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(REVIEW ARTICLE)

Policy interventions to address systemic barriers in surgical care access for minority populations in the United States

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Abstract

Improving access to surgical care, specifically to increase the opportunity for and utilization of services across minority populations, remains a significant challenge for health policymakers striving to achieve equity in care delivery. Therefore, this review explores systemic barriers to surgical care access among minority populations and evaluates policy interventions developed to address these disparities. This narrative review employed a comprehensive search strategy across databases including PubMed, Google Scholar, and Research Rabbit, utilizing keywords such as "policy intervention," "systemic barriers," and "minority populations." Studies focusing on U.S. racial and ethnic minorities and barriers to surgical care were included, encompassing articles published within the last 20 years, along with relevant older literature. Non-English articles and studies not related to racial or ethnic minorities were excluded. Additionally, reference lists of selected articles were hand-searched for further relevant studies. This review identifies systemic barriers limiting minority populations' access to surgical care, including structural racism, socioeconomic disadvantage, healthcare system segregation, and provider bias. It assesses the effectiveness of policy interventions like Medicaid expansion under the Affordable Care Act, noting mixed results in reducing racial and ethnic disparities in surgical outcomes. The findings underscore the necessity of multi-level interventions targeting patient, provider, and system-level factors to enhance equitable access to surgical care for minority groups, highlighting the need for comprehensive efforts from policymakers, hospitals, and health systems to promote healthcare equity.

Keywords: Policy Interventions; Systemic Barriers; Surgical Care Access; Minority Populations; Barriers to care

1. Introduction

In 1985, the *Department of Health and Human Services (DHHS)* published the Report of the Secretary's Task Force on Black and Minority Health, making it the first major attempt to highlight the health discrepancies between racial and ethnic minorities and the majority white population in the U.S. Pioneered by DHHS Secretary Margaret M. Heckler, the task force, chaired by Dr. Thomas E. Moore, included 18 senior scientists and officials, with contributions from external experts. Their goal was to study why racial health disparities persisted despite overall improvements in U.S. health. The report highlighted that African Americans, Hispanics, Native Americans, and some Asian/Pacific Islander groups were not benefiting equally from advances in medical research in diagnosis and treatments compared to white Americans. The task force recognized that health disparities were influenced by the integration of behavioral, social, economic, cultural, biological, and environmental factors, although these were not well understood for minorities(1). Though Medicaid and Medicare had improved gross indicators of healthcare access (for instance., annual physician visits), racial and ethnic minorities continued to experience lower utilization of preventive services, a higher likelihood of being

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uninsured, and poorer access to quality care compared to white Americans(1,2). These discrepancies have been so tenacious that one of the two primary aims of Healthy People 2010 is to eliminate racial and ethnic disparities in health. These differences in health status likely stem from various factors, including variations in access to care and the quality of care received(3).The report ultimately underscored the need for further research to fully comprehend and address these disparities(1).

Extensive evidence demonstrates minority population disparities in access to, delivery of, quality, and outcomes in surgical care across multiple specialties(4–6). These inequities have profound implications for the health status and overall well-being of patients, their families, and broader communities, with elevated healthcare costs and diminished societal productivity(6,7). The underlying factors driving consistent discrepancies in surgical care have been identified at multiple levels, including patient, provider, community, healthcare system, and societal domains. Previous research has highlighted factors such as socioeconomic disadvantages at both individual and community levels, provider bias, unequal access to surgical specialists, segregation within hospitals and healthcare systems, and the impact of historical federal and state policies as key contributors to ongoing minority population disparities in surgical care in the United States(5,8).

Improving access to healthcare, specifically to increase the opportunity for and utilization of services across racial and ethnic populations, remains a significant challenge for health policymakers striving to achieve equity in care delivery. Despite ongoing efforts, understanding the root causes behind racial disparities in medical treatment continues to be evasive, with a range of clinical and non-clinical factors contributing to these discrepancies. Various hypotheses have been laid out to explain these discrepancies, including patient preferences, expectations, implicit bias among healthcare providers, systemic mistrust of the healthcare system, disparities in referral patterns, differences in access to care, and variations in insurance coverage. These systemic barriers underscore the complexity of addressing racial disparities in healthcare and highlight the need for multifaceted policy interventions to reduce inequities in care access and outcomes(9). There is no systematic method for measuring disparities in access in complex surgical systems. To effectively reduce these disparities, it is essential to develop metrics—standardized, measurable indicators—that can serve as the basis for targeted and tailored interventions, which can then be applied broadly across healthcare settings(10). This review aims to examine the systemic barriers that hinder minority populations from accessing surgical care and to evaluate the effectiveness of policy interventions designed to mitigate these barriers. By studying existing evidence and highlighting areas for improvement, this review seeks to provide insights into how healthcare systems and policymakers can better address these disparities to ensure equitable surgical care for all populations.

1.1. Search Methods

This narrative review was carried out by conducting web searches on databases like Google Scholar, PubMed, Research Rabbit, and Semantic Scholar. Keywords like policy intervention systemic barriers, minority population, ethnic and racial health disparity, barriers in healthcare, etc, were used to search the database. Boolean operators "AND" and "OR" were employed to refine the search. Relevant articles were selected after previewing topics and abstracts.

1.2. Inclusion Criteria

- Articles that reported barriers in surgical and healthcare access by minority population
- Articles about minority populations in the US
- Articles published within the last 20 years and relevant older articles were included.

1.3. Exclusion Criteria

- Articles of minority populations aside racial or ethnic minority
- Articles not published in English

To ensure comprehensive coverage, the reference lists of the selected articles were manually examined to identify any additional relevant studies that may not have been captured in the initial search. This comprehensive approach strengthened the review by incorporating a diverse range of high-quality studies, resulting in a detailed analysis of policy interventions designed to address systemic barriers to surgical care access for minority populations.

2. Systemic Barriers in Surgical Care Access for Minority Populations

2.1. Structural Racism

The persistent racial and ethnic discrepancies in surgical access, quality, and outcomes in the United States among minority populations are largely a result of structural racism. In this review, structural racism is defined as “the complex

system by which societies perpetuate racial discrimination through interconnected and inequitable institutions (e.g., housing, education, employment, healthcare, criminal justice) that strengthen discriminatory beliefs, values, and the unequal distribution of resources(6,11). This form of racism is deeply rooted in culture, history, and institutional practices. In the U.S., structural racism has been sustained by governmental and institutional policies that have created and maintained significant inequalities in economic status, education, neighborhood quality, healthcare access, and social policies, as well as through harmful stereotypes and cultural discrimination about racial and ethnic groups(12–14).

The inequitable dispensation of resources at the societal level directly contributes to patient, provider, and healthcare system factors that disproportionately affect the surgical care of racial and ethnic minorities. For example, elevated rates of poverty at both the individual and community levels, along with the physiological toll of chronic racism and discrimination, are strongly associated with poorer health outcomes, reduced access to care, and increased social and financial barriers(13,15,16). These factors lead to a greater burden of coexisting health conditions, lowered functional capacity at the time of surgical presentation, delayed diagnoses, and reduced access to preventive, surveillance, and follow-up care for surgical conditions(6,17).

At the provider level, disparities in education and income mobility among racial and ethnic groups create significant barriers (financial cost, lack of mentors) to entering the healthcare workforce as surgeons(18,19). The downtrend of manpower diversity in surgical teams hampers efforts to improve team effectiveness, patient-provider communication, and access to surgical services in minority communities. Additionally, the needs of diverse patient populations often remain overlooked in the organizational and research agendas of surgical departments due to the lack of diversity in leadership positions(20,21). Enhancing workforce diversity among healthcare providers is crucial for improving healthcare access, outcomes, and patient satisfaction for racial and ethnic minority populations(22). Nonetheless, racial and ethnic diversity in the surgical workforce remains low(23).

At the system level, racial segregation in housing and hospitals, along with discriminatory insurance practices, have resulted in racial and ethnic minority populations receiving surgical care in hospitals that have lower patient volumes and lower quality of care(5,23–25). For example, the substantially higher reimbursement rates from private insurers compared to Medicare and Medicaid create financial incentives for hospitals to prioritize care for populations with a larger proportion of privately insured patients(26). This dynamic exacerbates racial and ethnic discrepancies in surgical care, as non-Hispanic Black and Hispanic populations are disproportionately enrolled in Medicaid. As a result, their access to surgical services, particularly in surgical subspecialties, may be restricted due to lower reimbursement rates associated with Medicaid(25). Moreover, recent analyses have documented that fewer than 25% of hospitals in the United States perform 90% of surgeries for American Indian/Native American, Asian and Pacific Islander, Hispanic, and non-Hispanic Black patients. These hospitals are associated with poorer surgical outcomes, further contributing to disparities in care for these minority populations(5).

2.2. Residential segregation

Residential segregation has been a persistent attribute of the American social landscape. Although it peaked after World War II and has since declined somewhat due to changes in housing laws and an improved economic outlook for African Americans, and still, remains prevalent, with significant concentrations of people of color in specific neighborhoods. It is widely acknowledged that segregation negatively impacts income, wealth accumulation, and educational opportunities(27). Residential segregation can be defined as the physical separation of racial and ethnic groups from others into separate neighborhoods that have been shown to reduce access to high-quality surgical care(28). Exclusively, it can lead to a reduction in the adequacy of care by restricting access to specialists and cutting-edge medical facilities(29,30). Due to this restricted access, minority populations are positioned to underutilize healthcare resources, which usually leads to late treatment and the advanced progression of illness at the time of diagnosis(30,31).

The most segregated racial group in the US is African Americans, and within these segregated African-American communities, there is an increased rate of infant morbidity and mortality, decreased access to dialysis for patients suffering from kidney failure, terrible transplantation outcomes, and access to appropriate cancer care is the most limited compared to all other racial groups(32–34). Furthermore, segregated areas are often characterized by elevated levels of unemployment, poverty, and social isolation. Report from both African Americans and Hispanics living in communities with an increased number of African-American populations states that they experience challenges in seeking health care as compared with African Americans living in communities with a smaller African-American population(27). For various reasons, segregation has been recognized as a significant predictor of mortality(35).

A study by Hayanga et al(9) on: "Residential Segregation and Access to Surgical Care by Minority Populations in US Counties" reported that: "We examined outpatient surgical volume as a proxy for the overall use of surgical resources, supplemented by the fact that the majority of surgical procedures in the U.S. are performed in ambulatory settings(36,37). Utilizing outpatient surgical volume also permitted the inclusion of procedures conducted in hospitals and ambulatory surgical centers. In districts with the highest levels of segregation, a 1% increase in the resident African American or Hispanic population led to a statistically significant decrease ($p < 0.05$) in the availability and utilization of surgical resources, a trend not observed in districts with the least segregation. This reduction in access to surgical care was associated with an increase in emergency department visits in the most segregated counties; however, this pattern was absent in counties with minimal segregation, except in those with a large Hispanic population. Such dynamics may significantly influence healthcare disparities by reducing geographic proximity to surgeons, limiting access to referral providers, and decreasing proximity to surgical facilities. Moreover, segregation can create a reluctance to seek care far from one's habitual community, especially when facilities are not available nearby, resulting in major differences in access. Conversely, we found that as levels of segregation decreased, the negative association with the availability of surgical care became statistically insignificant. We concluded that districts with the highest levels of segregation experience reduced access to outpatient surgical services, as evidenced by both opportunity (availability) and utilization, alongside an increased reliance on emergency services.(9)"

2.3. Barriers in access to care.

There is sufficient evidence of racial disparities in access to care(28). These have been recorded for different conditions, medical treatments, and care settings(1). One of the most prominent areas is coronary artery bypass graft (CABG) surgery. For instance, among patients at Duke University(38) blacks were 32% less likely to undergo CABG surgery than whites even after controlling for confounding factors like disease severity. The racial differences were greatest among those with more severe disease and the greatest expected benefits from surgery(31). Racial inequalities in health status and medical treatments have been widely recorded(39). The race with the most reported health outcomes is African Americans. For instance, minorities in New York are more likely to be readmitted for complications after CABG(31,40). Quality of care can be compromised even when access to care is the same by varying care practices (31). Virnig et al.(2) reported that the recommended beta-blockers that are administered after an acute myocardial infarction, are more likely to be given to white Medicare+ Choice enrollees than their black counterparts(2). Therefore, even when minorities gain the same access to care, they are already at a disadvantage(31).

2.4. Limited Access to Board Certified Surgeons

Gemson et al. reported that providers who care for a higher percentage of minority patients tend to have less knowledge of healthcare practices and are less likely to be board-certified, highlighting disparities in provider qualifications that may impact the quality of care delivered to these populations(29,41,42). Schneider et al., in their study of managed-care plans, documented that physicians in plans with a high enrollment of Black patients provided lower quality of care to all patients compared to physicians in plans with fewer Black enrollees(43). In patients that have undergone cardiovascular surgery, variations in physician qualifications and expertise between those treating Black patients and those caring for White patients have also been documented, as well as the management of patients with human immunodeficiency virus (HIV)(29,44).

3. Policy Interventions to Mitigate these Barriers

3.1. Overview of Policy Interventions

State and federal policy impacts the degree to which minority populations can subdue systemic barriers in access to quality surgical care(6). To date, several studies have focused on the effects of the Affordable Care Act, particularly Medicaid expansion, on enhancing surgical care access. However, the evidence remains inconclusive regarding its success in addressing racial and ethnic disparities in surgical outcomes(45–49). For instance, in a study conducted by Huynh et al(45), on the: “Factors Associated With State-Specific Medicaid Expansion and Receipt of Autologous Breast Reconstruction Among Patients Undergoing Mastectomy” reported that even though the rate of rate of receiving breast reconstruction after surgery increased from 18.1% (4951 of 27 290) to 23.0% (4264 of 18 560) during the study period. However, there was reduction in the likelihood of receiving breast reconstruction for minority populations. A “28% decrease in the odds of reconstruction (OR, 0.72; 95% CI, 0.61-0.87; $P < .001$) for African American patients, a 40% decrease (OR, 0.60; 95% CI, 0.50-0.74; $P < .001$) for Hispanic patients, and 20% decrease (OR, 0.80; 95% CI, 0.67-0.96; $P = .01$) for patients with Asian, Native American, or other minority race/ethnicity” was recorded. Also, a study conducted by Al-Refaie et al(47) documented that: “Pre-ACA Medicaid expansion did not significantly increase the overall utilization of surgical cancer care or alter the racial composition of its beneficiaries. However, it effectively transferred the financial burden from patients and hospitals to Medicaid. These findings suggest that post-ACA Medicaid

expansion may yield similar outcomes." Furthermore, a study by Gould et al(50) on the : "Bariatric surgery among vulnerable populations: The effect of the Affordable Care Act's Medicaid expansion" reported that, even though the Affordable Care Act's Medicaid expansion narrowed the gap in bariatric surgery rates based on insurance status and income, however, racial disparities in access to the surgery remained unhinged(50). While the impact of Medicaid expansion on reducing racial and ethnic disparities in surgical care remains unclear, it is important to acknowledge that a significantly higher number of racial and ethnic minorities reside in states that have not implemented Medicaid expansion. This uneven distribution has critical consequences for access to surgical services in these populations(51). Thus, the current evidence on Medicaid expansion's impact may be insufficient, as several states have yet to adopt it. Moreover, this highlights that health insurance policy, while important, is inadequate on its own to address the broader societal inequities and social determinants of health that disproportionately affect minority populations(6).

3.2. The Role of Hospitals and Health Systems

Surgical process and outcome measures are mostly evaluated at the hospital level, which is also a suitable approach to assessing access to surgical care. While population-level needs are often addressed through policy-level interventions, such as Medicaid expansion—which has been shown to reduce racial, ethnic, and income discrepancies in surgical access—hospitals and health systems are uniquely positioned to respond more quickly to population-level disparities. Additionally, only hospitals and health systems can effectively address the diverse factors contributing to surgical disparities, including provider-related issues, healthcare system dynamics, clinical care quality, postoperative care, and rehabilitation(52,53). Access to kidney transplant services and receipt of surgery, have been improved by Patient navigation programs(54), and also led to a reduction in the time to surgeon evaluation for breast cancer patients(55). To increase the timeliness of surgical care for minority populations, multidisciplinary team approaches can be utilized(56). The association between delayed surgical presentations and increased postoperative complications and mortality(57,58) underscores the importance of using hospital-level metrics to identify areas for quality improvement. This approach could help reduce costs by minimizing complications, reoperations, and readmissions. However, the design of more targeted performance measures is needed to effectively prioritize areas for intervention before implementing quality improvement initiatives(53).

3.3. Overview of HHS Action Plan to Reduce Racial and Ethnic Health Disparities: Implementation Progress Report 2011-2014

3.3.1. The HHS Disparities Action Plan(59) outlines five key goals to reduce racial and ethnic health discrepancies:

- Transform Health Care: Improve access to insurance and health care services for racial and ethnic minorities while enhancing care quality.
- Strengthen the Health Workforce: Increase the availability of diverse and culturally competent healthcare personnel to adequately serve all communities.
- Promote Health and Well-Being: Encourage healthy behaviors and address social factors that result to health disparities.
- Advance Research and Innovation: Support the development of innovative, evidence-based interventions to address health disparities and assess their efficiency.
- Enhance Program Accountability: Focus on tracking, evaluating, and documenting efforts to address health disparities to ensure optimal results and accountability within HHS programs.

3.3.2. HHS (59)agencies have implemented several specific actions to reduce health disparities, this includes:

- **SAMHSA (Substance Abuse and Mental Health Services Administration) Initiatives**: In FY (Fiscal Year) 2013, SAMHSA initiated health disparity impact statements in grant applications, enabling grantees to collect and use data to address access and outcomes in behavioral health for diverse populations.
- **Affordable Care Act**: The Affordable Care Act has significantly increased health insurance and care access for millions of racial and ethnic minorities, with provisions directed at enhancing health outcomes for underserved groups, including the reauthorization of the Indian Health Care Improvement Act.
- **Public Awareness Campaigns**: Agencies have initiated culturally sensitive campaigns to encourage healthy behaviors among racial and ethnic minorities, using messaging that resonates with these communities to encourage healthier lifestyles.
- **Research Initiatives**: HHS agencies have conducted research to develop innovative, evidence-based interventions to address health disparities, which is essential for assessing the effectiveness of strategies and guiding future actions.

These actions reflect a comprehensive approach by HHS to promote health equity and tackle health disparities nationwide.

3.3.3. The HHS(59) Disparities Action Plan Implementation Progress Report highlights several key accomplishments from 2011 to 2014:

- **Expanded Access to Health Insurance**: The Affordable Care Act significantly increased health insurance and care access for millions of racial and ethnic minorities, helping to reduce barriers to care.
- **Diverse Workforce Development**: Initiatives were implemented to enhance the availability and accessibility of qualified culturally competent healthcare personnel, ensuring effective service delivery to underserved communities.
- **Culturally Sensitive Campaigns**: HHS agencies initiated public awareness campaigns using culturally relevant messaging to promote healthy behaviors among minority populations.
- **Research and Interventions**: Research efforts supported the development of innovative, evidence-based interventions to address health disparities, crucial for evaluating effectiveness and guiding future strategies.
- **Tracking and Reporting**: Significant progress was made in tracking, evaluating, and reporting on health disparity efforts, which aids in optimizing results and ensuring accountability within HHS programs.

These accomplishments demonstrate HHS agencies' commitment to reducing racial and ethnic health disparities and promoting health equity in the U.S.

4. Way Forward: Policy Recommendations

4.1. For Reducing Provider Prices in the Private Insurance Market

Policymakers can break up the cycle of price discrimination and hospital-driven segregation by implementing targeted interventions to lower the price disparities across different insurance markets. While some states might gain from modest increases in Medicaid reimbursement rates, it is neither realistic nor advisable to increase Medicaid payments to hospitals significantly. Instead, a greater part of the adjustment should come from reducing prices in employer-sponsored and individual private insurance plans(25). In a recent detailed analysis, Matthew Fiedler(60) identifies four strategies for reducing provider prices in the private insurance market. Several of these strategies leverage tools already used within the Medicare system, where hospitals and insurers negotiate prices for patients enrolled in privately managed Medicare Advantage plans. However, these approaches result in significantly different price outcomes for patients in privately managed Medicare Advantage plans in contrast with those with employer-sponsored insurance, even when negotiating with the same hospitals and insurers(25,60).

The four strategies for reducing provider prices in the private insurance market as identified by Matthew Fiedler(60) *are:*

- First, regulations could be introduced to cap out-of-network prices, which would constrain provider pricing power and probably reduce in-network prices for certain services, such as emergency care. However, this approach may be limited if hospitals choose to refuse treatment to patients under specific health plans unless current high price levels are maintained;
- Second, a price cap can be implemented by policymakers on all hospital services, regardless of whether care is provided in-network or out-of-network. While this would probably exert stronger downward pressure on overall prices, hospitals may respond by leveraging their market power in other ways. For instance, they could opt out of engaging in quality improvement or patient safety programs, or reclassify certain services, such as inpatient food services, to circumvent the imposed price cap;
- Third, regulators could implement a "default contract" that outlines fixed prices, patient access, and service standards for hospitals and insurers yet to reach a private agreement. This solution would help mitigate issues related to price manipulation and market dominance while maintaining that hospitals and private insurers can negotiate higher rates for superior clinical outcomes or patient satisfaction. It would also encourage the application of value-based payment models, similar to those already in place in Medicare Advantage and Managed Medicaid programs;
- Lastly, a public option – like that presented in President-elect Biden's healthcare plan – could potentially reduce hospital prices in private plans, if the public option paid regulated charges, if providers were required to accept patients with the new public plan, and if the public option is obtainable to most or all patients who presently rely on the employer and individual coverage markets.

Furthermore, in addition to the strategies above, policymakers could implement more focused, incremental measures to cap hospital prices for specific services and address provider consolidation(61). These actions may potentially lower price inflation in the privately insured market(62). Reducing hospital prices is not just about making private health coverage more affordable; it is essential for ensuring equitable access to high-quality care, irrespective of race or ethnicity(25).

4.2. Adopting Multi-level Interventions

Multi-level interventions, targeting multiple layers of determinants, have been recognized as a significant approach for overall healthcare access. These strategies acknowledge that adequately addressing discrepancies requires coordinated actions across individual, community, and structural levels(63). To improve surgical care access for minority populations, the use of multilevel interventions has been adopted(6). For example, the Northwestern Medicine Hispanic Kidney Transplant Program (NM HKTP), which integrates 16 components, such as culturally tailored education for patients and families, and bilingual outreach at dialysis centers, intended for both patient and community. This program has significantly improved living donor kidney transplant rates at transplant centers that have implemented the program with high adherence to its components(63,64).

In the field of trauma surgery, hospital-based violence intervention programs that foster partnerships between hospitals and communities have shown significant value in preventing violence and reducing trauma relapse among minority populations. A notable example is the Wraparound Project at San Francisco General Hospital, which provides intensive case management to patients at high risk for re-injury. This program connects these individuals with community resources, including housing and vocational training. As a result, it has been associated with sustained reductions in relapse and significantly addresses the complex social needs of Black and Hispanic patients who have experienced violent injuries(65,66). This systems-based intervention has successfully lowered discrepancies in the provision of curative treatments, including surgical resection, for early-stage lung cancer between Black and White patients. Moreover, it has improved the overall care received by White patients as well. Subsequent evaluation of this intervention has shown a decrease in racial and ethnic inequities in the time to surgery for lung cancer, as well as in the delivery of complete oncologic treatment—which encompasses surgery, radiation, and chemotherapy—for early-stage breast and lung cancer(66–68).

5. Conclusion

Extensive evidence highlights significant discrepancies in surgical care access, delivery, quality, and outcomes for minority populations across various specialties. These inequities have profound implications, not only for the health and well-being of patients and their families but also for the broader community, including heightened healthcare costs and reduced productivity. The underlying causes of these discrepancies are multifaceted, occurring at the patient, provider, community, healthcare system, and societal levels. While state and federal policies, such as Medicaid expansion under the Affordable Care Act, have been explored as tools to enhance surgical care access, their effectiveness in reducing racial and ethnic disparities remains inconclusive. Although Medicaid expansion has been reported to reduce discrepancies in access to care, hospitals and health systems are in a better position to address the wide range of factors contributing to disparities, including provider biases, healthcare system challenges, clinical care quality, and postoperative care.

To reduce these inequities, policymakers must intervene to narrow price disparities across insurance markets and mitigate hospital-driven segregation. While modest increases in Medicaid reimbursement rates might be helpful to an extent, more substantial adjustments are neither feasible nor advisable. Additionally, multi-level interventions, which target various determinants of healthcare access, are significant for addressing surgical disparities. These approaches recognize the complexity of healthcare inequities and advocate for coordinated efforts across individual, community, and structural levels to effect lasting change.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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