



Implicit or Unconscious Bias in Diabetes Care

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“Implicit bias,” also called “unconscious bias,” refers to associations outside of conscious awareness that adversely affect one’s perception of a person or group. Awareness of implicit bias has been increasing in the realm of diabetes care. Here, the authors highlight several types of unconscious bias on the part of clinicians and patients, including biases based on race, ethnicity, and obesity. They discuss how these biases can negatively affect patient-centered clinical interactions and diabetes care delivery, and they recommend implementation of evidence-based interventions and other health system policy approaches to reduce the potential impact of such biases in health care settings.

The health care environment is fraught with structural, interpersonal, and systemic disparities. “Explicit bias” refers to conscious attitudes and beliefs about a person or group. In contrast, “implicit bias” or “unconscious bias” involves associations outside of conscious awareness that negatively evaluate a person based on the groups they belong to (1). This type of bias is often seen when one is interacting with members of racially or ethnically minoritized or otherwise underrepresented groups (2,3). The term “minoritization” is used to acknowledge the marginalization of a group by the dominant society. Interestingly, many populations thought of as minority groups in the United States are quite sizeable and soon will no longer represent a numeral minority compared with White Americans.

In the sphere of health care, racially and ethnically minoritized patients are often viewed as less intelligent, less able to comprehend and adhere to treatment recommendations, and less interested in their health than nonminoritized patients. Studies assessing implicit bias using the Implicit Association Test (IAT) have demonstrated that these biases are associated with disparities in empathy, treatment recommendations, and expectations of therapy adherence (4,5). Less intensive lifestyle modification and pharmacological

approaches in racially and ethnically minoritized patients may be related to implicit biases on the part of diabetes care professionals.

The presence of obesity is another characteristic that seems to draw implicit bias in health care, particularly in diabetes care. Physicians have been found to show a preference for patients who are thin, which may negatively affect the care experiences of individuals with overweight or obesity (6).

Unconscious bias of all types leads to fewer patient-centered clinical interactions, more verbal dominance by health care professionals (HCPs), decreased participatory decision-making in the patient-provider relationship, and less effective health care (7). Although identifying and evaluating implicit bias in clinicians is not a straightforward task, several studies have shown a significant correlation between degree of implicit bias and quality of care (8,9). Recently, the negative impact of bias on the part of patients and their family members toward HCPs also has been described, and this bias can manifest both implicitly and explicitly (10–14). Experiencing and witnessing instances of bias and discrimination adversely affects the clinical care environment.

Although other forms of bias, such as sex bias, exist and also affect health care, the scope of this article focuses on how racial, ethnic, and obesity biases affect diabetes care delivery. We provide recommendations derived from evidence-based interventions to reduce both individual and systemic biases in health care settings. In addition, we describe health system policy approaches for addressing biases held by patients and family members and discrimination directed toward HCPs.

Bias at the HCP and Health Care System Level

Bias spans the continuum of diabetes care. In type 2 diabetes prevention, people with overweight or obesity experience

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bias that may manifest through physical examination and weighing procedures that lack sensitivity or even engender feelings of shame and embarrassment (e.g., gowns and medical equipment that are not appropriate for a patient's size) (15). These individuals are often stereotyped as lazy, unmotivated, and undisciplined. In addition to biased treatment in health care, they often experience employment discrimination, educational barriers, media stereotyping, and interpersonal problems (8,16). In a survey of 2,449 people with overweight or obesity, 69% reported experiencing weight bias by physicians, including 50% on multiple occasions; 46% by nurses; 37% by registered dietitians; and 21% by other HCPs (8,16). Even specialists in weight loss were identified as having significant pro-thin, anti-fat implicit bias on the IAT (17). This bias may reduce HCPs' likelihood of being mindful to their patients' needs.

Bias-based negative interactions can have significant impacts on health outcomes. Stigmatized people hide to avoid being subjected to discrimination and bias. People with obesity and high risk for diabetes are less likely to benefit from preventive health services and cancer screenings because they are more likely to cancel or delay such appointments (8,9,16). Furthermore, women with obesity reported delaying their preventive services because they have experienced disrespect and negative attitudes from clinicians and embarrassment from being weighed and from having medical equipment that is too small for them (9). Exercise and higher levels of physical activity are known to provide benefits in both the prevention and management of diabetes (18). However, weight bias experienced by people who have or are at high risk of developing diabetes results in avoidance of physical activity, less desire to exercise, and thus decreased levels of strenuous and moderate physical activity (19).

In diabetes care, implicit bias manifests in many ways that negatively affect the health and wellness of people with diabetes. For example, in one study of 1,227 people with type 2 diabetes who reported internalized weight stigma and diabetes self-stigma, a significant association with higher levels of diabetes-specific distress was identified (15). Adults who also expressed self-stigma regarding their diabetes reported less diabetes self-management and lower self-efficacy. Those who reported being judged about their weight by a doctor also exhibited more significant diabetes-specific distress (15). In primary care, people with type 2 diabetes who were Black and/or on Medicaid or Medicare were found to have increased risk of being labeled nonadherent compared with their White counterparts and/or those on private insurance, even after adjusting for A1C (20). This stigma in health care can

hinder diabetes diagnosis and management, resulting in other poor health outcomes (21).

Bias not only affects people with type 2 diabetes and/or obesity. Findings from a cross-sectional study of people with type 1 diabetes demonstrated that diabetes stigma is negatively associated with both diabetes distress and glycemic control (22). Although technology can confer benefits to people with type 1 diabetes, youth with type 1 diabetes also experience bias with regard to technology access. For example, one study showed that having public insurance (a proxy of low socioeconomic status) resulted in less use of diabetes technology compared with people with private insurance (23). Also, real-world data from the T1D Exchange clinic registry in 2019 showed that barriers to technology adoption included implicit bias/institutional racism, social determinants of health, cost, access, geography, education, culture, individuals' and HCPs' preference, and health literacy and that these barriers resulted in significant care disparities (24). Of note, the lowest technology utilization rates were among Black patients, followed by Hispanics. This sequence in utilization rates remains even after adjusting for age, sex, study site, insurance type, education level, and neighborhood poverty level (24). More work is needed in this field to fully elucidate the causes of disparities in diabetes care.

Bias at the Patient Level

Despite all of the benefits of having increased diversity in the health care workforce, HCPs also report experiencing bias. This bias may be explicit rather than unconscious and can have a negative impact on HCPs, the overall workforce, and patients themselves.

Mistreatment of physicians has been recognized and reported since the early 1980s. Mistreatment is best characterized in medical trainees. A recent single-center study reported that 93% of first-year residents had experienced some form of disruptive behavior directed toward them (25). Racial discrimination is the most common form of discrimination clinicians report, with overall rates varying between 19 and 71% (10). Although most research on mistreatment of HCPs has been done with medical trainees (11,12), such mistreatment has also been reported by nursing professionals and practicing physicians (26,27).

Less well characterized is bias on the part of and discrimination carried out by the patients and their families. One study reported that such discrimination accounted for 40% of physician mistreatment (25). Patient bias toward HCPs has been defined as "behavior or use of language that demeans

clinicians based on their social identity traits, such as race, ethnicity, sex, disability, gender presentation, and sexual orientation” (13). The types of biased behavior by patients can include a variety of overt and more subtle manifestations. Commonly reported instances of mistreatment gathered from focus groups include refusal of care, explicitly biased remarks, questioning of the role of the clinician, non-verbal disrespect, ethnic stereotypes, assertive inquiries into background, and flirtatious remarks (13,14).

Although more recent medical curricula have included training on how to confront these difficult situations, clinicians traditionally have not had such training. The Accreditation Council for Graduate Medical Education, an independent, not-for-profit organization that sets and monitors voluntary professional educational standards essential in preparing physicians to deliver safe, high-quality medical care to all Americans, has encouraged the development of strategies to address mistreatment during residency across academic institutions (25). There is a concern that confrontation may be more difficult in the medical professional setting for practicing physicians (13). There is also a concern that responding to or reporting mistreatment could negatively affect physicians’ promotion opportunities and professional success (10–14).

Clinicians who have experienced mistreatment or witnessed the mistreatment of colleagues have reported

negative consequences. These experiences have been described as leading to burnout, emotional burden, withdrawal from roles, and decreased clinical learning (13,14). On the other hand, a timely response to discrimination with a team debriefing or support team may improve feelings of inclusion. HCPs armed with training on how to confront mistreatment may also desire to take on leadership roles and model behaviors to improve the workplace for others (14).

Recommended Interventions

Interventions to Address HCP Bias

Achieving a diverse biomedical workforce is important to reduce implicit bias in medical care. The Bias Reduction in Internal Medicine (BRIM) intervention developed by Carnes et al. (28) at the University of Wisconsin, Madison, is an evidence-based approach to mitigating unconscious bias in health care.

The BRIM intervention is delivered as a 3-hour interactive workshop consisting of three modules titled “Implicit Bias as a Habit,” “Becoming Bias Literate: If You Name It, You Can Tame It,” and “Evidence-Based Strategies to Break the Bias Habit.” The bias mitigation strategies taught are summarized in Table 1 (28).

The BRIM intervention was evaluated in a cluster-randomized study at the University of Wisconsin. Compared

TABLE 1 BRIM Program Unconscious Bias Mitigation Strategies

Bias Mitigation Strategy	Description
Recognize, label, and challenge stereotypes (e.g., stereotype replacement).	<p>Challenge:</p> <ul style="list-style-type: none"> • Expectancy bias: how group stereotypes lead to expectations about individual members of that group • Prescriptive norms: cultural assumptions about how specific groups should and should not behave and the social penalties for violating these norms • Role incongruity: not expecting certain groups to have certain roles in society • Stereotype priming: ways in which even subtle reminders of group stereotypes can bias one’s subsequent judgment of an individual
Recite a growth mindset and internal motivation messages.	<ul style="list-style-type: none"> • Growth mindset (vs. fixed mindset): believing that, with perseverance and hard work, new behaviors can be learned • Internal motivation (vs. external motivation): believing that engaging in any behavior is a personal choice
Individuate and perceive variability.	<ul style="list-style-type: none"> • Individuate: see each person as an individual rather than generalizing based on group stereotypes. • Perceive variability: focus on the existence of multiple subgroups within any group.
Practice perspective-taking.	<ul style="list-style-type: none"> • Imagine what it would be like to walk in someone else’s shoes and experience the world as they do.
Identify counter-stereotypical exemplars.	<ul style="list-style-type: none"> • Increase opportunities to interact with individuals you admire in the group toward whom you have a bias; this will increase your ability to view that group more favorably.

with faculty in the 46 control departments, faculty in the 46 intervention departments reported increased awareness, motivation, self-efficacy, and action for engaging in gender equity-promoting activities and reported a more positive departmental climate 3 months after the workshop (28). In addition, intervention departments had greater diversity in new hires 2–3 years after workshop participation (29).

Although the BRIM intervention was initially focused on addressing bias to diversify the biomedical workforce, its principles can be translated easily to mitigating HCPs' bias toward patients from diverse backgrounds. We strongly recommend that clinicians carefully reflect on the importance of bias in our day-to-day activities. Recognizing that we all have biases is an important way to start our awareness and growth process in this important area.

Interventions to Address Health Care System Bias in Diabetes

The U.S. Department of Health and Human Services Office of Minority Health has established national Culturally and Linguistically Appropriate Services (CLAS) standards to guide health care organizations in achieving and promoting health equity and reducing health care disparities (Table 2) (30). These standards require health care organizations to establish culturally and linguistically appropriate goals, policies, and procedures that are incorporated into clinical operations with a plan for evaluation, continuous quality improvement, and accountability (30,31). These standards should be part of the core value for any health care organization.

To eliminate bias and achieve health equity, it is important to collect and maintain accurate and reliable demographic

TABLE 2 National CLAS Standards in Health and Health Care

CLAS Standard Category	Standard Elements
Principal standard	1. Provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy, and other communication needs.
Governance, leadership, and workforce	2. Advance and sustain organizational governance and leadership that promotes CLAS and health equity through policy, practices, and allocated resources. 3. Recruit, promote, and support a culturally and linguistically diverse governance, leadership, and workforce responsive to the service area population. 4. Educate and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis.
Communication and language assistance	5. Offer language assistance to individuals who have limited English proficiency and/or other communication needs, at no cost to them, to facilitate timely access to all health care and services. 6. Inform all individuals of the availability of language assistance services clearly and in their preferred language, verbally and in writing. 7. Ensure the competence of individuals providing language assistance, recognizing that the use of untrained individuals and/or minors as interpreters should be avoided. 8. Provide easy-to-understand print and multimedia materials and signage in the languages commonly used by the populations in the service area.
Engagement, continuous improvement, and accountability	9. Establish culturally and linguistically appropriate goals, policies, and management accountability, and infuse them throughout the organization's planning and operations. 10. Conduct ongoing assessments of the organization's CLAS-related activities and integrate CLAS-related measures into assessment measurement and continuous quality improvement activities. 11. Collect and maintain accurate and reliable demographic data to monitor and evaluate the impact of CLAS on health equity and outcomes and inform service delivery. 12. Conduct regular assessments of community health assets and needs and use the results to plan and implement services that respond to the culturally and linguistic diversity of populations in the service area. 13. Partner with the community to design, implement, and evaluate policies, practices, and services to ensure cultural and linguistic appropriateness. 14. Create conflict- and grievance-resolution processes that are culturally and linguistically appropriate to identify, prevent, and resolve conflicts or complaints. 15. Communicate the organization's progress in implementing and sustaining CLAS to all stakeholders, constituents, and the general public.

data. This effort will allow monitoring and evaluation of disease outcomes based on race, ethnicity, sex, English proficiency, ability status, sexual orientation, and gender identity (another CLAS recommendation). Health care organizations need to train their staff in the proper interview techniques to ascertain these data.

The CLAS standards call for health systems to provide proper assistance to patients with disabilities who have diabetes and language assistance to those with limited English proficiency and/or other communication needs. Among Latinos with diabetes and limited English proficiency, those who switched from a nonlanguage-concordant primary care professional to one who was language-concordant (i.e., Spanish-speaking) had significant improvement in glycemic and LDL cholesterol control (31,32). It is also crucial to provide easy-to-understand patient education materials and signage in clinical areas in the most commonly spoken languages for the population served by a health care organization (30,31).

Health services research in the field of diabetes has demonstrated the effectiveness of multilevel, culturally tailored interventions in improving diabetes outcomes for these vulnerable populations (31). Multilevel interventions target all aspects of health care, including patients, HCPs, and the health care system. Features of effective interventions that improved A1C included that they were culturally and health literacy-tailored, were led by community educators or lay-people, were provided as one-to-one (vs. group) interactions, incorporated treatment algorithms, focused on behavior-related tasks, provided feedback and were high-intensity over a long duration (31). Interventions specific to health care organizations that have resulted in improved glycemic control for minority patients with diabetes have included systems for rapid-turnaround (e.g., point-of-care) A1C measurement, circumscribed appointments, support staff involvement (e.g., from nurse case managers, community health workers, and pharmacists), and enhanced follow-up with home visits or telephone/mail contact (31).

It is certain that the implementation of such interventions would require financial support. Health care system leaders should not forget that optimizing diabetes care for all is the ultimate goal, which may in fact reduce overall health care costs. Therefore, investing in strategies that improve the quality of care across the board should be embraced.

Interventions to Address Patient Bias Toward HCPs

Policy intervention is required to create a health care environment that respects patients' right to be an active

participant in their treatment and care while also protecting clinicians from discrimination by patients. Yielding to a patient's request to switch to a different HCP based on a protected class characteristic (e.g., an HCP's race, ethnicity, sex, religion, gender identity, sexual orientation, age, or veteran status) is discriminatory and a violation of the HCP's civil rights. Health care systems should clearly articulate that, under the majority of clinical circumstances, these requests will not be honored. Educational support should be provided for clinical staff on how to respond to such incidents in a manner that is respectful to patients and shows allyship to clinicians on the receiving end of the discrimination/bias (33).

Conclusion

This review highlights the need for multifaceted approaches to abolish bias and its consequences in diabetes care. To address implicit bias, we need to rally all stakeholders in various health care settings and communities to share facts, promote cultural competency, and correct misconceptions by amplifying the voices and stories of those marginalized and discriminated against. Moreover, deliberate efforts are needed to represent and portray marginalized groups in media and public information to correct misinformation, myths, and rumors. Furthermore, the adoption of existing and the creation of new systematic, effective, and evidence-based approaches to mitigating unconscious bias should be encouraged and supported.

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All authors wrote the manuscript, edited and revised the manuscript, and approved the final version for submission. A.E.C. is the guarantor of this work and, as such, had full access to all the information presented and takes responsibility for the integrity and accuracy of the work.

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