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Descriptive Report

Implementation of Social Determinants of Health Screening in a Student-Run Physical Therapy Pro Bono Clinic

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Abstract

Addressing non-medical factors impacting health is essential for health equity. While addressing social determinants of health (SDOH) has become a standard in primary care, it is vital within rehabilitation services as well. This report describes the implementation of screening for SDOH at a university pro bono physical therapy clinic in an urban community. Insights into best practices for implementation were outlined and a nine-question SDOH screening questionnaire was developed. Baseline data of 80 clients identified access to healthy food and payment of basic expenses as the most common SDOH requiring follow-up. Several considerations for implementation were identified including the complex nature of factors impacting care and the need for thoughtful follow-up questions to provide appropriate resources and care.

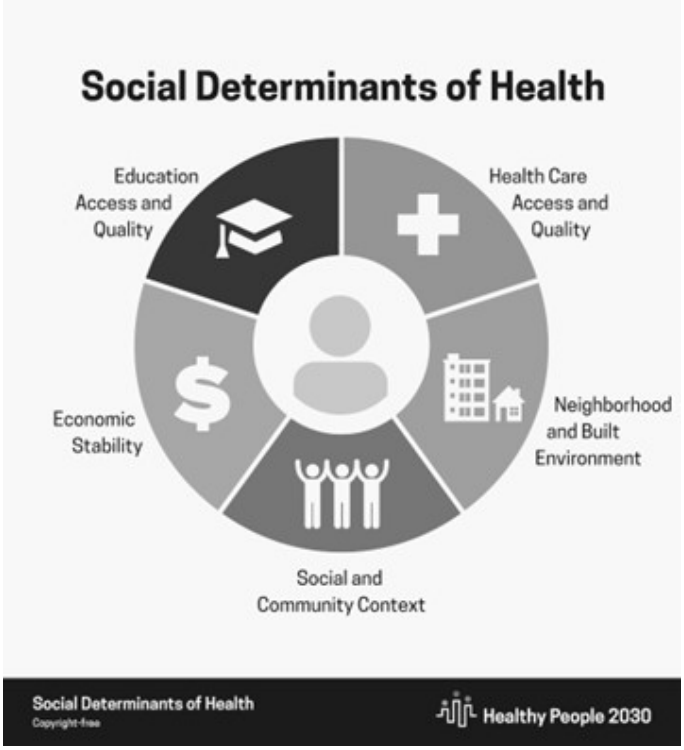
Introduction

Social determinants of health (SDOH), as defined by the World Health Organization, are the "non-medical factors that influence health outcomes".[1] These factors include economic stability, education, health care, neighborhood and built environment, and social and community context (Figure 1).[2,3] SDOH profoundly influence overall health status and are responsible for significant health disparities, accounting for 80-90% of the total impact on health outcomes.[4] Much of the current evidence regarding the effect of SDOH on overall individual and community health has been centered around socioeconomic status (SES). Individuals from low SES groups experience worse outcomes related to cardiovascular health, stress levels, reliance on safety-net providers, substance use, self-perceived health status, risky health behaviors, and all-cause mortality as compared to individuals from higher SES groups.[5] Additionally, patients reporting higher SDOH needs such as low SES and lower educational attainment have poorer outcomes following physical therapy intervention for low back pain.[6,7]

To meet the needs of clients, healthcare providers should first identify the important non-medical factors impacting health. Screening for SDOH in health clinics is the essential first step towards bridging the gap of health inequity. While there is currently no standard screening tool for SDOH, the Institute of Medicine endorses a checklist focusing on the following domains: food insecurity, housing instability, utility needs, and financial resource strain.[2] In an urban primary care setting, the most prevalent patient needs identified were difficulties affording healthcare (46.5%), food (40.1%), and utilities (36.3%).[6] Patients who reported unmet needs were more likely to have depression, diabetes, hypertension.[8] They also were more likely to use the emergency room more frequently and have higher "no show" rates for scheduled clinical appointments.[8]

Similarly, in the physical therapy setting, SDOH have been linked to both higher prevalence and poorer outcomes of chronic low back pain.[9] These findings highlight the potential impact of SDOH on overall health and patient outcomes. While assessing SDOH has become a focus in

Figure 1. Social determinants of health[3]



primary care, it is vital within rehabilitation services as well. The American Physical Therapy Association recognizes the importance of addressing SDOH, and charges physical therapists to "recognize health inequities and disparities, and work to ameliorate them through innovative models of service delivery, advocacy, attention to the influence of the social determinants of health on the consumer, collaboration with community entities to expand the benefit provided by physical therapy, serving as a point of entry to the health care system, and direct outreach to consumers to educate and increase awareness.[10] A study by Braaten et al[11] found that individuals from higher SES groups with health insurance and access to reliable transportation are more likely to utilize physical therapy services, validating that those from lower SES groups are at a disadvantage.[11] Having a clear understanding of how SDOH impact access to and utilization of physical therapy services is crucial in reducing disparities in health care outcomes and clinical decisions made by rehabilitation professionals.[11]

To understand the impact of SDOH on access and utilization of physical therapy services, clinics should implement SDOH screening for all patients as part of the routine intake process. However, there are barriers to implementing SDOH screening. In a study of occupational and physical therapists, reported barriers were lack of time, training and resources/tools, and feeling uncomfortable engaging patients on this topic.[12] Additionally, the literature lacks examples of integration of SDOH screening in physical therapy practice, which is especially relevant in pro bono settings. The purpose of this study is to describe the implementation process, provide initial data findings, discuss successes and challenges, and suggest best practices for SDOH screening in the physical therapy setting.

Materials and Methods

Clinic Background

The Grand Valley State University (GVSU) Pro Bono Physical Therapy clinic was established in 2000, with the mission of "Providing pro bono physical therapy services to those in the Grand Rapids

community who cannot afford health care and to provide learning opportunities to licensed and student physical therapists." The clinic operates one day per week in downtown Grand Rapids, Michigan, serving individuals who do not have health insurance, are underinsured, or do not have physical therapy as a covered benefit within their insurance plan. Approximately 70% of the clients are non-English speaking, with Spanish as the most common primary language. Funding, primarily for interpreters, is provided by small grants and donations to the clinic.

Students are highly involved with the management and success of the clinic. Five student volunteers from each Doctor of Physical Therapy (DPT) program cohorts serve as student coordinators who receive supervision from a faculty member. Student coordinators manage the daily operation of the clinic, including scheduling of patients, volunteers, and interpreters, as well as new volunteer orientation, communication with providers, assessing equipment/space needs, tracking patient care, and quality improvement activities. Each week, a student physical therapist and a licensed faculty or community physical therapist volunteer to collaborate and provide care. Students have completed at least one clinical rotation prior to volunteering; no course credit is earned for their participation. Typically, one or two 3-hour shifts are scheduled each week, and clients are seen for 1-hour appointments. Clients are seen at a maximum of one per week but are more typically seen every two to three weeks. Thus, the focus of physical therapy care is on education and instruction in a home exercise program.

Process Implementation

Many clients have personal and environmental factors that impact their care. The International Classification of Functioning, Disability, and Health (ICF) model allows for a better understanding of the context in which function and disability occur, with consideration of the impact of both personal and environmental factors on an individual's health condition.[13] In alignment with the ICF model of care, the clinic implemented a process to assess SDOH of all physical therapy clients.[13]

Prior to the implementation of the SDOH screening process in the clinic, a faculty task force identified and integrated four best practices.[14] The first step in this process was to acknowledge and understand the personal biases of physical therapists and student physical therapists. For students, this was addressed by adding specific curricular content related to SDOH, implicit bias, and cultural competence to a required course occurring during the first semester in the DPT education program, before volunteering in the clinic. Students completed the Intercultural Development Inventory (IDI)® (IDI, LLC, Maryland) to help assess and guide their personal cultural competence development. Several opportunities for identification and exploration of SDOH, personal biases, and cultural competence related to health care delivery were integrated throughout the program curriculum. Faculty also completed the IDI and took advantage of several opportunities to identify and explore personal biases and cultural competence. The next best practice consideration was acknowledging that screening of SDOH should not be based on apparent social status,[14] meaning that all pro bono clinic clients should complete the screening form. Thirdly, if screening of SDOH occurs, any identified concerns should be immediately addressed.[14] In response, the task force and student coordinators compiled a list of related resources including emergency contact and hotline numbers, low-cost options for primary care services, centralized resources for food and financial assistance, and community health and wellness resources. A social worker provided the emergency/hotline numbers and food/financial assistance. Community health and primary care resources were obtained from the *Free Clinics of Michigan* listing. Free bus passes were acquired to provide patients with transportation needs. The final best practice consideration is that all pro bono clinic students, therapists, and clients must understand the process (Figure 2). Volunteer orientation to the pro bono clinic includes specific instructions on SDOH screening, provision of resources, and follow-up. For example, if a client has an urgent need, the therapist should call the emergency number. If there are non-urgent needs, resource suggestions are provided. The therapist can help coordinate these services if requested. Clients are made aware of the purpose of the screening and informed that the clinic is a safe space for disclosure.

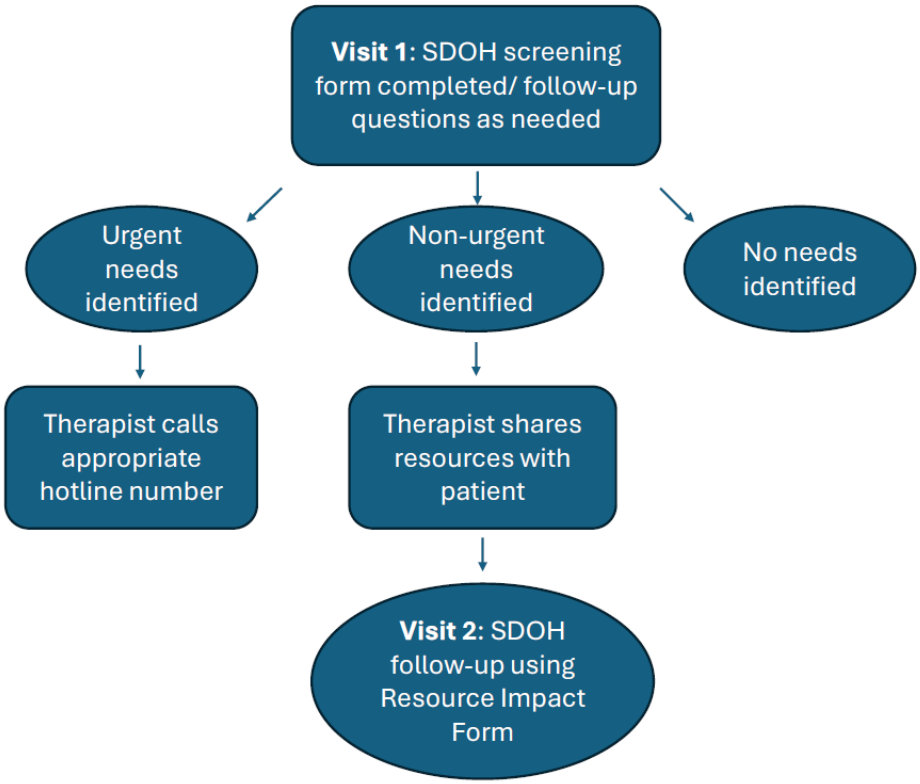
A nine-question SDOH screening form (Appendix A), adapted from Bourgois et al[15] was created for the GVSU Pro Bono Physical Therapy clinic and was professionally translated into Spanish. All clients are asked to complete the SDOH screening form and patient intake paperwork. On the rare occasion that a patient speaks a language other than English or Spanish, the questions are asked verbally to the client via an interpreter. To assist clinical volunteers, an instructional sheet with potential follow-up questions for clients (Appendix B) is provided. If resources are offered and accepted by the client, a follow-up form (Appendix C) is placed in their chart. The follow-up form is used during future visits to assess if the resources were utilized, if they were helpful, and to determine if additional resources are needed.

All SDOH screening forms were de-identified as part of the data collection process. Data from all forms were entered into an Excel spreadsheet and descriptive statistics were calculated. Additional demographic data, such as occupation, was not collected to protect the anonymity of the clients. The GVSU institutional review board determined that this study does not meet the federal regulations for human subjects' research and categorized it as a clinical quality improvement project.

Outcomes

Between May of 2021 and November of 2023, 80 new clients, all over the age of 18, presented to the clinic and completed the SDOH screening form. Seventy percent reported Spanish as their primary language; the remainder reported English as their primary language. All patients were uninsured or had no coverage for physical therapy services. The top two SDOH items requiring follow-up questions and potential provision of resources were healthy food and payment of basic expenses (Table 1). Conversely, over 96% of clients reported always having a safe place to live and sleep while 90% reported the places where they spend their day always feel safe and healthy.

Figure 2. Social determinants of health screening process



SDOH = Social Determinants of Health

Table 1. Responses to social determinants of health screening (n=80)

Screening Question	Response Choices	% of Respondents
Does anything impact your ability to attend health care appointments?	Always	5
	Sometimes	34
	Never	61
Do you have a primary care provider?	Always	64
	Sometimes	16
	Never	20
Do you understand the documents and papers you must read and submit to obtain health care and/or social services and resources you need?	Always	68
	Sometimes	31
	Never	1
Do you have adequate nutrition and access to healthy food?	Always	44
	Sometimes	47
	Never	9
Are you able to pay your basic expenses: rent, groceries, utilities, phone?	Always	56
	Sometimes	35
	Never	9
Do you have a safe and stable place to live and sleep?	Always	96
	Sometimes	4
	Never	0
Do the places where you spend your time each day feel safe and healthy?	Always	91
	Sometimes	9
	Never	0
Do you have friends, family, or others who help you when you need it?	Always	62
	Sometimes	34
	Never	4
Is there anything else that might limit your ability to participate in physical therapy?	Yes	15
	No	85

Discussion

Through project evaluation by the research team and the clinic's quarterly quality assessment processes by the lead researcher and student coordinators, several considerations regarding SDOH screening in the physical therapy setting have been identified. First, it is difficult to identify all SDOH and the nuanced complexity of individual needs with the use of a screening form. For example, many clients reported working multiple jobs to make ends meet. This frequently resulted in the ability to pay basic expenses but seemingly at the cost of being overworked. Some clients reported a fear of losing their jobs if they took time off, so they continued to work despite worsening the impairments associated with the reason for their participation in physical therapy. Many clients seemed to have a general lack of understanding of how physical therapy could benefit them. Thus, there is a need to ensure that students and therapist volunteers are trained to ask follow-up questions beyond the screening form, adapt to individual client needs and circumstances, and ensure patients understand the benefit of the prescribed physical therapy plan of care. For example, a treatment plan for someone who has been unhoused would include exercises that can be performed in a variety of environments without requiring the use of furniture. Finally, it is important to acknowledge that the resources offered to our clients may not adequately address their complex and unique needs, due to the

limitations of our program and current societal structures and health care systems. Future research is needed to explore the patient's perceived effectiveness in the resources provided to them.

Additional considerations surrounding logistics and process improvement have also been identified. In a study by Palakshappa et al[16] that assessed screening of SDOH in free and charitable clinics in North Carolina, only 49.1% of the clinics that screened for SDOH followed up with clients receiving and using suggested resources. A lack of personnel and no established method of follow-up were barriers identified in the study. [16] The GVSU clinic experienced similar difficulty with follow-up. Because different students and therapists volunteer in the clinic each week, forms used to follow up with clients on resources previously provided have not been consistently utilized. Follow-up on resource utilization is essential to efforts that attempt to positively influence SDOH, rather than just screen for and identify them. To address this limitation, clinic coordinators started attaching the follow-up form to the front of each chart for those clients who were previously provided with SDOH resources. Given weekly changes in clinic personnel, SDOH resources available for clients need to be kept in a visible, easily accessible place that facilitates consistent provision of these services. Future follow-up with community partners regarding the effectiveness of resources in meeting clients' needs would be beneficial.

Initial descriptive data highlighted a key area for consideration. Adequate nutrition and access to healthy food commonly required provider follow-up through further questioning or provision of resources. It is well known that poor nutrition is a risk factor for poor overall health and chronic disease. Clients who are present with food insecurity, by definition, suffer from poor nutrition as an outcome of this SDOH factor. While the impact of poor nutrition is well known for overall health, food insecurity specifically is associated with chronic pain.[17] Although chronic pain is complex and multi-factorial, food insecurity had a stronger association with chronic pain than other socioeconomic factors. It should be noted that poor nutrition can impact chronic pain in multiple ways including systemic inflammation and obesity, and chronic pain also can influence poor nutrition through various mechanisms including reduced appetite and the inability to work and afford food.[17] This complex relationship between chronic pain and nutrition highlights the importance of screening for SDOH in the physical therapy setting where pain is a common symptom that contributes to impairments and participation restrictions. Health clinics for the underserved may consider integrating a food pantry. Feed1st, a program in Chicago, added a food pantry in 11 medical centers to combat food insecurity.[18] The program successfully provided 36,000 meals in 21 months, demonstrating the potential impact of a program designed to directly impact social determinants of health in an urban setting.[18] If a health clinic does not have the resources to integrate a food pantry, distributing information about easily accessible food pantries, including the hours and location, may help increase the use of the resource.

Limitations

This study focused on the implementation process, challenges, and recommendations for best practice; thus, only initial data findings are presented. The sample size is small and only represents one pro bono clinic limiting the generalizability of the findings. Language and cultural barriers were addressed by students receiving training on cultural competence, having all documents professionally translated, and always having a qualified medical interpreter present to help navigate the process with clients. However, it is possible that not all SDOH questions or the general process were fully understood by all clients. Furthermore, since not all students are required to participate, student learning outcomes could not be measured and future research in this area is warranted.

Conclusion

While conclusions regarding effectiveness cannot be made from these initial descriptive findings, it is important to recognize the effort to systematically address issues that have been shown to significantly impact health outcomes. Physical therapists have the potential to play a vital role in

combating the negative impact of SDOH on health outcomes through provision of direct access care in which clients can be seen without a referral from a physician, and the opportunity to spend considerably more face-to-face time with patients than other health care providers. With appropriate training using a standardized training module, intake screening for SDOH provides healthcare practitioners with a reliable tool to identify non-medical factors impacting a client's overall health. Once SDOH are identified and thoughtful follow-up questions are asked, resource provision and interventions can be implemented with the potential to substantially improve health outcomes. Identifying SDOH and taking immediate action to address needs are the essential first steps toward bridging the health inequity gap. When these needs are addressed, clients can then focus on participating in physical therapy and have a greater chance of meeting their full health potential. Without assessment of all factors impacting health, including non-medical social determinants, health inequities will persist, resulting in poor outcomes in this group of clients.

Disclosures

The authors have no conflicts of interest to disclose.

References

1. World Health Organization. Social Determinants of Health. 2024. Accessed August 1, 2024. https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1 LINK
2. Renthorn ZD, Cook C, Reneker JC. Social determinants of health: if you aren't measuring them, you aren't seeing the bigger picture. *J Orthop Sports Phys Ther*. 2019 Nov 30; 49(12):872-74. doi:10.2519/jospt.2019.0613 LINK
3. United States Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Social Determinants of Health. 2023. Accessed August 1, 2024. https://health.gov/healthypeople/priority-areas/social-determinants-health LINK
4. Magnan S. Social Determinants of Health 201 for Health Care: Plan, Do, Study, Act. *NAM Perspect*. 2021;2021:10.31478/202106c. Published 2021 Jun 21. doi:10.31478/202106c LINK
5. McCarty D, Shanahan M. Theory-informed clinical practice: how physical therapists can use fundamental interventions to address social determinants of health. *Phys Ther*. 2021 June 24; 101(10):pzab158. doi:10.1093/ptj/pzab158 LINK
6. Lacey RJ, Belcher J, Croft PR. Does life course socio-economic position influence chronic disabling pain in older adults? A general population study. *Eur J Public Health*. 2013 Aug;23(4):534-40. doi: 10.1093/eurpub/cks056. Epub 2012 Aug 8. LINK
7. Lutz AD, Brooks JM, Chapman CG, Shanley E, Stout CE, Thigpen CA. risk adjustment of the modified low back pain disability questionnaire and neck disability index to benchmark physical therapist performance: analysis from an outcomes registry. *Phys Ther*. 2020 Apr 17;100(4):609-620. doi: 10.1093/ptj/pzaa019 LINK
8. Berkowitz SA, Hulberg AC, Hong C, et al. Addressing basic resource needs to improve primary care quality: a community collaboration programme. *BMJ Qual Saf*. 2016 Mar; 25(3):164-72. doi:10.1136/bmjqs-2015-004521 LINK
9. Karran EL, Grant AR, Moseley GL. Low back pain and the social determinants of health: a systematic review and narrative synthesis. *Pain*. 2020 Nov;161(11):2476-2493. doi: 10.1097/j.pain.0000000000001944 LINK
10. American Physical Therapy Association. Achieving Cultural Competence. 2020. Accessed August 1, 2024. https://www.apta.org/patient-care/public-health-population-care/cultural-competence/achieve-cultural-competence LINK
11. Braaten AD, Hanebuth C, McPherson H, et al. Social determinants of health are associated with physical therapy use: a systematic review. *Br J Sports Med*. 2021 55(22): 1294-1300. doi:10.1136/bjsports-2020-103475 LINK
12. Pullar Z, Bertke C, Richard K, Tafelski K, Hassen-Miller A. Screening for social determinants of health in Ohio physical and occupational therapists. *Internet J Allied Health Sci Pract*. 2023 15;22(1), Article 22. doi: 10.46743/1540-580X/2023.2416 LINK
13. Froehlich-Grobe, K., Douglas, M., Ochoa, C., Betts, A. Social Determinants of Health and Disability. In: Lollar, D.J., Horner-Johnson, W., Froehlich-Grobe, K. (eds). Public Health Perspectives on Disability. Springer, New York, NY, 2021. Accessed August 1, 2024. https://link.springer.com/book/10.1007/978-1-0716-0888-3 LINK
14. Garg A, Boynton-Jarrett R, Dworkin PH. Avoiding the unintended consequences of screening for social determinants of health. *JAMA*. 2016 Aug 23-30;316(8):813-4. doi:10.1136/bmjqs-2015-004521 LINK
15. Bourgeois P, Holmes SM, Sue K, et al. Structural Vulnerability: Operationalizing the concept to address health disparities in clinical care. *Acad Med*. 2017;92(3):299-07. doi:10.1097/ACM.0000000000001294. LINK
16. Palakshappa D, Scheerer M, Semelka CT, Foley KL. Screening for social determinants of health in free and charitable clinics in north carolina. *J Health Care Poor Underserved*. 2020;31(1):382-397. doi:10.1353/hpu.2020.0029 LINK
17. Tamargo JA, Strath LJ, Karanth SD, et al. Food insecurity is associated with chronic pain and high-impact chronic pain in the USA. *Public Health Nutr*. 2023;27(1):e7. Published 2023 Dec 13. doi:10.1017/S1368980023002732 LINK
18. Frazier CRM, Pinkerton EA, Grana M, et al. Feed1st, no questions asked: how a hospital-based food pantry program grew its impact during the COVID-19 pandemic. *Am J Public Health*. 2022;112(10):1394-1398. doi:10.2105/AJPH.2022.306984 LINK