



Cross-Sector Collaborations Between Health Care Systems and Community Partners That Target Health Equity/Disparities in Diabetes Care

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Evidence shows that social determinants of health (SDOH) are key drivers of diabetes outcomes and disparities in diabetes care. Targeting SDOH at the individual, organizational, and policy levels is an essential step in improving health equity for individuals living with diabetes. In addition, there is increasing recognition of the need to build collaboration across the health care system and the communities experiencing inequities to improve health equity. As a result, partnerships between health and nonhealth sectors have emerged as a crucial component for increasing health equity in diabetes care and achieving health equity. The purpose of this article is to discuss cross-sector collaborations between health care systems and nonhealth partners that target health equity in diabetes care.

Disparities in and Influence of Social Risk Factors on Diabetes Care and Outcomes

Diabetes affects ~11% of the U.S. population, and groups who have been socially marginalized are disproportionately affected (1). Furthermore, there is strong evidence that disparities exist in several aspects of diabetes care, including but not limited to health outcome measures, access to care, and quality of care (2–4).

Significant evidence exists identifying social determinants of health (SDOH) as key drivers of diabetes outcomes and disparities in diabetes care (5,6). Relationships have been identified between diabetes-related outcomes and several SDOH factors, including socioeconomic status, neighborhood and physical environments, food environment, health care factors, and social context (5,7). As a result, targeting SDOH at the individual, organizational, and policy levels is an essential step in improving health equity for individuals living with diabetes (5,8).

However, although it is necessary to consider and incorporate SDOH in efforts to promote equity in diabetes care, they will not independently solve the problem. The structural factors underlying many of the more common SDOH discussed in the literature are likely to have a more fundamental influence on disparities (5,9). Therefore, it is necessary to focus

attention across multiple levels of influence, rather than separating out one domain or one level of influence (8,10), as well as to focus on affecting root causes of diabetes inequalities (5). For example, interventions have adapted materials for low literacy but have not addressed centuries of racial discrimination in access to and quality of educational opportunities, which resulted in low literacy being concentrated in specific subgroups of the population (5). Similarly, interventions address food insecurity through the provision of food in areas considered to be food deserts, but they do not address the historical redlining and zoning policies that underly the structure of the food environment (5).

This article posits that promoting equity in populations living with diabetes requires focusing on interventions that build collaboration across the health care system and the communities experiencing inequities and focusing these interventions on multiple levels of influence, including the structural factors that limit access to health care. The term “social risk” will be used primarily to indicate focus on the adverse social conditions influencing the health of individuals with diabetes. This discussion will incorporate recommendations for addressing and mitigating the impact of social risk factors on diabetes outcomes, as well as highlight areas for structural change to address the underlying root causes of disparities in diabetes outcomes and care.

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Strategies Used by Health Care Systems to Address Social Risk Factors on Health Outcomes

Interventions by health care systems to address or mitigate the impact of social risk factors on health outcomes for adults living with type 2 diabetes are largely based on use of the chronic care model (CCM) (11). A key emphasis of the CCM is on leveraging community resources for the enhancement of support for adults with chronic conditions. As illustrated in the model, when community resources are leveraged through the health system, patient outcomes improve, and care becomes more patient-oriented (11). The CCM has been widely studied in diabetes research, and evidence supports its use for improving diabetes management within primary care settings (12). There is growing recognition that community-level resources, characterized most often as linkages to resources through community health workers (CHWs), enhance the effectiveness of chronic disease management (13). Extensive evidence specifically shows that the effectiveness of referrals to community partners, community partner programs, or CHWs can increase follow-up with primary care providers, improve care coordination (14), and increase quality care metrics for diabetes management (15). In addition, evidence shows that the use of CHWs to enhance care management increases glycemic stability and reduces utilization costs (16).

A key component of integrating community health services into the health system for diabetes management is the development of a multidisciplinary care team that includes CHWs for health care navigation and the provision of social resources for unmet social needs via social workers as part of the care team (17). Over the past two decades, growing evidence suggests that linkages to community resources play a crucial role in diabetes care (13). As a result, health care settings are increasingly redesigning primary care teams to integrate frontline CHWs and social workers into the care team (14). This approach has led to an increased recognition by the Centers for Disease Control and Prevention (CDC) for the need for strategies to optimize these multidisciplinary care teams (18). Strategies include initiatives targeting provider-level education, system change, and process restructuring (19). Provider-level education strategies include formal training or professional development such as workshops, educational materials such as guidance documents and resources to facilitate referrals, and audit and feedback, whereby a third party reviews providers' referral behavior and shares feedback on their referral progress (19). System-level change strategies include examining and optimizing referral setting and referring provider characteristics, offering team-based care, and adding clinics (19). Process restructuring strategies include implementing decision support, automatic

referral, electronic referral, referral letters, and bidirectional referral, through which providers refer to a program or service, which then gives feedback back to the provider (19).

Another crucial component needed to integrate community health services into the health system is identification of social risks and social needs. Despite the ongoing debate on whether or not to screen for social risks, more health system organizations are incorporating social risk screening tools into patient care (20). A recent technical brief by the U.S. Preventive Services Task Force (21) identified and described the evidence base for social risk screening and interventions in patients without specific chronic conditions. This report identified more than 100 intervention studies, most of which were conducted in primary care settings.

Like a prior review on SDOH and diabetes (5), most intervention studies addressing social risks in this review addressed one social risk domain compared with multiple social risk domains (21). For example, a cohort study by Berkowitz et al. (22) targeted patients with food insecurity and examined the association between receipt of a medically tailored meal program and health care use. The study compared two meal programs: a medically tailored meal program that delivered meals customized to the medical needs of participants to their homes weekly (providing 5 days of lunches, dinners, and snacks) and a Meals on Wheels–type program that delivered nutritious meals that were not tailored to participants' medical needs. Participants receiving medically tailored meals had fewer hospital admissions and lower overall medical spending (22). In another observational study targeting patients with housing instability, veterans not already engaged with Veterans Health Administration homeless programs were asked if they wanted to be referred for services (23). The study found that screening for housing instability resulted in positive screens, acceptance of referral services, and provision of homelessness-related services (23). The most often addressed social risk domains in intervention studies included food insecurity, housing instability, financial strain, transportation needs, education, and utility needs.

More importantly, only a few of these studies evaluated intervention effects on health outcomes. For example, the authors identified only four studies that reported the effects of changes in intermediate outcomes such as social risk and health care utilization on physiological and behavioral health outcomes such as well-being scores and psychosocial aspects of quality of life (21). Two of these studies found concurrent improvements in health outcomes and intermediate outcomes following receipt of

welfare benefits advice in primary care, whereas the other two studies (one on a housing intervention and the other on provision of social risk resources) did not find any associations between intermediate and health outcomes (21).

Several challenges exist to implementing social risk assessments and interventions. Challenges to screening include stigma and privacy concerns at the patient level, lack of referral resources at the clinician level, and burden of social risk data collection and management by health care organizations and partnering organization concerns at the health system level (21). Challenges to social risk interventions include logistical barriers to referral follow-through, lack of clinician enthusiasm to sustain interventions after conclusion of research-funded interventions, sustainability of funding, and limited capacity of social resources at the patient, clinician, health system, and community levels (21).

Potential solutions to screening challenges include developing trusting patient-provider relationships at the patient level, providing incentives to screen and use social service resource locators at the clinician level, and partnering with data analytic vendors and integrating social risk data into electronic medical records at the health system level (21). Potential solutions to social risk intervention challenges include colocating social and health care services, sharing outcomes data with clinicians, financing social and health care integration, and providing financial and infrastructure needs to community partners (21).

Cross-Sector Collaborations Targeting Health Equity and Disparities in Diabetes Care

Cross-sector collaborations between health care systems and community partners represent a viable strategy for increasing health equity in diabetes care and achieving health equity (24–26). Evidence shows that successful cross-sector collaborations are characterized by the quality of the partnership, investment in the partnership, and existence of supportive policies (25). Cross-sector partnerships with representation from community members as well as local, state, and national leadership—from both the public and private sectors—are necessary for addressing health inequities and disparities, especially considering that efforts from the community alone are not sufficient for achieving health equity (25,26). However, these efforts are vital for sustainable change to increase equity related to diabetes care and self-management (24). It is through cross-sector collaborations that diverse approaches to increasing health equity are created (24,25). Strong partnerships leverage the expertise of the community to identify needs and available resources and assets while simultaneously addressing unfavorable economic, environmental, and social

factors and underlying mechanisms that create inequities (24,25). The most promising efforts toward health equity occur when local communities actively engage in collaborations to create solutions and lead the charge for shaping their own communities, coupled with support from relevant programs, government entities, and/or anchor institutions such as hospitals, local businesses, or universities (25).

Cross-sector collaborations can take many forms and require commitments from partners situated within and outside of traditional health care settings (27). Partners from sectors such as faith-based organizations (FBOs), barbershops and beauty/hair salons, food banks and pantries, and local housing authorities, among others, often work collaboratively with investigators from health systems to create solutions that mitigate systemic problems influencing health outcomes.

In a study to assess the use of FBOs to deliver diabetes self-management education to Black adults with type 2 diabetes, Newlin et al. (28) reported that FBOs represent an appropriate venue for cross-sector collaborations as they 1) historically provide service to the community with compassion for serving those considered vulnerable to social risks (e.g., housing instability, food insecurity, material hardship, and transportation problems), of lower socioeconomic status, and medically underserved; 2) have resources such as facilities and volunteers available to endorse and administer culturally sensitive health promotion programs; and, most notably, 3) are trusted community stakeholders. Evidence shows that health promotion and wellness programs endorsed by FBOs may be more impactful, better received, and more sustainable than programs administered by other agencies such as government entities and medical institutions, especially among Black and Hispanic communities (29,30). For example, in a population of Black adults with prediabetes, group coaching that was conducted in a faith-based setting was found to lower A1C, increase self-care behaviors such as physical activity, and increase diabetes knowledge (31). Finally, it is important to note that recommendations have come from the CDC and the National Institutes of Health (NIH) to partner with FBOs to improve diabetes outcomes (28).

Like FBOs, collaborations with businesses such as barbershops and beauty/hair salons have also shown promise. Barbers, for example, have been identified as trusted advocates within the Black community (32,33). In a study to assess the receptiveness of a barbershop-based diabetes prevention and awareness program, Black men indicated that barbershops are appropriate venues for conducting research and providing diabetes education (34). Similarly, prior research assessing the use of community-based testing for diabetes in Black-owned barbershops in New York suggests screening for diabetes could

be instrumental in identifying men with undiagnosed diabetes, providing timely diagnoses, and mitigating barriers to care, such as limited access that may be experienced by Black men in similar urban environments (32). Although extensive research has been conducted in barbershops to promote and address other conditions such as hypertension, stroke, cancer, and fruit and vegetable intake, more research focusing on diabetes and diabetes-specific outcomes that use both barbershops and beauty/hair salons in cross-sector collaborations is warranted (35,36).

Finally, successful implementation studies assessing cross-sector collaborations with organizations that address food insecurity and housing instability have shown encouraging results. Food banks have proven useful in screening individuals for diabetes; reducing food insecurity; improving self-care behaviors such as making healthy food choices, medication taking, and self-efficacy; and mitigating other risk factors associated with diabetes (37–39). In a pilot randomized trial to test an intervention (based on a collaboration between a primary care practice and a local food bank) on lowering A1C among adults with type 2 diabetes and food insecurity, improvements were observed in A1C and diet among the adults randomized to the intervention group compared with those in the control group (37). Research from cross-sector collaborations within supportive housing facilities has also shown benefit in improving diabetes outcomes. Using a community-academic collaboration to support chronic disease self-management among individuals residing in permanent supportive housing, Schick et al. (40) found significant increases in diabetes knowledge, self-efficacy, and foot care among individuals with diabetes.

Because the factors that determine health outcomes are experienced in all aspects of life, cross-sector collaborations are important to address SDOH to promote health equity and disparities in diabetes care. A study by Mays et al. (41) found that communities with extensive networks that work synergistically and have mutual goals experience the lowest mortality rates from chronic diseases such as diabetes. Therefore, cross-sector collaborations between health care systems and community partners are extremely important for targeting health inequities and disparities in diabetes care.

Current Gaps in Knowledge

Despite advancements in scientific knowledge over time, disparities in diabetes care and diabetes outcomes persist. Fragmentation of patient care and ineffective referral processes perpetuate existing disparities and negatively affect diabetes outcomes (42,43). More importantly, growing evidence recognizes the negative influence of social risk factors on diabetes

disparities and the positive impact of cross-sector collaborations in reducing and eliminating disparities (5,25). Yet, there are limited 1) cross-sector collaboration intervention studies in populations with diabetes that focus on the multiple levels of influence, including the structural factors that limit access to health care; 2) research studies that use businesses such as barbershops and beauty/hair salons, while concurrently evaluating diabetes-specific outcomes in cross-sector collaborations; 3) multidomain social risk screening tools that have undergone reliability and validity testing (44); 4) intervention studies in the diabetes population that have addressed multiple social risk domains; and 5) studies that target type 1 diabetes or pediatric populations. Finally, evidence suggests that linkages to available community resources are inefficient because of a lack of financial resources and/or human power to make the connection, which results in underutilization of resources (45,46).

Recommendations for Action Steps Toward Equity

Achieving health equity in diabetes will require a concerted effort between the health care system and nonhealth partners and a breakdown of the siloed approach to community and population health. According to the CDC, nonhealth partners include businesses, public health, local government entities, community members, and community-based organizations (47). Cross-sector collaborations between health care systems and nonhealth partners can potentially address some of the root causes of disparities in diabetes care and diabetes outcomes (25). Some considerations that would ensure successful cross-sector collaborations in the future are discussed below.

First, there is a need for funding from government and non-government sources alike to support cross-sector collaborative programs. Funding agencies need to prioritize cross-sector programs targeting health equities in diabetes. The availability of funding will boost the confidence of health care and nonhealth partners and help to ensure the sustainability of collaborative programs found to be successful.

Second, dissemination and implementation of successful health equity-focused collaborative programs in diabetes care should be a priority. A substantial evidence base now exists on the effectiveness of behavioral interventions to improve diabetes outcomes across populations. For this reason, the next phase of diabetes care should place emphasis on implementation, followed by dissemination.

Third, new collaborative programs should use recommended, evidence-based frameworks and sound methodological approaches. The Robert Wood Johnson Foundation (RWJF) Culture of Health Action Framework is a great example. The central

themes of this framework are equity and opportunity, with a goal of eliminating health disparities (48). The RWJF framework consists of four interconnected action areas, each with corresponding drivers and measures. The four action areas include making health a shared value; fostering cross-sector collaboration to improve well-being; creating healthier, more equitable communities; and strengthening integration of health services and systems (48). Fostering cross-sector collaboration to improve well-being—the second of the four action areas—focuses on three drivers: number and quality of partnerships, investment in collaborations, and policies that support collaboration (48). The National Institute on Minority Health and Health Disparities (NIMHD) Research Framework is another framework that highlights various domains (biological, behavioral, physical/built environment, sociocultural environment, and health care system) and levels of influence (individual, interpersonal, community, and societal) within those domains that are essential for understanding, addressing, and potentially eliminating health disparities (49). This framework recognizes the complex and multifaceted nature of health disparities, emphasizes the importance of considering these factors, and serves to encourage NIMHD- and NIH-supported research to address these factors to promote health equity (49).

Fourth, existing evidence-based, cross-sector strategies should be leveraged when establishing collaborative programs. For example, an online tool called the Community Health Improvement Navigator was designed by the CDC to support multisector strategies to improve community health (47). This database provides resources that outline the essence of collaborative approaches, presents tools reviewed by experts to develop and maintain effective collaborations, and facilitates discovery of effective interventions to improve well-being and community health (47). Such tools should be incorporated into and tailored to fit the needs of diabetes-specific cross-sector programs.

Fifth, there is a need for collaborative programs that target multi-level and multidomain social risk factors in populations with diabetes. It is also imperative that there be consensus on the framework and standardization of language specific to social determinants and social risks that allows replication and generalization of findings from collaborative programs addressing social factors. Multidomain social risk screening tools that have undergone reliability and validity testing in individuals with diabetes are needed to allow consistent measurement of and definitions for multidomain social risks. The Accountable Health Communities (AHC) Health-Related Social Needs Screening Tool developed by the Centers for Medicare & Medicaid Services Center for Medicare and Medicaid Innovation is a commonly used tool that is currently being tested systematically as a part of

the AHC model (50). Future reliability and validity testing of this tool would be helpful.

Sixth, development of trusting relationships between health systems and nonhealth partners is crucial. Researchers, who often represent the health system, can foster trusting relationships by seeking to understand and by designing interventions unique to the needs of the community. A recently published case study (51) designed to address health disparities in Milwaukee, WI, serves as a good example and a useful strategy that can be used in this regard. This qualitative study included more than 350 community participants and key stakeholders from multidisciplinary backgrounds, including health care, police and fire departments, community-based organizations, public education, public housing, churches, and civic agencies across 10 zip codes in inner-city Milwaukee (51). Based on the findings from this study, a framework was developed to promote health equity that accounts for the acute and chronic state of inner-city populations (51). This study resulted in development of strong community partnerships and set the stage for subsequent targeted intervention studies focused on promoting equity in the inner city (52–54).

Conclusion

Mitigating the impact of social risk factors on health and achieving health equity in diabetes care is of crucial importance. Mounting evidence suggests that cross-sector collaboration is a viable step toward achieving this vision. Funding agencies should prioritize cross-sector collaborative programs in diabetes, and future work should focus on providing more robust and reliable data to inform implementation of effective cross-sector collaborative interventions.

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DUALITY OF INTEREST

No potential conflicts of interest relevant to this article were reported.

AUTHOR CONTRIBUTIONS

L.E.E. designed the review. M.N.O., J.A.C., J.S.W., and R.J.W. drafted the manuscript. All authors were involved in critical revision of the content and approved the final manuscript. L.E.E. is the guarantor of this work and, as such, had full access to all the data reported and takes responsibility for the integrity of the data and the accuracy of the review.

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