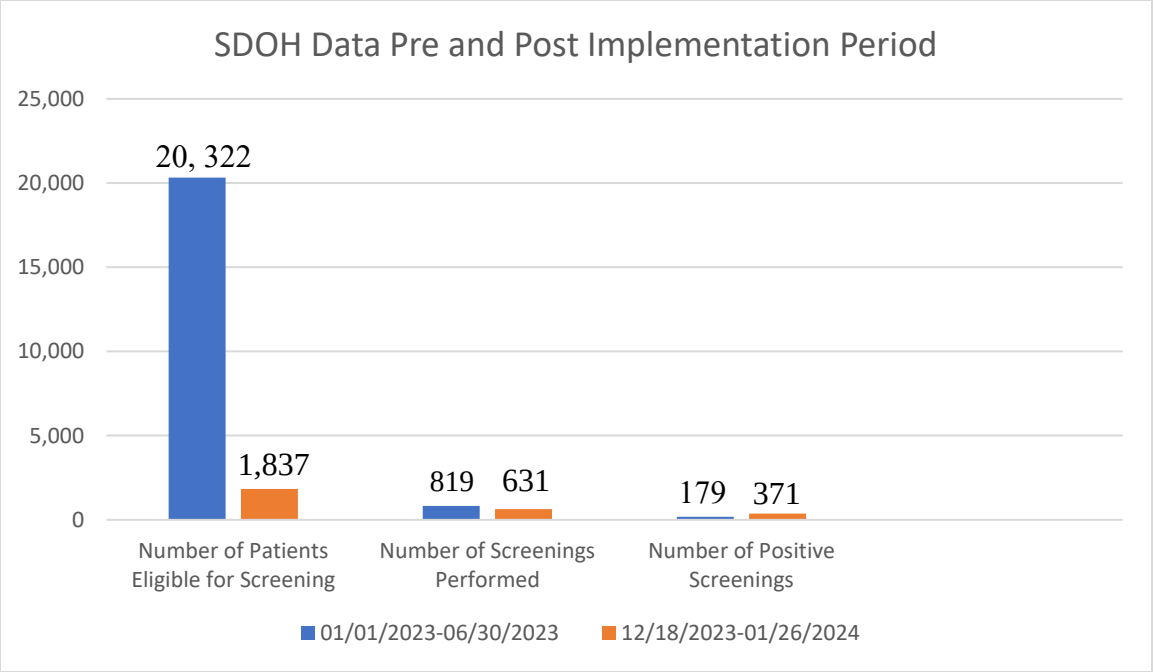
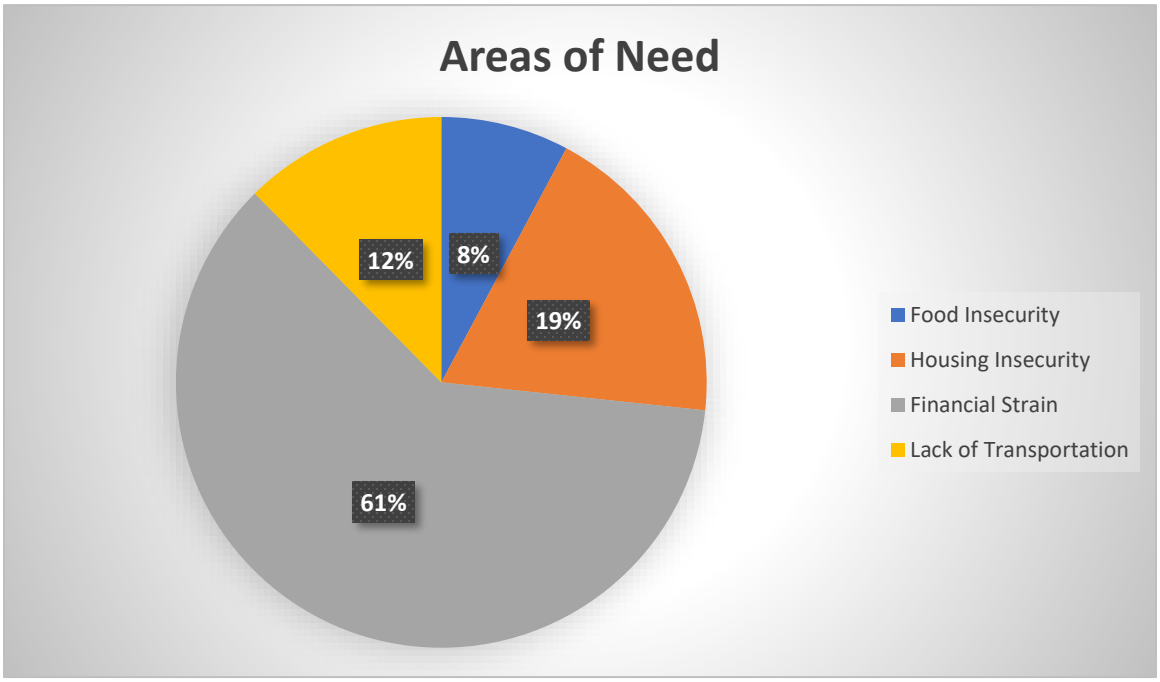


Figure 2. *Areas of Need*



Return on Investment

Final project expenses included the time of those involved in the project, and the cost of printing the screening forms. The project leader spent approximately 20 hours developing

educational materials, the screening forms, and educating and meeting with staff. The time spent on this project by the Project Coordinator, Quality Improvement Specialist, and Project Mentor was projected to be 3% of each member's estimated annual salary.

Table 1. *Estimated Project* Costs

Personnel Time		**Estimated cost**
DNP Student as Project Leader	$45/hour x 20 hours Educational Material Development and Educational Sessions: 20 hours **Total hours: 20 hours**	**$900**
Project Coordinator	3% of average annual salary $65,000	**$1,950**
Project Mentor	3% of average annual salary $88,000	**$2,640**
Quality Improvement Specialist	3% of average annual salary $82,000	**$2,460**
Materials		
HP67 Color Ink Cartridge	$17.89 x 8 cartridges for 100 single sided & 100 double sided prints	**$143.12**
Staples HP Multipurpose white 8.5" x 11" one ream (500 sheets)	$9.69 x 3= 1,500 sheets at $3.88	**$29.07**
Total Estimated Cost		**$8,122.19**

Return on investment cannot be specifically calculated, as this project focused on identifying patients with social needs/risks and helping to connect them with available resources within the community. Increasing awareness, education, and conducting screenings will help foster an environment where patients are not afraid to seek assistance. This will also improve provider and social workers' awareness of appropriate diagnoses (ICD10 codes) and resources and help them connect with patients on a deeper level, resulting in better patient care and outcomes.

Dissemination

Implications of Project Results to Organization and Community

The implementation of a social determinants of health screening tool for patients coupled with education for facility staff was an effective intervention to increase identification of patients with social needs/risks. Increasing screenings helps providers identify specific gaps in patients' care and allows them to connect patients with necessary community resources. This gives providers the opportunity to further develop relationships with their patients and provide well-rounded care.

Dissemination of Project Results Locally and Regional

Local and regional dissemination allow findings from this quality improvement project to guide practice changes within the organizations, as well as other healthcare organizations. A final PowerPoint presentation of this project was presented to the FQHC team and Sacred Heart University members. In addition, a poster presentation highlighting key components of the research project will be completed at Sacred Heart University in April 2024. To capture a broader audience, this project will be submitted for poster presentation consideration at the Connecticut Advanced Practice Registered Nurse Society's (CTAPRNS) annual conference later this year.

Key Lessons Learned

The first key lesson learned while carrying out this project is the importance of time management. Allotting adequate time to complete each phase appropriately, as well as to account for unexpected delays and setbacks, plays a huge role in successful outcomes. Considering that the FQHC was short-staffed, extra time was needed for data collection and entry. Factoring extra time at the beginning of this project may have reduced the burden on staff, prevented delays in data collection, and allowed for a longer implementation period.

Additionally, implementation of this project proved just how beneficial an interdisciplinary approach and collaboration can be. Although the nursing staff could not participate, other ancillary staff, such as registration staff, worked hard to complete data collection and entry. Due to the limited number of members, the ECC team could not have completed tasks on their own.

Sustainability Plan

While positive outcomes from this project have been acknowledged, at this time sustainability poses to be a challenge. The first threat to sustainability is staffing limitations. Unfortunately, there is not enough staff to perform screenings, or assist patients with completing the screening forms. Moreover, finding staff to enter data from the screening forms into the EHR has also been a challenge. This resulted in delays in data entry and documentation.

One solution to facilitate sustainability is to make the screen form available electronically. This would eliminate the need for staff to manually input screening results into the EHR, reducing the demands of staff. However, this is presently not feasible for the FQHC, and would come with its own complications. Much of the patient population seen at the FQHC are not computer literate and would require assistance completing the online form. This would again increase the demands of staff.

References

Access Health CT. (2021). *Health Disparities and Social Determinants of Health in Connecticut*. https://agency.accesshealthct.com/wp-content/uploads/2021/02/10811_01_AHCT_Disparities_Report_V4.pdf

Agency for Healthcare Research and Quality. (2014). Quick-Start Guide to Dissemination for Practice-Based Research Networks. Retrieved from https://pbrn.ahrq.gov/sites/default/files/AHRQ%20PBRN%20Dissemination%20QuickStart%20Guide_0.pdf

Behera, B. K., Prasad, R., & Shyambhavee (2022). Primary health-care goal and principles. *Healthcare Strategies and Planning for Social Inclusion and Development*, 221–239. https://doi.org/10.1016/B978-0-323-90446-9.00008-3

Broaddus-Shea, E. T., Fife Duarte, K., Jantz, K., Reno, J., Connelly, L., & Nederveld, A. (2022). Implementing health-related social needs screening in western Colorado primary care practices: Qualitative research to inform improved communication with patients. Health & Social Care in the Community, 30, e3075–e3085. https://doi.org/10.1111/hsc.13752

Buitron De La Vega, P., Losi, S., Sprague Martinez, L., Bovell-Ammon, A., Garg, A., James, T., Ewen, A. M., Stack, M., DeCarvalho, H., Sandel, M., Mishuris, R. G., Deych, S., Pelletier, P., & Kressin, N. R. (2019). Implementing an EHR-based Screening and Referral System to Address Social Determinants of Health in Primary Care. *Medical Care*, *57*(Suppl 2), S133–S139. https://doi.org/10.1097/MLR.0000000000001029

Centers for Disease Control and Prevention. (2022). *Social Determinants of Health*. Centers for Disease Control and Prevention. https://www.cdc.gov/about/sdoh/index.html

Department of Public Health. (2023). *State Health Improvement Plan*. https://portal.ct.gov/-/media/DPH/State-Health-Planning/CT_DPH_SHIP_Report_r1-10-6-2021.pdf

Gold, R., Cottrell, E., Bunce, A., Middendorf, M., Hollombe, C., Cowburn, S., Mahr, P., & Melgar, G. (2017). Developing Electronic Health Record (EHR) Strategies Related to Health Center Patients' Social Determinants of Health. Journal of the American Board of Family Medicine : JABFM, 30(4), 428–44. https://doi.org/10.3122/jabfm.2017.04.170046

Hood, C. M., Gennuso, K. P., Swain, G. R., & Catlin, B. B. (2016). County Health Rankings: Relationships Between Determinant Factors and Health Outcomes. *American journal of preventive medicine*, *50*(2), 129–135. https://doi.org/10.1016/j.amepre.2015.08.024

Howell, C. R., Bradley, H., Zhang, L., Cleveland, J. D., Long, D., Horton, T., Krantz, O., Mugavero, M. J., Williams, W. L., Amerson, A., & Cherrington, A. L. (2023). Real-world integration of the protocol for responding to and assessing patients' assets, risks, and experiences tool to assess social determinants of health in the electronic medical record at an academic medical center. *DIGITAL HEALTH*, *9*, 205520762311766. https://doi.org/10.1177/20552076231176652

Institute for Healthcare Improvement. (2022). *How to improve | IHI - institute for healthcare improvement*. Www.ihi.org. https://www.ihi.org/resources/Pages/HowtoImprove/default.aspx

Institute for Healthcare Improvement. (2023). *How to improve: Model for Improvement*. Institute for Healthcare Improvement. https://www.ihi.org/resources/how-to-improve

Knighton, A. J., Stephenson, B., & Savitz, L. A. (2018). Measuring the Effect of Social Determinants on Patient Outcomes: A Systematic Literature Review. *Journal of health care for the poor and underserved*, *29*(1), 81–106. https://doi.org/10.1353/hpu.2018.0009

National Association of Community Health Centers, Inc, & Association of Asian Pacific Community Health Organizations. (2022). *What is PRAPARE?* PRAPARE. https://prapare.org/what-is-prapare/

National Committee for Quality Assurance. (2018a). *About NCQA - NCQA*. NCQA. https://www.ncqa.org/about-ncqa/

National Committee for Quality Assurance. (2018b). *HEDIS - NCQA*. NCQA. https://www.ncqa.org/hedis/

Pourat N, Lu C, Huerta DM, Hair BY, Hoang H, Sripipatana A. A Systematic Literature Review of Health Center Efforts to Address Social Determinants of Health. Med Care Res Rev. 2023 Jun;80(3):255-265. doi: 10.1177/10775587221088273. Epub 2022 Apr 25. PMID: 35465766.

Purkey, E., Bayoumi, I., Coo, H., Maier, A., Pinto, A. D., Olomola, B., Klassen, C., French, S., & Flavin, M. (2019). Exploratory study of "real world" implementation of a clinical poverty tool in diverse family medicine and pediatric care settings. International Journal for Equity in Health, 18(1), 200. https://doi.org/10.1186/s12939-019-1085-0

Southwest Community Health Center. (2023). *Southwest Community Health Center: Mission, Vision & Value*. Www.swchc.org. https://www.swchc.org/about-our-company/mission-vision-and-value/

U.S. Department of Health and Human Services. (2022, April 6). *Healthy People | health.gov*. Health.gov. https://health.gov/our-work/national-health-initiatives/healthy-people

U.S. Department of Health and Human Services. (2023). *Social determinants of health*. Healthy People 2030; U.S. Department of Health and Human Services. https://health.gov/healthypeople/priority-areas/social-determinants-health

The Johns Hopkins University, The Johns Hopkins Hospital, and Johns Hopkins Health System. (2023). *Evidence-Based Practice*. Www.hopkinsmedicine.org. https://www.hopkinsmedicine.org/nursing/center-nursing-inquiry/nursing-inquiry/evidence-based-practice

Whitman, A., De Lew, N., Chappel, A., Aysola, V., Zuckerman, R., & Sommers, B. (2022). *Addressing Social Determinants of Health: Examples of Successful Evidence-Based Strategies and Current Federal Efforts*. https://aspe.hhs.gov/sites/default/files/documents/e2b650cd64cf84aae8ff0fae7474af82/SDOH-Evidence-Review.pdf

World Health Organization. (2023). *Action*. Www.who.int. https://www.who.int/initiatives/action-on-the-social-determinants-of-health-for-advancing-equity/about/our-action

Appendix A

Evidence Search

	Date of Search	Database (Source and Link)	Search or MeSH Terms	Operators (AND, OR, NOT)	Limits Used	Yield (Number of Articles Identified)
Example	6/4/2023	PubMed	PRAPARE tool	none	English language, systematic reviews	4
	6/4/2023	CINAHL Ultimate	PRAPARE tool, primary care or primary health care or primary healthcare	AND	English language, academic journals	1
	6/4/2023	CINAHL Ultimate	Social determinants of health, screening tool or assessment tool, primary care	And	English language, academic journals	56
	6/4/2023	MEDLINE with full text	PRAPARE tool	And	English language, academic journals	4
	6/4/2023	Trip	PRAPARE tool	And	English language, academic journals	3

MeSH = medical subject headings

Appendix B

RCA for one of the studies included in the evidence summary and synthesis.

Rapid Critical Appraisal Questions for EBP Implementation or Quality Improvement Projects

Indicate the extent to which the item is met in the published report of the EBP or QI project.

Validity of Evidence Synthesis (i.e., good methodology)	1-No	2-A Little	3-Somew	4-Quite a	5-Very much	Data to support rating
1. The title of the publication identifies the report/project as an evidence-based practice implementation or quality improvement project.					5	Title describes objective of project which is to implement tool to assess SDOH in emergency department setting
2. The project report provides a structured summary that includes, as applicable: data to establish the existent and background of the clinical issue, inclusion and exclusion criteria and source(s) of evidence, evidence synthesis, objective(s) and setting of the EBP or QI project, project limitations, results/outcomes, recommendation and implications for policy.					5	- Tool was implemented using convenience sample that is not representative of healthcare system as a whole - Evidence revealed that the most prevalent social need risks included lack of insurance, unmet medicine and healthcare needs, and being below federal poverty line
3. Report includes existing internal evidence to adequately describe the clinical issue					5	Explains the necessity of screening SDOH
4. Provides an explicit statement of the question being addressed with reference to participants or population/intervention/comparison/outcome (PICO).				4		Objective was to deploy PRAPARE tool in EMR to assess SDOH in emergency department setting.
5. Explicitly describes the search method, inclusion and exclusion criteria, and rationale for search strategy limits.			3			All patients seen through community health or emergency clinic were screened using PRAPARE tool.
6. Describes multiple information sources (e.g., databases, contact with study authors to identify additional studies, or any other additional search strategies) included in the search strategy, and date.	1					none
7. States the process for title, abstract, and article screening for selecting studies.	1					none
8. Describes the method of data extraction (e.g., independently or process for validating data from multiple reviewers).					5	

Validity of Evidence Synthesis (i.e., good methodology)	1-No	2-A Little	3-Somew	4-Quite a	5-Very much	Data to support rating
9. Includes conceptual and operational definitions for all variables for which data were abstracted (e.g., define blood pressure as systolic blood pressure, diastolic blood pressure, ambulatory blood pressure, automatic cuff blood pressure or arterial blood pressure).	1					N/A
10. Describes methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level).					5	No potential conflicts of interests declared
11. States the principal summary measures (e.g., risk ratio, difference in means).	1					none
12. Describe the method of combining results of studies including quality, quantity, and consistency of evidence.	1					No methods of combining results of studies as this article is a QI project and shares how the results of their studies were collected
13. Specifies assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).					5	No potential conflicts of interests declared
14. Describes appraisal procedure and conflict resolution.	1					none
15. Provides number of studies screened, assessed for eligibility, and included in the review, with reasons for exclusion at each stage, ideally with a flow diagram.					5	N=10,392 total patients were screened. Of this total, n=2705 filled out multiple assessments and n=1156 had more than 12 questions missing, so these were not included
16. For each study, presents characteristics for which data were extracted (e.g., study size, design, method, follow-up period) and provides citations.			3			Discussed in results section.
17. Presents data on risk of bias of each study and, if available, any outcome-level assessment.	1					No studies
18. For all outcomes considered (benefit or harms), include a table with summary data for each intervention group, effect estimates, and confidence intervals, ideally with a forest plot.					5	Multiple graphs/charts included
19. Summarizes the main findings including the strength of evidence for each main outcome; considering their relevance to key groups (i.e., health care providers, users, and policy makers).					5	Concluded that integrating PRAPARE assessment provides valuable information on SDOH amenable to intervention, and strategies are needed to increase accurate data collection and to improve the use of data in the clinical encounter.
20. Discusses limitations at study and outcome level (e.g., risk of bias), and at review level (e.g., incomplete retrieval of identified research, reporting bias).			3			Only limitation stated is that a convenience sample was used
21. Provides a general interpretation of the results in the context of other evidence, and implications for further research, practice or policy changes.					5	
Validity of Implementation (i.e., well-done project)						

Validity of Evidence Synthesis (i.e., good methodology)	1-No	2-A Little	3-Somew	4-Quite a	5-Very much	Data to support rating
1. Purpose of project flows from evidence synthesis					5	Detatils problem on a national and local level and the prupose/aim of project
2. Stakeholders (active & passive) are identified and communication with them is described			3			Team/staff members and where the QI project was taken place are included. Other specific stakeholders not mentioned
3. Implementation protocol is congruent with evidence synthesis (fidelity of the intervention)					5	
4. Implementation protocol is sufficiently detailed to provide for replication among project participants				4		Implementation protocol is described with enough detail to be replicated
5. Education of project participants and other stakeholders is clearly described					5	States in the setting section the staff members and their area of expertise of where the project was implemented (social workers, nurses)
6. Outcomes are measured with measures supported in the evidence synthesis					5	PRAPARE tool implementation
Reliability of Implementation Project (i.e., I can learn from or implement project results)						
1. Data are collected with sufficient rigor to be reliable for like groups to those participants of the project.					5	Project can be carried out in other primary care settings as well as other healthcare facilities/settings
2. Results of evidence implementation are clinically meaningful (statistics are interpreted as such)					5	Clearly stated in tables
Application of Implementation (i.e., this project is useful for my patients)						
1. How feasible is the project protocol?					5	Project was successful with increase in utilization rates
2. Have the project managers considered/included all outcomes that are important to my work?			3			Focus is on implementation and increasing use of PRAPARE tool to assess SDOH
3. Is implementing the project safe (i.e., low risk of harm)?					5	Project is safe and can help identify areas where patients need extra support
Summary Score	7	0	15	8	90	120

Recommendations with consideration of this type of level IV intervention evidence:

- 32–64: consider evidence with extreme caution
- 65–128: consider evidence with caution
- 128–160: consider evidence with confidence

Quality Rating for Organizational Experience (Quality improvement, program or financial evaluation) (Dearholt & Dang, 2018)

A <u>High quality:</u> Clear aims and objectives; consistent results across multiple settings; formal quality improvement or financial evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence

B <u>Good quality:</u> Clear aims and objectives; formal quality improvement or financial evaluation methods used; consistent results in a single setting; reasonably consistent recommendations with some reference to scientific evidence

C <u>Low quality or major flaws</u>: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement/financial analysis method; recommendations cannot be made

Dearholt, S., & Dang, D. (2018). *Johns Hopkins Nursing Evidence-based Practice: Models and Guidelines* (3rd ed.). Indianapolis, IN: Sigma Theta Tau.

Reference

Howell, C. R., Bradley, H., Zhang, L., Cleveland, J. D., Long, D., Horton, T., Krantz, O., Mugavero, M. J., Williams, W. L., Amerson, A., & Cherrington, A. L. (2023). Real-world integration of the protocol for responding to and assessing patients' assets, risks, and experiences tool to assess social determinants of health in the electronic medical record at an academic medical center. *Digital Health*, *9*, 20552076231176652. https://doi-org.sacredheart.idm.oclc.org/10.1177/20552076231176652

Appendix C

Evidence Summary Table

Citation	Conceptual Framework	Design/ Method	Sample/Setting	Major Variables Studied and Their Definitions	Outcome Measurement	Data Analysis	Findings	Level of Evidence	Quality of Evidence: Critical Worth to Practice
Author Year Title County Funding	**Theoretical basis for study**		**Number Characteristics Exclusion criteria Attrition**	**Independent variables IV1 = IV2 = Dependent variables**	**What scales used - reliability info (alphas)**	**What stats used**	**Statistical findings or qualitative findings**	**Level =**	**Strengths Limitations Risk or harm if implemented, Feasibility of use in your practice**
Keeper Article 1									
Howell CR, Bradley H, Zhang L, et al. Real-world integration of the protocol for responding to and assessing patients' assets, risks, and experiences tool to assess social determinants of health in the electronic medical record at an academic medical center. DIGITAL HEALTH. 2023;9. doi:10.1177/20552076231176652	Qualitative study	Deployment of screening tool	Setting: Ambulatory clinic and emergency department setting	Independent: utilization of screening tool to assess SDOH Dependent: population health initiatives	Social factors, economic status, education, resource referrals	*N* = 10,392 assessments administered, 6531 were summarized after removing multiple assessments (*n* = 2705) and those with missing data (*n* = 1156)	Qualitative	Level VI	Strengths: can be replicated Weaknesses: inaccurate or missing data Feasible: yes
Keeper Article 2									
Purkey, E., Bayoumi, I., Coo, H. *et al.* Exploratory study of "real world" implementation of a clinical poverty tool in diverse family medicine and pediatric care settings. *Int J Equity Health* **18**, 200 (2019). https://doi.org/10.1186/s12939-019-1085-0	This was an exploratory study of implementing a clinical poverty tool in a range of family medicine and pediatric care settings in the southeastern region of Ontario.	Implementing universal poverty screening and intervention in family medicine and a range of pediatric care settings (primary through tertiary)	Setting: family medicine and pediatric care settings	Independent: poverty screening Dependent: referrals to resources	Resource referrals	There were 6364 patient encounters and HCPs reported screening 581 patients (9%) over the three-month implementation period (Table 2). Among those patients, 165 (28%) screened positive for poverty. The majority of patients who screened positive (*n* = 122, 74%) were provided with an intervention. A thematic analysis using a phenomenological approach [24] to better understand the experience of HCPs with the implementation of poverty screening.	Qualitative	Level VI	Strengths: breadth of evaluation sites and practitioner types Weaknesses: potential for inaccurate or missing data Feasible: yes
Keeper Article 3 Buitron de la Vega, Pablo et al. "Implementing an EHR-based Screening and Referral System to Address Social Determinants of Health in Primary Care." *Medical care* vol. 57 Suppl 6 Suppl 2 (2019): S133-S139. doi:10.1097/MLR.0000000000001029	Observational study	This observational study assessed the number of patients who were screened to be positive and requested resources for social needs.	Setting: Boston Medical Center	Independent: HER-based screening and referral model Dependent: resource referrals	ICD codes, Resource referrals, feasibility	In total, 325 of 376 (86%) patients who requested resources received a relevant resource referral guide. Implementing a systematic clinical strategy in primary care using EHR workflows was successful in identifying and providing resource information to patients with SDOH needs.	Qualitative	Level VI	Strengths: identified patient needs Weaknesses: inaccurate data Feasible: yes
Keeper Article 4 Bechtel, N., Jones, A., Kue, J., & Ford, J. L. (2022). Evaluation of the core 5 social determinants of health screening tool. *Public Health Nursing (Boston, Mass.)*, *39*(2), 438–445. https://doi-org.sacredheart.idm.oclc.org/10.1111/phn.12983	Quasi-experimental	This study evaluated the effects of a **social determinants** of **health** (SDH) **screening tool** and service referral on emergency department (ED) use among patients at a Federally Qualified **Health** Center **primary care** clinic.	Setting: federally qualified health center primary care health center Sample: Three-hundred and eleven English-speaking patients 18 years and older.	Independent: 5 core SDH screening Dependent:	food, housing, utilities, transportation, and safety needs	The number of ED visits was significantly lower 3 months post-intervention compared to 3 months before for the 125 participants who wanted and received the SDH service referral (IRR = 0.64, 95% CI = 0.41, 0.99) and for the 35 participants who reported receiving some/all of the needed services at the 2-week follow-up (IRR = 0.36, 95% CI = 0.17, 0.76).	Quantitative	Level III	Strengths: Weaknesses: Feasible: yes

Keeper Article 5 Knighton AJ, Stephenson B, Savitz LA. Measuring the Effect of Social Determinants on Patient Outcomes: A Systematic Literature Review. J Health Care Poor Underserved. 2018;29(1):81-106. doi: 10.1353/hpu.2018.0009. PMID: 29503290.	Systematic review	This systematic literature review was designed to understand current research on the effect that patient material and social deprivation has on health care delivery outcomes and the potential benefit of clinical interventions designed to mediate this effect. The Conceptual Framework of Social Risk Factors for Healthcare Use, Outcomes and Cost ("the Framework") developed by NASEM was the basis for development of the analytic framework for the review.	Setting: All U.S. or Canadian patients receiving health care at a delivery system for any disease or condition	Independent: Deprivation or poverty and related clinical interventions Dependent: Delivery system interventions designed to mitigate the effect of deprivation on health care outcomes	Health outcomes, patient safety outcomes, patient experience outcomes	A total of 310 studies were identified for review with 80 studies included in the final synthesis.	Qualitative	Level I	Strengths: identified that material deprivation was associated with access to care/treatment received Weaknesses: Health services research regarding the impact of deprivation on health care outcomes is fragmented with limited interventions in place
Keeper Article 6 Pourat N, Lu C, Huerta DM, Hair BY, Hoang H, Sripipatana A. A Systematic Literature Review of Health Center Efforts to Address Social Determinants of Health. Med Care Res Rev. 2023 Jun;80(3):255-265. doi: 10.1177/10775587221088273. Epub 2022 Apr 25. PMID: 35465766.	Systematic review	This systematic literature review was conducted to understand the existing evidence of integration of SDOH into HC primary-care practices. This review was reported in accordance with the 2009 Preferred Reporting Items for Systemic Reviews and Meta-Analyses (PRISMA) statement.	Setting: primary health care centers	Independent: primary care health centers Dependent: evidence of integration of SDOH assessment		Database searches yielded 3,516 studies, of which 41 articles met the inclusion criteria. Study designs varied from randomized controlled trials (n = 5), quasi-experimental (n = 4), and observational (n = 30) designs. The latter included descriptive mixed methods (n = 6), qualitative (n = 7), and quantitative (n = 17) designs.	Qualitative	Level I	Strengths: revealed that studies focused on patient-level SDOH rather than community-level SDOH Weaknesses: the restriction of the review to English studies and HRSA-funded HCs limits generalizability to other populations.

Appendix D

Evidence Synthesis Table

Levels of Evidence Synthesis Table Template

	Articles Selected from Evidence Review														
X (copy symbol as needed)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Level I: Systematic review or meta-analysis		X													
Level II: Randomized controlled trial															
Level III: Controlled trial without randomization, quasi-experimental	X														
Level IV: Case-control or cohort study															
Level V: Systematic review of qualitative or descriptive studies															
Level VI: Qualitative or descriptive study, CPG, Lit Review, QI or EBP project			X												
Level VII: Expert opinion															

LEGEND

Outcomes Synthesis Table

	Articles Selected from Evidence Review														
↑, ↓, —, NE, NR, ✓ (select symbol and copy as needed)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Outcome #1: referrals to necessary services						✓									
Outcome #2: population health initiatives	✓														
Outcome #3: decreased ED visits	✓														
Outcome #4: use/implementation of EHR to aid in screening			✓												

SYMBOL KEY

↑ = Increased, ↓ = Decreased, — = No Change, NE = Not Examined, NR = Not Reported, ✓ = applicable or present

Appendix E

PRAPARE Tool

PRAPARE®: Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences
Paper Version of PRAPARE® for Implementation as of September 2, 2016

Personal Characteristics

1. Are you Hispanic or Latino?

	Yes		No		I choose not to answer this question

2. Which race(s) are you? Check all that apply

	Asian		Native Hawaiian
	Pacific Islander		Black/African American
	White		American Indian/Alaskan Native
	Other (please write):		
	I choose not to answer this question		

3. At any point in the past 2 years, has season or migrant farm work been your or your family's main source of income?

	Yes		No		I choose not to answer this question

4. Have you been discharged from the armed forces of the United States?

	Yes		No		I choose not to answer this question

5. What language are you most comfortable speaking?

Family & Home

6. How many family members, including yourself, do you currently live with? _____

	I choose not to answer this question

7. What is your housing situation today?

	I have housing
	I do not have housing (staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, or in a park)
	I choose not to answer this question

8. Are you worried about losing your housing?

	Yes		No		I choose not to answer this question

9. What address do you live at?
Street: _____
City, State, Zip code: _____

Money & Resources

10. What is the highest level of school that you have finished?

	Less than high school degree		High school diploma or GED
	More than high school		I choose not to answer this question

11. What is your current work situation?

	Unemployed		Part-time or temporary work		Full-time work
	Otherwise unemployed but not seeking work (ex: student, retired, disabled, unpaid primary care giver) Please write:				
	I choose not to answer this question				

12. What is your main insurance?

	None/uninsured		Medicaid
	CHIP Medicaid		Medicare
	Other public insurance (not CHIP)		Other Public Insurance (CHIP)
	Private Insurance		

13. During the past year, what was the total combined income for you and the family members you live with? This information will help us determine if you are eligible for any benefits.

_____

	I choose not to answer this question

PRAPARE
Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences

PRAPARE®: Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences
Paper Version of PRAPARE® for Implementation as of September 2, 2016

14. In the past year, have you or any family members you live with been **unable** to get any of the following when it was **really needed**? Check all that apply.

Yes	No	Food	Yes	No	Clothing
Yes	No	Utilities	Yes	No	Child Care
Yes	No	Medicine or Any Health Care (Medical, Dental, Mental Health, Vision)			
Yes	No	Phone	Yes	No	Other (please write):
		I choose not to answer this question			

15. Has lack of transportation kept you from medical appointments, meetings, work, or from getting things needed for daily living? Check all that apply.

	Yes, it has kept me from medical appointments or
	Yes, it has kept me from non-medical meetings, appointments, work, or from getting things that I need
	No
	I choose not to answer this question

Social and Emotional Health

16. How often do you see or talk to people that you care about and feel close to? (For example: talking to friends on the phone, visiting friends or family, going to church or club meetings)

	Less than once a week		1 or 2 times a week
	3 to 5 times a week		6 or more times a week
	I choose not to answer this question		

17. Stress is when someone feels tense, nervous, anxious, or can't sleep at night because their mind is troubled. How stressed are you?

	Not at all		A little bit
	Somewhat		Quite a bit
	Very much		I choose not to answer this question

Optional Additional Questions

18. In the past year, have you spent more than 2 nights in a row in a jail, prison, detention center, or juvenile correctional facility?

	Yes		No		I choose not to answer this

19. Are you a refugee?

	Yes		No		I choose not to answer this

20. Do you feel physically and emotionally safe where you currently live?

	Yes		No		Unsure
	I choose not to answer this question				

21. In the past year, have you been afraid of your partner or ex-partner?

	Yes		No		Unsure
	I have not had a partner in the past year				
	I choose not to answer this question				

Appendix F

PRAPARE
What is the highest grade or year of school you completed?
How hard is it for you to pay for the very basics like food, housing, heating, medical care, and medications?
What is your living situation today?
Number of positive responses to housing questions
In the past 12 months, has lack of transportation kept you from medical appointments, meetings, work or from getting things need…
How often do you see or talk to people that you care about and feel close to? (For example: talking to friends on phone, visiting fri…
Do you feel these kinds of stress these days?
Are you currently employed?
Would you like assistance with any of the above items?

Appendix G

DNP Project Roadmap

	Doctor of Nursing Practice Project Roadmap	
Component	**Definition**	**Date Done**
Phase 1: Problem Identification and Evidence Review		
Clinical Inquiry including background and significance of problem	Describe local problem and its significance. Include data to frame local problem.	05/16/23
Organizational priority	Summarize information that supports topic/problem is an organizational priority.	05/16/23
Searchable Question	Write a focused, searchable question using an established method (e.g. PICO).	05/28/23
Evidence search	External evidence • Summarize search strategy (e.g. databases, keywords, filters/limits, criteria for article selection, tools for critical appraisal). Include practice-based evidence (e.g. evidence-based solutions that experts/other health systems have implemented to address practice problem).	07/02/23
	Internal evidence • Summarize applicable unit/community/department/hospital/organizational level data or data required for national entities (e.g. CMS, NDNQI, AHRQ).	
	Perform needs assessment if applicable.	N/A
Evidence appraisal, summary, and recommendations	Organize evidence that answers focused clinical question in a clear concise format (e.g. table or matrix).	
	Appraise literature for quality and applicability of evidence using established method (e.g. Johns Hopkins Nursing EBP Research Evidence Appraisal Tool, Joanna Briggs Institute Critical Appraisal Tools, Fuld Institute for EBP critical appraisal tools etc.).	07/02/23
	State recommendations(s) and link to evidence strength and quality and risk/benefits.	

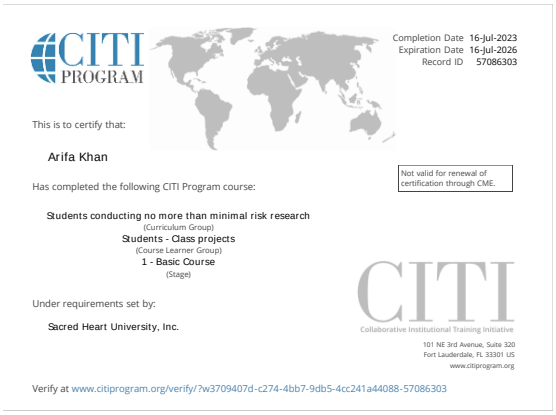
Phase 2: Project Planning		
Project goals	State intended, realistic outcomes of project using established method (e.g. SMART criteria).	07/11/23
Framework	Select framework/model to guide implementation (e.g. EBP model, QI framework, Change model).	07/11/23
Context	Describe project setting and participants or population, or other elements that are central to where the change will occur.	07/11/23
Key stakeholders	Identify agencies, departments, units, individuals needed to complete the project and/or affected by project, and strategies to gain buy-in.	07/11/23
Practice change/intervention	Provided detailed description of practice change or intervention (e.g. new or revised policy).	07/11/23
Evaluation	Summarize plan for evaluating the effectiveness of the practice change. Identify applicable process and outcome data to be collected/tracked and tools to do this. Identify the methods for analyzing/interpreting the data (e.g. control, run or Pareto charts).	07/11/23
Possible barriers to implementation	Identify possible barriers and implementation strategies to mitigate these barriers.	07/11/23
Sustainment	Identify strategies to sustain the change.	07/11/23
Timeline	Create a realistic timeline for project completion.	07/11/23
Resources	Identify all resources (e.g. indirect and direct) needed to complete the project.	07/11/23
Ethical merit	Identify and obtain the required review and approval needed for implementation (e.g. institution, community agency, IRB).	07/11/23
Phase 3: Implementation		
Implement project	Carry out the project using selected implementation framework/model.	08/28/23
	Track any deviations/changes from the project plan.	
Phase 4: Evaluation		
Results/Interpretation	Using an established method (e.g. run or control charts) display data and interpret project outcomes.	
	Report evaluation of the effectiveness of the practice change, including extent the practice change was	

	implemented (process outcome) and extent to which the desired outcome(s) were achieved.	
Return on investment	Identify the final resources that were used to implement the project. Calculate and report the return on investment.	
Phase 5: Dissemination		
Traditional	Disseminate to the project setting in a manner meaningful to them (e.g. executive report, poster, presentation at a meeting, poster with QR code to access details of project, etc.) Disseminate in the format required by the academic institution (e.g. poster, public presentation) and Prepare final project write-up using established reporting guidelines (e.g. EPQA, SQUIRE) and academic institution requirements.	4/01/2024
Non-traditional	Develop a website to display project, use personal or program social media (e.g. Twitter, Facebook) to share project information.	

PICO, Population, Intervention, Comparison, Outcome; **CMS**, Center for Medicaid and Medicare Services; **NDNQI**, National Dataset of Nursing Quality Indicators; **AHRQ**, Agency for Healthcare Research and Quality; **SMART**, specific, measurable, attainable, relevant, timely; **IRB**, Institutional Review Board; **EPQA**, Evidence-Based Practice Process Quality Assessment Guidelines; **SQUIRE,** Standards for Quality Improvement Reporting Excellence

Appendix H

CITI Trainings



CITI PROGRAM

Completion Date 16-Jul-2023
Expiration Date 16-Jul-2026
Record ID 57086303

This is to certify that:

Arifa Khan

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Students conducting no more than minimal risk research
(Curriculum Group)
Students - Class projects
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Sacred Heart University, Inc.

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w3709407d-c274-4bb7-9db5-4cc241a44088-57086303

CITI PROGRAM

Completion Date 16-Jul-2023
Expiration Date N/A
Record ID 57086341

This is to certify that:

Arifa Khan

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

CITI Health Information Privacy and Security (HIPS)
(Curriculum Group)
Information Privacy and Security (IPS)
(Course Learner Group)
1 - Basic Course
(Stage)

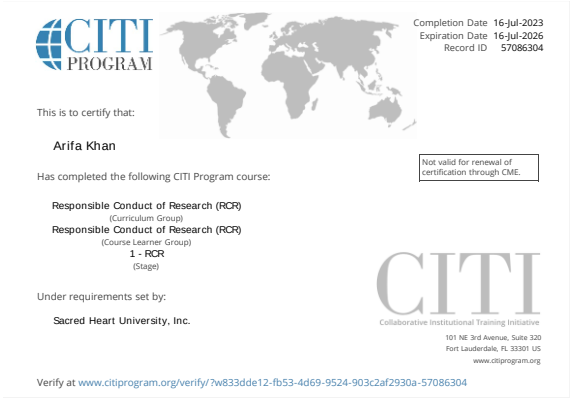
Under requirements set by:

Sacred Heart University, Inc.

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w943dba6d-6da3-49b7-9846-86b0444b07bb-57086341



CITI PROGRAM

Completion Date 16-Jul-2023
Expiration Date 16-Jul-2026
Record ID 57086304

This is to certify that:

Arifa Khan

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Responsible Conduct of Research (RCR)
(Curriculum Group)
Responsible Conduct of Research (RCR)
(Course Learner Group)
1 - RCR
(Stage)

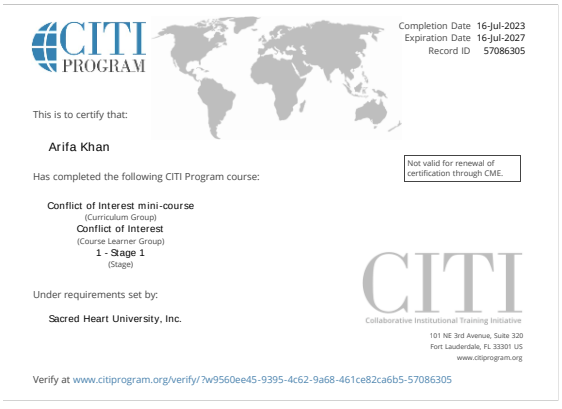
Under requirements set by:

Sacred Heart University, Inc.

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w833dde12-fb53-4d69-9524-903c2af2930a-57086304



CITI PROGRAM

Completion Date 16-Jul-2023
Expiration Date 16-Jul-2027
Record ID 57086305

This is to certify that:

Arifa Khan

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Conflict of Interest mini-course
(Curriculum Group)
Conflict of Interest
(Course Learner Group)
1 - Stage 1
(Stage)

Under requirements set by:

Sacred Heart University, Inc.

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w9560ee45-9395-4c62-9a68-461ce82ca6b5-57086305

Appendix I

PRAPARE Screening

Name:
DOB:
Date of Visit:

1. What is the highest grade or year of school you completed?

- Never attended school or only attended kindergarten
- Grades 1 through 8 (elementary)
- Grades 9 through 11 (Some high school)
- Grade 12 or GED (High school graduate, diploma, or alternative credential)
- College 1 year to 3 years (Some college, associate's degree, trade, or vocational school)
- College 4 years or more (college graduate)

2. How hard is it for you to pay for the very basics like food, housing, heating, medical care, and medications?

- Not hard at all
- Somewhat hard
- Very hard
- Hard to pay for (specify): _____

3. What is your living situation today?

- 0= I have a steady place to live
- 1= I have a place to live today, but I am worried about losing it in the future
- 2= I do not have a steady place to live (I am temporarily staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)

4. In the past 12 months, has lack of transportation kept you from medical appointments, meetings, work or getting things needed for daily living?

- Yes, it has kept me from medical appointments or getting medications
- Yes, it has kept me from non-medical meetings, appointments, work, or getting things that I need
- No

5. How often do you see or talk to people that you care about and feel close to? (For example: talking to friends on the phone, visiting friends or family, going to church or club meetings)

- Less than once a week
- 1-2 times a week
- 3-5 times a week
- 5 or more times a week

6. Are you currently employed?

- Yes
- No

7. Are you seeking work?

- Yes
- No

8. Would you like help finding a job?

- Yes
- No

9. Would you like to be connected with job training resources?

- Yes
- No

10. Would you like information about language classes or other educational opportunities?

- Yes
- No

11. Do you feel these kinds of stress these days?

- Not at all
- A little bit
- Somewhat
- Quite a bit
- Very much

12. Would you like assistance with any of the above items?

- Yes, I would like assistance
- No, not at this time

13. Type of assistance

- 1= written information
- 2= contact me

14. What do you want help with?
- Health literacy
- Transportation
- Relationships
- Education
- Utilities
- Employment
- Financial strain
- Physical activity
- Housing
- Stress
- Food
- Isolation

Appendix J

Dear Applicant,
Thank you for your submission to the IRB requesting exempt review. Based on the application submitted, the IRB is pleased to approve your submission and we wish you great success in your research.

Sincerely,
Christopher Taber
Chair, IRB

Christopher B. Taber, PhD, CPSS, CSCS*D, USAW3, EP-C
Director, Exercise and Sport Science M.S. Program
Associate Professor
College of Health Professions
Sacred Heart University
(203) 396-6342

Appendix K

Executive Summary

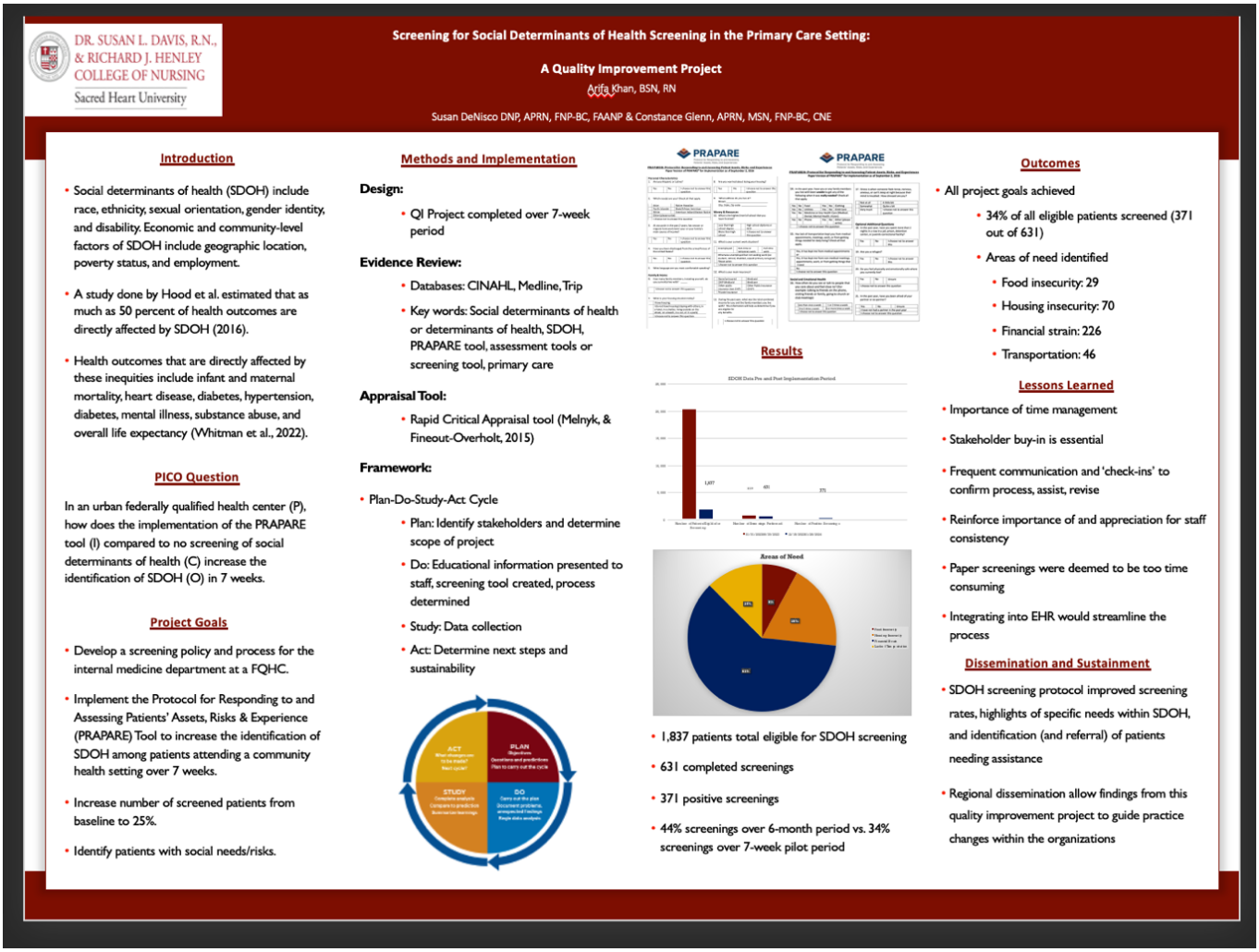
Social determinants play a major role in the overall health of our nation. A protocol to screen for social determinants of health was needed at a Federally Qualified Health Center (FQHC). The Protocol for Responding to and Assessing Patients' Assets, Risks & Experience (PRAPARE) tool is "a national standardized patient risk assessment protocol designed to engage patients in assessing and addressing social determinants of health (SDOH) (National Association of Community Health Centers, Inc & Association of Asian Pacific Community Health Organizations, 2022)." The PRAPARE screening tool focuses on four domains: personal characteristics, family and home, money and resources, and social and emotional health. The PRAPARE screening tool was used for this quality-improvement project to help assess the social needs of patients in an urban, federally qualified primary care facility, and connect them with the appropriate resources.

For this project, the Plan-Do-Study-Act cycle was used to provide staff education on importance behind social determinants of health screenings and to implement the screening protocol. In the Plan phase, a screening protocol for SDOH was developed at the FQHC. In the Do phase, an educational session was conducted Via Zoom. PowerPoint presentation and educational materials were disseminated to providers and reception staff with an additional brief presentation at a staff meeting. In the study phase, data was gathered on screening rates for SDOH and appropriate referrals were made. Lastly, in the Act phase, data was presented to key stakeholders.

Over the seven-week implementation period, there were a total of 1,837 patients eligible for SDOH screening. Of this total, there were 631 completed SDOH screenings completed, with

a total of 371 positive screens. Areas with positive responses included food insecurity (29), housing insecurity (70), financial strain (226), and lack of transportation (46). Financial strain posed to have the greatest percentage of positive responses, at 60% of all positive SDOH screenings recorded. The implementation and reinforcement of SDOH screenings performed during patient intake identified many areas where patients at the FQHC need support.

Appendix L



DR. SUSAN L. DAVIS, R.N., & RICHARD J. HENLEY COLLEGE OF NURSING
Sacred Heart University

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

A Quality Improvement Project

Arifa Khan, BSN, RN

Susan DeNisco DNP, APRN, FNP-BC, FAANP & Constance Glenn, APRN, MSN, FNP-BC, CNE

Introduction

- Social determinants of health (SDOH) include race, ethnicity, sexual orientation, gender identity, and disability. Economic and community-level factors of SDOH include geographic location, poverty status, and employment.
- A study done by Hood et al. estimated that as much as 50 percent of health outcomes are directly affected by SDOH (2016).
- Health outcomes that are directly affected by these inequities include infant and maternal mortality, heart disease, diabetes, hypertension, diabetes, mental illness, substance abuse, and overall life expectancy (Whitman et al., 2022).

PICO Question

In an urban federally qualified health center (P), how does the implementation of the PRAPARE tool (I) compared to no screening of social determinants of health (C) increase the identification of SDOH (O) in 7 weeks.

Project Goals

- Develop a screening policy and process for the internal medicine department at a FQHC.
- Implement the Protocol for Responding to and Assessing Patients' Assets, Risks & Experience (PRAPARE) Tool to increase the identification of SDOH among patients attending a community health setting over 7 weeks.
- Increase number of screened patients from baseline to 25%.
- Identify patients with social needs/risks.

Methods and Implementation

Design:

- QI Project completed over 7-week period

Evidence Review:

- Databases: CINAHL, Medline, Trip
- Key words: Social determinants of health or determinants of health, SDOH, PRAPARE tool, assessment tools or screening tool, primary care

Appraisal Tool:

- Rapid Critical Appraisal tool (Melnyk, & Fineout-Overholt, 2015)

Framework:

- Plan-Do-Study-Act Cycle
  - Plan: Identify stakeholders and determine scope of project
  - Do: Educational information presented to staff, screening tool created, process determined
  - Study: Data collection
  - Act: Determine next steps and sustainability

Results

- 1,837 patients total eligible for SDOH screening
- 631 completed screenings
- 371 positive screenings
- 44% screenings over 6-month period vs. 34% screenings over 7-week pilot period

Outcomes

- All project goals achieved
  - 34% of all eligible patients screened (371 out of 631)
  - Areas of need identified
    - Food insecurity: 29
    - Housing insecurity: 70
    - Financial strain: 226
    - Transportation: 46

Lessons Learned

- Importance of time management
- Stakeholder buy-in is essential
- Frequent communication and 'check-ins' to confirm process, assist, revise
- Reinforce importance of and appreciation for staff consistency
- Paper screenings were deemed to be too time consuming
- Integrating into EHR would streamline the process

Dissemination and Sustainment

- SDOH screening protocol improved screening rates, highlights of specific needs within SDOH, and identification (and referral) of patients needing assistance
- Regional dissemination allow findings from this quality improvement project to guide practice changes within the organizations