

The Interplay of Diversity, Equity, and Inclusion in Addressing Health Inequities

Lisa Steinkamp, PT, PhD, MBA; Daniel Deuel, MA, SPT; Maurice Lucre, BS, SPT; Pedro Zavala, BS, SPT

ABSTRACT

Purpose: The terms diversity, equity, and inclusion have become part of a national conversation as we come to grips with longstanding societal negligence. The purpose of this study was to determine what these terms mean with respect to health care, and whether we are manifesting them in our medical practices.

Methods: Using the Centers for Disease Control and Prevention's Social Vulnerability Index and Google, we mapped the locations of physical therapy and primary care clinics within the 4 most diverse Wisconsin counties—Milwaukee, Racine, Kenosha, and Dane—which also had high Social Vulnerability Indexes, to assess health equity in these communities.

Results: Most physical therapy practices are located outside of vulnerable communities. While primary care is much more proficient at having a presence in these neighborhoods, there are still absences in some areas.

Conclusions: Our analysis suggests that physical therapy services in Wisconsin are often inaccessible to members of vulnerable communities: a matter of equity. Efforts to improve equity via patient access must entail interventions that address the other components of diversity, equity, and inclusion. We recommend that other health care professionals conduct similar analyses in order to determine whether we, as a health care community, are positioning ourselves to best service our patients.

INTRODUCTION

Evident inequities routinely experienced by Black, Indigenous, and People of Color (BIPOC) have prompted professional organizations spanning the medical gamut to engage in critical conversations, unpacking their complacency with and contributions to systems of inequity.¹⁻⁵ The importance of having these conversations in Wisconsin, home to some of the most racist cities in the United States and labeled the worst state in which to raise a Black

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Author Affiliations: University of Wisconsin School of Medicine and Public Health, Madison, Wis (Steinkamp, Deuel, Lucre, Zavala).

Corresponding Author: Lisa Steinkamp, PT, PhD, MBA, 5175 Medical Sciences Center, 1300 University Ave, Madison, WI 53706; phone 608.263.9427; email steinkamp@pt.wisc.edu.

child, cannot be overstated.⁶⁻⁷ Such talks are held under the label of diversity, equity, and inclusion (DEI). But despite this term's popularity, many medical clinicians do not fully understand all that DEI encompasses, nor the interplay of its 3 components; fewer still have contextualized DEI within their own practices.

Diversity, Equity, Inclusion

Briefly, a definition of our focus—DEI. *Diversity*, often viewed mistakenly as a racial dichotomy, is the understanding that everyone is different, unique. While race, gender, sexual orientation, age, religion, and disability are aspects of diversity, researchers at Johns Hopkins University highlight that aspects of one's identity that are often invisible to an outsider (eg, work experience, political beliefs, family dynamics, etc) are what truly make that

individual unique or diverse.⁸ *Equity*, in relation to health care, concerns the absence of health disparities or avoidable differences in health status among different groups of people.⁹ Unfortunately, sociopolitical and economic systems currently create inequitable conditions for different patient populations (eg, historical redlining practices limiting access to medical care).¹⁰ Finally, *inclusion* focuses on creating spaces in which diverse opinions and persons are not merely put on display or tokenized, but rather valued and given an equal voice.^{9,11}

Physical Therapy, Primary Care, and DEI

Within physical therapy (PT), we have noticed major areas of concern: an historical lack of diversity amongst students, faculty, and providers and limited representation of patients and clinicians of

Table. Social Vulnerability Index of Wisconsin's Most Diverse Counties from Most to Least Diverse

County	Social Vulnerability Index
Milwaukee	1.0 (highest possible ranking)
Racine	.8592
Kenosha	.9155
Dane	.4366
Sawyer	.8310
Brown	.7465
Forest	.9718
Rock	.9014

color in didactic content and on the walls in educational and clinical settings.¹¹⁻¹³ We know we need to work on increasing diversity within our profession to become more representative of the populations we serve. Additionally, we acknowledge that we need to create educational and clinical environments that are more inclusive of the students we teach and the patients we treat.^{1,11} But what about equity when it comes to access to PT?

Although much of our practice relies on physician referrals, physical therapists can legally offer direct access to patients with musculoskeletal, neuromuscular, cardiopulmonary, and integumentary pathologies.¹⁴ With an overburdened health care system and an inverse relationship between socioeconomic status and injury risk, this relatively new role could be utilized to address disparities in primary care access for vulnerable patients.¹⁵⁻¹⁶ We sought to analyze the geographic locations of PT clinics with respect to marginalized communities. A second analysis investigated the locations of primary care providers (PCPs), including family/general medicine, internal medicine, obstetrics/gynecology, and pediatric specialties, in the same manner.

METHODS

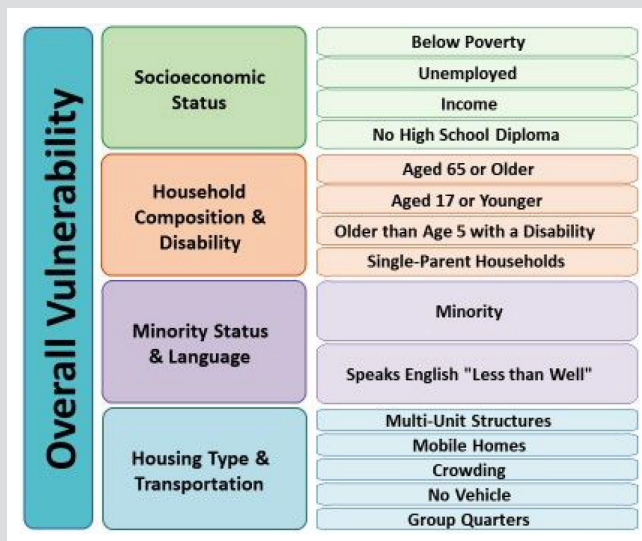
Using the Centers for Disease Control and Prevention's (CDC) Social Vulnerability Index (SVI) and Google, we mapped the locations of PT and PCP clinics within the 4 most diverse counties (which also had high SVIs) in Wisconsin.¹⁷ The SVI takes into account 15 variables that fall into 4 themes, as depicted in Figure 1.

Based on the components depicted above, the SVI provides rankings between 0 and 1, with a higher number indicating greater vulnerability to external stressors, such as natural disasters, economic collapse, or even a global health pandemic. Ratings for the most diverse counties in Wisconsin, based on the 2016 County Health Rankings,¹⁸ are depicted in the Table.

RESULTS

With the exception of Dane County, the most racially diverse counties—meaning those with the greatest representation of BIPOC—are also the most vulnerable (see Table). These results corroborate the Health Resources and Service Administration's (HRSA) 2019-2020 Health Equity Report.¹⁹

Figure 1. Social Vulnerability Index: 4 Themes That Take Into Account 15 Variables



Source: Centers for Disease Control and Prevention

Disconcertingly, when looking at the location of PT practices within the top 4 diverse counties, we discovered that PTs generally operate outside of the most vulnerable communities (Figures 2-5). We also found that PCPs were much more likely to have clinics within these communities.

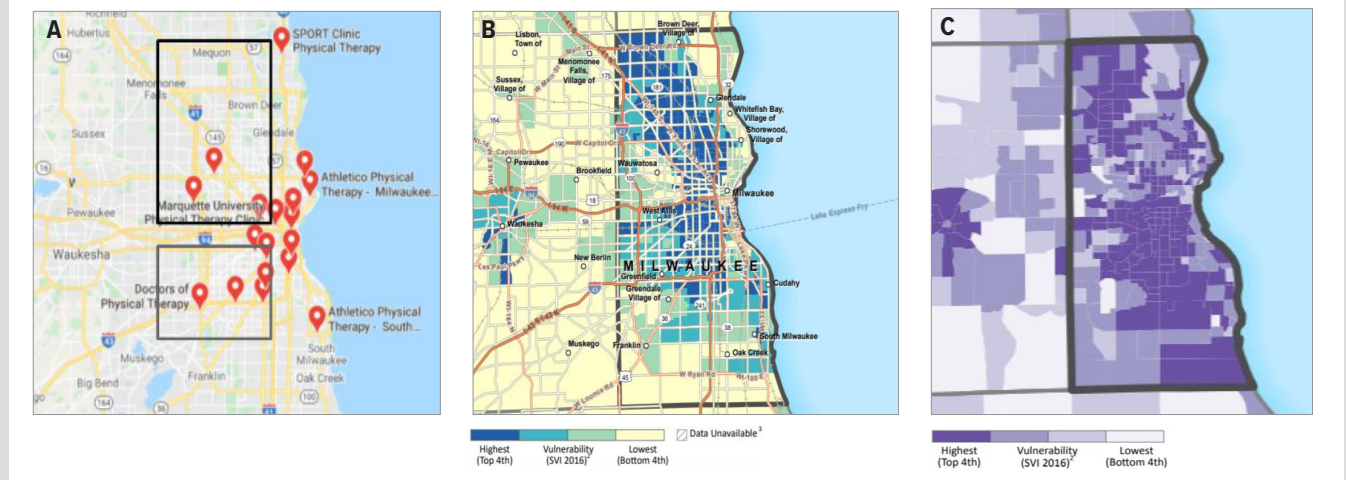
DISCUSSION

Equity

DEI is a framework for promoting best practices regarding racial, social, sexual, and gender diversity.¹¹ Our analysis suggests that PT services in Wisconsin are often inaccessible to members of vulnerable communities: a matter of equity. With our analysis of PCPs, we found that even when large numbers of physicians are present, quantity may not coincide with uniform dispersion. For example, a report from the Area Health Education Centers (AHEC) states that 20% of all PCPs in Wisconsin practice in Milwaukee County.²⁰ However, primary care shortages are noted in central city Milwaukee, where the majority of residents are of color. So although Milwaukee County is rich with PCPs, the maldistribution of clinics leads to variability in access and care patterns, resulting in vastly different health outcomes.²⁰ The same situation holds true for the central parts of Beloit and Kenosha, as well as many rural areas. Research suggests that this trend is not specific to Wisconsin.²¹ Furthermore, the AHEC report states that physicians who practice in primary care are likely to live in the areas they work, with 1 exception—the sub areas of Milwaukee.²⁰ We will address the implications of this next.

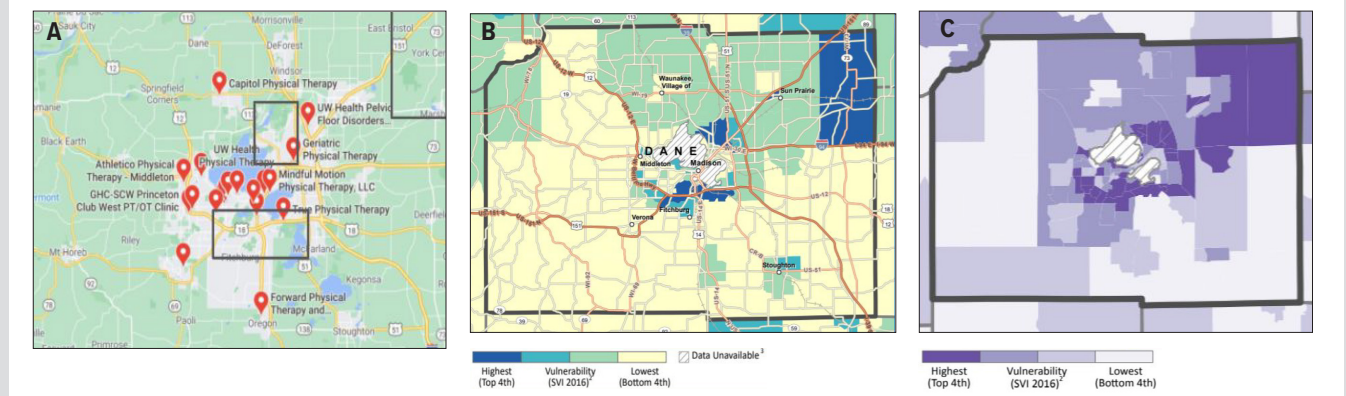
In viewing this predicament through the lens of DEI, efforts to improve equity also must entail interventions that address its other components: diversity and inclusion.¹¹

Figure 2. Milwaukee County Physical Therapy Clinic Locations Contrasted with the County Social Vulnerability Index (SVI)



(A) Distribution of physical therapy clinics in Milwaukee County relative to the most vulnerable communities; (B) County SVI, where darker colors represent a greater degree of vulnerability; (C) Vulnerability in Milwaukee County attributable to race, ethnicity, and language, with darker colors representing a greater degree of vulnerability.

Figure 3. Dane County Physical Therapy Clinic Locations Contrasted with the County Social Vulnerability Index (SVI)



(A) Distribution of physical therapy clinics in Dane County relative to the most vulnerable communities; (B) County SVI, where darker colors represent a greater degree of vulnerability; (C) Vulnerability in Dane County attributable to race, ethnicity, and language, with darker colors representing a greater degree of vulnerability.

Diversity

A diverse workforce helps address health care inequity. Physicians from underrepresented minorities are 3 times more likely to practice as PCPs in underserved areas compared to their majority counterparts.²¹ A PT workforce that is 84% White likely contributes to current business patterns.¹³ Additionally, diversity in the workforce may increase patient compliance.²² Recent research suggests that patients, specifically Black patients, are more likely to adhere to medical advice when their physician shares their racial identity.²² Providers who have similar backgrounds as their patients and who live in and understand the communities in which their patients live garner more trust because they comprehend barriers to access, such as insurance coverage, employment status, and the reasons behind medical mistrust.²³

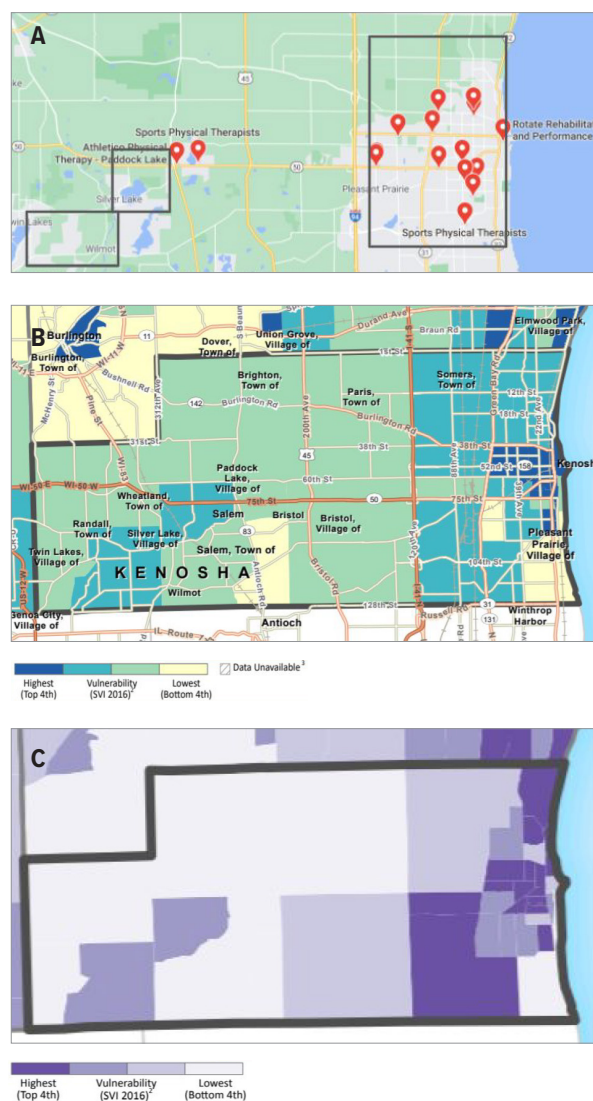
Although all clinicians should understand the social determinants of health (neighborhood and built environment, social and

community context, education, economic stability, etc) and their implications on health and health behavior, a majority White provider base in a majority White state may be less-equipped to meet the needs of patients from diverse backgrounds than providers who share a similar racial/ethnic identity.^{11,24} As previously discussed, PCPs in the sub areas of Milwaukee tend to reside outside of the communities in which they work, potentially creating a disconnect between clinicians and their patients.^{20,22,23} Thus, referring back to the discussion of equity, the development of “brick and mortar” clinics does not ameliorate the plethora of barriers to actual access; lack of diversity amongst providers may contribute, as may inclusion.

Inclusion

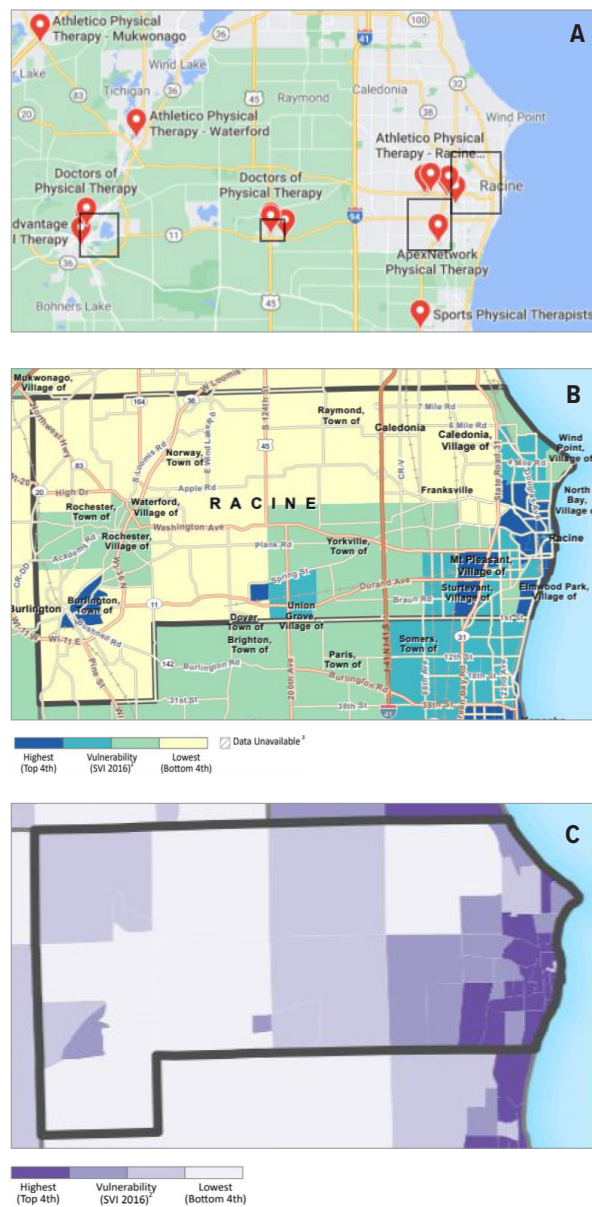
Inclusion has a significant impact on patient access and trust. It is crucial for patients to “see themselves” reflected in the health

Figure 4. Kenosha County Physical Therapy Clinic Locations Contrasted with the County Social Vulnerability Index (SVI)



(A) Distribution of physical therapy clinics in Kenosha County relative to the most vulnerable communities; (B) County SVI, where darker colors represent a greater degree of vulnerability; (C) Vulnerability in Kenosha County attributable to race, ethnicity, and language, with darker colors representing a greater degree of vulnerability.

Figure 5. Racine County Physical Therapy Clinic Locations Contrasted with the County Social Vulnerability Index (SVI)



(A) Distribution of physical therapy clinics in Racine County relative to the most vulnerable communities; (B) County SVI, where darker colors represent a greater degree of vulnerability; (C) Vulnerability in Racine County attributable to race, ethnicity, and language, with darker colors representing a greater degree of vulnerability.

care setting they are accessing. This “reflection” should include everything from providers who look like them, to illustrations on the walls, to promotional and educational materials.^{19,22,24} These feelings of inclusion increase patients’ desires to utilize health care services and follow medical advice.²²

Though not the focus of our analysis, we acknowledge that a lack of inclusion at educational institutions likely has a downstream effect, fostering noninclusive educational and clinical environments. Research in the PT field suggests that a diverse faculty increases the acceptance and retention of students of color, and similar calls to action have been issued within other medical com-

munities.^{1-5,12} Thus, inclusion and diversity may intertwine with the ultimate effect of increasing equity (access).¹¹

Limitations

Our analysis is not without flaws. We report on trends obtained through, at times, less-than-formal academic means (eg, using Google to map PT and PCP clinics). However, using Google to map clinic locations may reflect patient behaviors when search-

ing for local clinics. Additionally, we only investigated the top 4 diverse counties in Wisconsin. Similar analyses should be conducted in Sawyer, Brown, Forest, and Rock counties, which are also diverse and have high SVI values.

CONCLUSION

Our findings highlight the paucity of PT clinics in vulnerable Wisconsin areas. We stress that equity, in terms of access to PCPs, goes beyond the establishment of “brick and mortar” clinics.²¹ We note the importance of diversity: a more diverse workforce may address health inequity by increasing services provided and adherence to medical advice in racially diverse and vulnerable populations.²² PT and other health care professionals in Wisconsin boast disproportionately majority White provider bases and may increase their effectiveness in serving vulnerable communities by recruiting and retaining more diverse providers, which first requires increasing diversity in educational programs.^{13,22,24,25} Finally, it is important to focus on inclusion, both clinically and educationally, by creating environments that welcome and value diversity amongst students, employees, and patients.^{1,11}

Our analysis focuses on PT, with a side note on primary care practices. We recommend that other health care professionals conduct similar analyses in order to determine whether we, as a health care community, are positioning ourselves to best service our patients.

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