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Title: Equitable access to liver transplant: Bridging the gaps in the social determinants of health

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Abbreviations:

SDOH – social determinants of health
LT – liver transplantation
AASLD – American Association for the Study of Liver Disease

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Abstract

The COVID-19 pandemic and social justice movement have highlighted the impact of social determinants of health (SDOH) and structural racism in the United States on both access to care and patient outcomes. With the evaluation for liver transplantation being a highly subjective process, there are multiple ways for SDOH to place vulnerable patients at a disadvantage. This policy corner focuses on three different methods to reverse the deleterious effects of SDOH – identify and reduce implicit bias, expand and optimize telemedicine, and improve community outreach.

The COVID-19 pandemic and social justice movement have highlighted the impact of social determinants of health (SDOH) and structural racism in the United States on both access to care and patient outcomes(1). SDOH, as defined by the U.S. Department of Health and Human Services, are “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”(2). Contextualizing SDOH, along with acknowledging the existence of structural racism and its impact on how inequitable systems and processes foster racial discrimination, is a vital first step in creating interventions to address them.

In the context of liver transplantation (LT), there remain ongoing health inequities among certain vulnerable populations, including typically underserved patients of minority race, ethnicity, and low socioeconomic status. Inequities can also extend to include sex, geographic, and educational groups that in turn influence access, utilization, and quality of care. Unfortunately, the most vulnerable populations are also those at the highest risk for progression to cirrhosis, thus compounding inherent inequities in access to transplant.

Evaluation for organ transplantation, a life-saving procedure, involves a multi-step, highly selective process. Initially, referrals to appropriate subspecialists and a transplant center are required. During evaluation, candidates undergo formal assessment of adequate social support, psychological health, health insurance, adherence, and understanding of treatments. Each step in the transplant evaluation process is an opportunity for inequity to insert itself resulting in disparate access to listing for transplantation. This manifests through mechanisms related to poor health literacy, lack of insurance or high co-pay, poor social support, and geographical location. Culture incapacity by health providers and implicit bias at the provider-level and healthcare system-level can create additional barriers. Examples of health inequities include lower referral rate for LT and inferior outcomes among Black and Latinx compared to White patients(3), while . In addition to race/ethnicity, sex and health literacy(4) also strongly correlate with the likelihood of listing. Socioeconomic status affects both waitlist mortality and post-LT survival as well(3).

To address existing disparities and inequities related to SDOH and structural racism, the American Association for the Study of Liver Diseases (AASLD) has promoted several initiatives: 1)Creation of the Diversity committee, which sponsors workshops to

reduce the impact of SDOH on liver-related outcomes; 2)Engagement and outreach in local communities and organizations to strengthen relationships with patients and patient advocates; 3)Public policy advocacy with national government organizations to support equitable access for liver disease treatment, financial coverage for LT, and funding for healthcare disparities research; 4)Formal declaration of response to the death of George Floyd and Black Lives Matter movement - “We stand united in condemning racism, bigotry and discrimination based on race, religion, gender, country of origin and sexual orientation.” Still, there remains an unmet need for a comprehensive and concrete plan of action to overcome these disparities and inequities to bridge the access gap.

The goal is to create provider and institutional-level awareness, and structural competency to promote true health equity. Therefore, the transplant community must come together to build an infrastructure with accountability within our associations, health systems, and the communities to address SDOH and structural racism. This process begins with critical self-assessment and training on how physician behaviors and institutional racism directly contribute to inequity in transplantation.

For this policy piece, we focused on the impact of implicit bias and the roles of telemedicine and community outreach, which we believe are critical tools that may reverse the impact of SDOH (Figure 1). Structural racism, access to affordable insurance, health literacy, and substance abuse therapy are equally important factors that contribute to health disparities and inequities and warrant further commentary and research but are outside the focus of this policy piece.

Implicit bias

Implicit bias, a known social determinant associated with disparities, is defined as attitudes, beliefs, or thoughts beyond the realm of conscious awareness that affect how we view and interact with our environment(5,6). These unconscious beliefs or reactions may affect how we view our patients based on their race/ethnicity, gender identity, or

sexual orientation. Data suggest that most healthcare providers have implicit bias resulting in positive attitudes towards Whites and negative attitudes toward racial/ethnic minorities (5). Furthermore, when assessing for correlations, studies have found a significant positive relationship between implicit bias and lower quality of care(6). As we consider the disparities that exist in access to LT, we must engage in honest conversations as providers about our own implicit biases. As noted above, the transplant evaluation inherently involves multiple subjective assessments that make it particularly sensitive to implicit bias. Therefore, transplant centers must engage in implicit bias training for all transplant team members to promote cultural humility, ultimately leading to a greater understanding and acceptance of how it shapes our overarching narrative around inequities. It will be important to define and call out implicit bias when present and expand upon the understanding of equity from the perspective of marginalized groups. Additionally, since implicit bias may affect referral patterns of providers for patients of color, limited socioeconomic means, or rural geographic locations, centers need to devise plans to circumnavigate these barriers. While implicit bias cannot be entirely eliminated, an organizational awareness of its presence and impact on referral patterns and decision making will allow transplant centers to mitigate its contribution to disparities. Emphasis on outreach and community education are particularly important to ensure proper referral of vulnerable populations with liver disease for transplant evaluation.

Telemedicine

The COVID-19 pandemic worsened access to care and enhanced inequities among vulnerable populations. However, amid stay-at-home orders and social distancing, healthcare systems responded quickly by adapting telemedicine to improve access and care while reducing risk of COVID-19 exposure. Consequently, telemedicine has become a burgeoning tool for healthcare management and may help bridge the transplant access gap for some vulnerable populations, notably those in remote geographic locations.

There is an inherent relationship between access to care and poor outcomes, and limited resources and distance from a specialist can exacerbate these issues. Yet, telemedicine may address some of these gaps at individual and societal levels.

Research on telemedicine adoption has been favorable, while barriers remain, especially for the vulnerable. These include, but are not limited to: 1)Low socioeconomic status (lack of smart devices), 2)Limited infrastructure (broadband internet), 3)Lack of privacy for virtual visits, 4)Older age (inability to use technology), 5)Disability (visual or hearing impairment), and 6)Language barrier (inability to connect to interpreter services).

Further research on how and when telemedicine should be used is essential to optimize healthcare delivery to improve health inequities. It is essential to identify the areas where telemedicine would be most impactful in patients with liver disease before and following transplantation. To ensure that telemedicine does not exacerbate disparities, further research is needed to identify barriers to its use as is investigation of alternative means of communication when social distancing is necessary. Therefore, we urge partnerships to develop funding to improve access to telemedicine to ensure equitable access and overcome sociodemographic and socioeconomic disparities.

Community Engagement

The last component addressed in this policy review is the role of community engagement to overcome SDOH to promote health equity. Those communities most impacted by SDOH are often disproportionately impacted by chronic liver disease and cirrhosis. Community health resources are often lower in Black, Latinx, and American Indian neighborhoods(7,8). Vulnerable neighborhoods have high rates of obesity and NAFLD (exacerbated by food deserts), alcohol use disorder (increased environmental stress without appropriate substance abuse and mental health resources), and hepatitis C (with less access to direct-acting antivirals)(9). COVID-19 has disproportionately impacted these same communities – notably, African Americans with chronic liver disease(10).

Therefore, it is crucial to identify and empower partners through community engagement for education and creation of referral networks to serve patients with liver disease. This engagement will foster the creation of partnerships focused on health equity that can respond to a variety of liver health-limiting factors. Additionally, health systems need to prioritize cirrhosis care in communities with higher burden of liver disease. Efforts to overcome SDOH-related limited access to effective treatments are necessary. While chronic liver disease requiring transplant is more common in vulnerable patient populations, early identification and education can reduce morbidity and mortality. Working with community advocates and developing partnerships to meet these goals are equally important for providers, individual centers, and large organizations.

Conclusions

While inequity in chronic liver disease and transplantation has been longstanding, there are many SDOH that can be targeted to bridge the gap. Acknowledging and training to overcome implicit bias is crucial for all healthcare providers. Telemedicine offers a new technology to reach patients who were previously unreachable, yet, there are issues with implementation, the potential to exacerbate disparities, and need for research to validate its effectiveness in LT evaluations. Finally, the AASLD, centers, and practitioners must continue to engage and work with patient advocates and community groups to improve access. These tools provide a framework to build both personal and structural competency to ensure all patients, regardless of SDOH, have equitable access to care and transplant.

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