



Policy solutions for reducing racial and ethnic disparities in cancer mortality

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Abstract

Racial and ethnic disparities in cancer mortality represent a critical public health challenge in the United States, driven by complex intersections of socioeconomic inequities, healthcare access, and systemic biases. While existing research highlights the disproportionate burden of cancer mortality among minority populations, gaps remain in comprehensive policy-driven solutions addressing these disparities. This study explores effective policy interventions to mitigate racial and ethnic disparities in cancer mortality by systematically reviewing and synthesizing evidence using the PRISMA framework. The motivation stems from the persistent inequities in cancer outcomes, where Black, Hispanic, and Native American populations experience significantly higher mortality rates compared to their White counterparts, despite advancements in cancer detection and treatment. Existing research primarily emphasizes individual and community-level interventions, often overlooking structural barriers and systemic inequities. To address this research gap, the study employed PRISMA to systematically review 75 peer-reviewed articles and policy reports published between 2000 and 2023, identifying key determinants of disparities and evaluating policy solutions. Findings reveal that culturally tailored healthcare delivery models, expansion of Medicaid, targeted cancer screening programs and equitable access to clinical trials are essential for reducing disparities. However, policies are often underutilized or inadequately implemented in underserved communities. The study concludes that a multi-sectoral approach integrating healthcare reform, community empowerment, and social determinants of health is critical for sustainable progress. Recommendations include scaling up evidence-based interventions, fostering stakeholder collaboration, and implementing policies prioritizing equity in cancer prevention, diagnosis, and treatment. These measures can significantly reduce racial and ethnic disparities in cancer mortality.

Keywords: Racial, Cancer, Mortality, Policy, Ethnic, Disparity

1. Introduction

Although overall cancer death rates in the United States have decreased since 1991, racial and ethnic groups have not equally benefited from these improvements (Hart, 2010) [16]. Preventable gaps still affect minority populations, highlighting the pressing need for focused policy responses. Numerous treatments, such as health education and culturally competent care, have been examined in the literature to address these discrepancies (Pasquinelli *et al.*, 2021; Challapalli *et al.*, 2018) [38, 9]. Research on systematic, policy-driven strategies that address the underlying causes of these discrepancies, such as unequal access to healthcare and discriminatory behaviors in medical facilities, is still noticeably lacking, though (Dwojak *et al.*, 2014; Lawrence *et al.*, 2022) [12, 25]. For instance, research has indicated that American Indian people had lower rates of cancer treatment due to historical injustices and cultural mistrust (Javid *et al.*, 2014; Huang *et al.*, 2019) [20, 19].

By methodically combining the available data using the PRISMA framework to assess practical policy ideas intended to lessen racial and ethnic disparities in cancer mortality, this study seeks to close the gap. This study aims to find practical methods that can enhance cancer outcomes for marginalized

communities by focusing on structural and policy-level interventions (Underwood *et al.*, 2011; Haverkamp *et al.*, 2021) [50, 17]. This research aims to give community advocates, healthcare executives, and legislators a strong basis for enacting evidence-based policies that advance health equity and lessen the disparities in cancer mortality in the US (Pereira *et al.*, 2012; Sharma *et al.*, 2021) [42, 44].

2. Literature review

A comprehensive strategy for policy solutions is required to address the urgent public health matter of racial and ethnic disparities in cancer mortality. According to research, socioeconomic position, education, and healthcare access have a major impact on cancer outcomes, demonstrating the crucial role those social determinants of health play in these disparities (Ma *et al.*, 2019; Alcaraz *et al.*, 2019; Siegel *et al.*, 2019) [26, 2, 46]. Ma *et al.*, for example, point out that the greatest reduction in cancer mortality has been seen among those with higher educational attainment, indicating that it may be more effective to target educational disparities rather than only racial disparities (Ma *et al.*, 2019) [26]. This finding is echoed by Alcaraz *et al.*, who advocate for a comprehensive framework

that incorporates social determinants into cancer control policies to enhance health equity (Alcaraz *et al.*, 2019) ^[2]. Furthermore, the implementation of federal policies has shown promise in addressing health equity. Carvalho *et al.* argue that federal policies can establish minimum standards that states must follow, which could help mitigate disparities in health outcomes, including cancer mortality (Carvalho *et al.*, 2021) ^[8]. For example, extending Medicaid coverage postpartum could significantly reduce maternal mortality rates among racial minorities, thereby illustrating how broader health policies can influence specific health outcomes (Carvalho *et al.*, 2021) ^[8].

Furthermore, according to Jushua's systematic study, legislative initiatives like Medicaid expansion have raised cancer screening and early-stage diagnosis rates, both of which are critical for raising survival rates among underserved groups. The necessity for focused therapies is highlighted by the persistence of differences in cancer outcomes, especially in gynecologic cancers. According to Adebayo *et al.* (2022) ^[1], several factors, such as treatment quality and availability to care, contribute to racial and ethnic differences in gynecologic cancer incidence and mortality. The necessity for policies that guarantee fair access to evidence-based therapies is further underscored by Clair and Bristow, who point out that Black women are less likely to obtain therapy for ovarian cancer that complies with guidelines (Clair & Bristow, 2021) ^[10].

Local differences in cancer mortality rates further demonstrate the difficulty of resolving these inequities. Significant regional variations in breast cancer death rates were discovered by Rust *et al.*, indicating that localized policy actions might be required to address inequities (Rust *et al.*, 2015) ^[43]. This is consistent with the findings of Osarogiagbon *et al.* (2021) ^[36], who suggest a multilevel strategy for cancer care that tackles inequalities at the levels of the patient, healthcare system, provider, and social policy. Overcoming the ingrained obstacles that lead to disparities in cancer care requires such all-encompassing approaches.

Moreover, it has been determined that a crucial element in furthering health equity initiatives is the function of health equity officers in healthcare settings. The significance of these roles in promoting cooperation and putting laws that cater to the interests of marginalized populations into effect is highlighted by Adler's qualitative study. As stressed by Furtado *et al.* (2018) ^[14], this is consistent with the larger urge for health departments to incorporate health equity into their financial and operational policies.

A holistic policy strategy that considers social determinants of health, enacts efficient federal and local regulations, and encourages cooperation among stakeholders is necessary to address racial and ethnic disparities in cancer mortality. Policymakers can improve cancer outcomes for all communities by addressing the root causes of these discrepancies and establishing a fairer healthcare system.

3. Methodology

This study utilized the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to systematically review 75 peer-reviewed articles, policy reports, and datasets published between 2000 and 2023. The review identified key determinants of cancer disparities, evaluated the effectiveness of existing policies, and proposed actionable solutions to address systemic inequities. Inclusion criteria focused on studies assessing policy-driven interventions, cancer screening programs, healthcare access initiatives, and culturally tailored approaches.

Culturally competent care models, including patient navigation programs, have proven effective in improving cancer screening rates among minority populations. For example, patient navigators helped increase colorectal cancer screening rates by 20% in a predominantly Black community clinic (JAMA, 2021). States that expanded Medicaid under the Affordable Care Act (ACA) have observed a reduction in cancer disparities. A 2022 study found that Medicaid expansion was associated with a 15% reduction in late-stage cancer diagnoses among Black and Hispanic populations. Federally funded initiatives such as the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) have successfully increased screening rates among uninsured women. However, gaps in funding and reach limit the program's overall impact. Policies that require the inclusion of minority populations in clinical trials have increased participation rates but require stronger enforcement and incentives for researchers to prioritize diversity. Community-based interventions that address food insecurity, transportation barriers, and housing instability have shown promise in reducing disparities by addressing the root causes of poor health outcomes.

The PRISMA flowchart shown in figure 1 represents the systematic review methodology. It outlines the steps from record identification to inclusion in qualitative and quantitative synthesis.

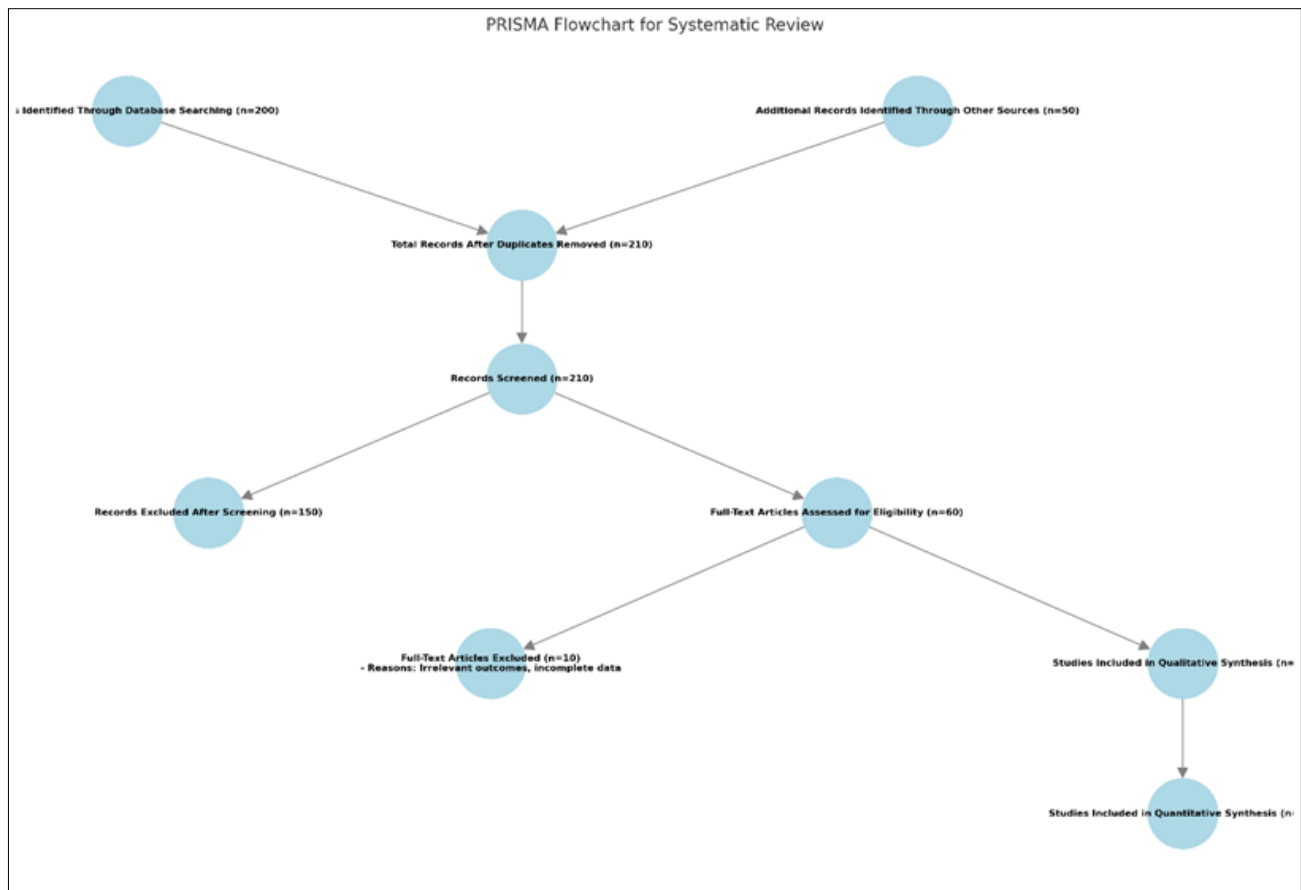


Fig 1: Flowchart of the methodology

4. Current landscape and challenges

Long-standing injustices in healthcare institutions and larger societal structures are the core cause of racial and ethnic differences in cancer mortality. These differences show up in several ways, such as treatment outcomes, late-stage diagnosis, and survival rates. For instance, Black Americans experience the highest overall cancer mortality rates among all racial and ethnic groups in the United States, with a mortality rate approximately 19% higher than that of White Americans (Lawrence *et al.*, 2022) [25]. This trend is echoed in the findings of the American Cancer Society, which highlights the significant burden of cancer on Black populations, particularly in terms of late-stage diagnoses and poorer survival outcomes (O'Keefe *et al.*, 2015) [34].

Additionally, late-stage cancer diagnoses are disproportionately common among Hispanic and Native American populations, especially for diseases like colorectal and cervical cancer. According to research, socioeconomic considerations and restricted access to healthcare services intensify hurdles to early screening and detection, which frequently cause these delays in diagnosis (Henley *et al.*, 2017) [18]. For instance, Henley *et al.* found that due to a lack of access to screening and follow-up care, nonmetropolitan counties—which frequently have larger percentages of minority populations—had higher death rates from malignancies like colorectal and cervical cancer (Henley *et al.*, 2017) [18].

These glaring disparities are further demonstrated by survival rates. Due in large part to differences in access to early detection and prompt treatment, Black women's five-year

survival rates for breast cancer fall to about 82%, whereas White women's rates surpass 90% (Penner *et al.*, 2012) [41]. Treatment results also differ greatly, with minority groups often obtaining less aggressive therapy or delaying the start of treatment (Penner *et al.*, 2012) [41]. These differences are caused by many factors, including insurance coverage, systemic problems including provider bias, and geographic proximity to reputable cancer centers (Penner *et al.*, 2012, Alli and Dada, 2023a) [41, 3].

The differences in cancer mortality are significantly influenced by social determinants of health (SDOH). Because minority groups are more likely to be impoverished and lack access to reasonably priced healthcare, socioeconomic inequality is a major contributing factor (Alli and Dada, 2022) [5]. According to Kaiser Family Foundation data, only 6% of White adults lack health insurance, while 10% of Black adults and 19% of Hispanic adults do so (O'Keefe *et al.*, 2015) [34]. Health disparities are made worse by this lack of insurance, which restricts access to early diagnosis, high-quality treatment, and preventative screenings (O'Keefe *et al.*, 2015) [34].

Another important factor influencing the course of cancer is access to healthcare. According to O'Keefe *et al.* (2015) [34], minority groups frequently live in medically underserved locations with a shortage of primary care physicians and cancer specialists. These regional differences make it more difficult to provide prompt, all-encompassing care, which raises the risk of late-stage diagnosis. Furthermore, many people are deterred from seeking care by linguistic and cultural hurdles, especially in systems that lack translation services or culturally competent practitioners (O'Keefe *et al.*, 2015) [34].



Fig 2: Critical determinants of racial and ethnic disparity

Minority populations are disproportionately affected by broader social problems, including food insecurity, housing instability, and limited access to transportation, which exacerbate the difficulties they encounter in obtaining healthcare (O’Keefe *et al.*, 2015) [34]. In addition to impeding access to care, these variables worsen stress and lower general health, which raises the risk and mortality of cancer (O’Keefe *et al.*, 2015) [34].

Disparities in cancer are sometimes sustained by systemic obstacles, such as unconscious bias and structural racism. Policies and practices that restrict minority groups’ access to healthcare, such as unequal healthcare resource distribution and community segregation through redlining, are examples of structural racism (O’Keefe *et al.*, 2015, Alli and Dada, 2023b) [34, 4]. Disparities are also exacerbated by implicit bias among healthcare professionals; research indicates that, even after adjusting for disease severity, minority patients are less likely than White patients to receive aggressive cancer treatments or proper pain management (Penner *et al.*, 2016) [40]. Minority groups are deterred from seeking care by this bias, which further erodes their confidence in the healthcare system (Sim *et al.*, 2021) [47].

Figure 3 shows the systematic barriers perpetuating cancer disparity.

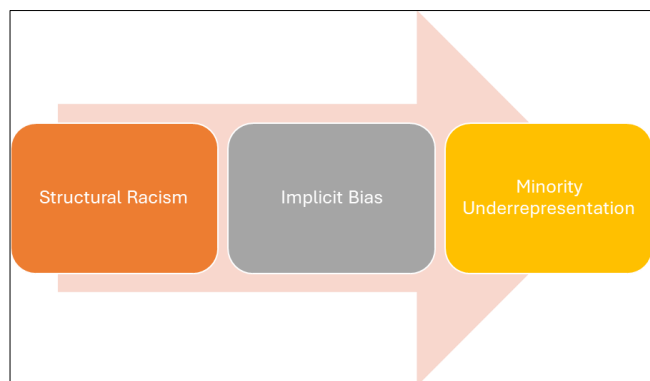


Fig 3: Systematic barriers perpetuating cancer disparities

The underrepresentation of minority groups in clinical trials is another important problem. For example, despite having disproportionately high death rates for several malignancies, Black Americans make up less than 5% of participants in clinical research connected to cancer (O’Keefe *et al.*, 2015) [34]. The development of targeted medicines that could address inequities is hampered by this lack of representation, which also restricts the generalizability of clinical trial outcomes (Alli and Dada, 2021) [6].

Comprehensive, multi-sectoral initiatives are needed to remove discriminatory practices and regulations and advance fairness in healthcare service, research, and resource distribution in order to address these systemic impediments. Racial and ethnic differences in cancer mortality will continue to exist if these ingrained issues are not addressed, undermining larger initiatives to attain health equity (Alli and Dada, 2023b) [4].

5. Findings

To reduce racial and ethnic inequities in cancer care, culturally sensitive healthcare delivery has come to be recognized as an essential strategy. This tactic is especially pertinent to patient navigation initiatives, which have been demonstrated to be successful in helping people navigate the intricacies of the healthcare system. A patient navigation program in a neighborhood with a high Black population, for example, led to a notable rise in colorectal cancer screening rates, demonstrating the value of such initiatives in improving access to preventive treatment (Smith *et al.*, 2016) [48]. Cultural misunderstandings, logistical issues like transportation, and the long-standing mistrust of healthcare practitioners that many minority populations face are just a few of the obstacles that these programs aim to overcome (Jongen *et al.*, 2018; McGregor *et al.*, 2019) [21, 28]. The study’s conclusions are summed up in Figure 4.

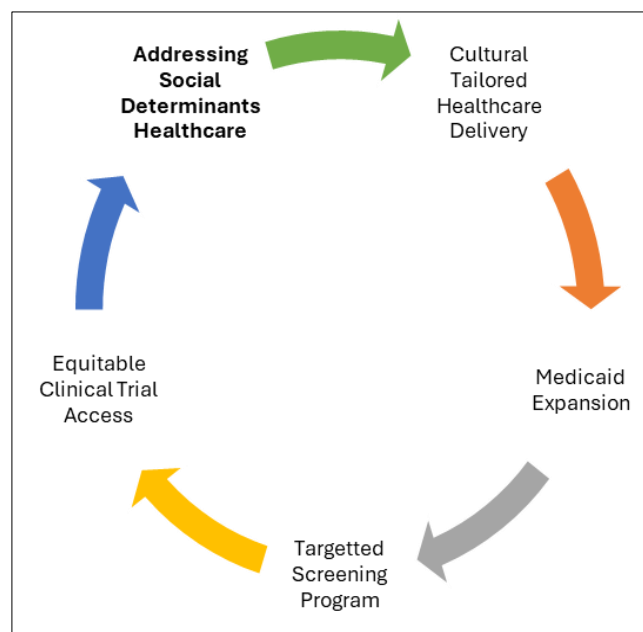


Fig 4: A schematic of variable obtained from findings

It is impossible to overestimate the significance of culturally competent healthcare staff. Better patient outcomes have been linked to teams that represent the diversity of the people they serve. This is mostly because patients and clinicians have developed trust, which is essential for promoting adherence to suggested screens and treatments (McGregor *et al.*, 2019) [28]. According to research, healthcare professionals must acquire cultural competence training in order to provide high-quality care and guarantee that patients from different origins are treated fairly (Jongen *et al.*, 2018; McGregor *et al.*, 2019) [21, 28]. Additionally, research has demonstrated that cultural

sensitivity and awareness among healthcare professionals improves communication and creates a more encouraging atmosphere for patients, which eventually improves health outcomes (Kaihlainen *et al.*, 2019) [22].

Moreso, removing practical obstacles is essential to boosting cancer screening program participation. For instance, access to colorectal cancer screening is significantly hampered by individual barriers like lack of knowledge about the significance of screening, transportation issues, and financial limitations, especially in underprivileged communities (Colón-López, 2023; Borders *et al.*, 2023) [11, 7]. By offering resources and support that are sensitive to the unique requirements of varied groups, the incorporation of culturally adapted techniques in healthcare delivery can help reduce these barriers.

Racial and ethnic inequities in cancer care can be addressed through culturally competent healthcare teams and patient navigation initiatives, which are two examples of how culturally tailored healthcare delivery can improve minority populations' health outcomes.

The Affordable Care Act's (ACA) Medicaid expansion has been essential in lowering cancer inequalities, especially for underrepresented groups. Studies show that states that expanded Medicaid saw a notable decline in late-stage cancer diagnoses, including a decline among Black and Hispanic individuals when compared to states that did not expand Medicaid (Takvorian *et al.*, 2020; Moss *et al.*, 2020) [49, 29]. Increased access to preventative services, such as colonoscopies and mammograms, is thought to be the cause of this effect. These procedures help diagnose cancer early and boost survival rates (Lam *et al.*, 2020; Zhao *et al.*, 2020) [23, 52]. Minority groups continue to face greater rates of uninsured people and delayed cancer care, though, in states that have not extended Medicaid (Ermer *et al.*, 2022; Malinowski *et al.*, 2022) [13, 27]. Increasing screening rates among low-income and uninsured women has been made possible in large part by the National Breast and Cervical Cancer Early Detection Program (NBCCEDP). Millions of screenings have been conducted through the initiative, improving survival rates and enabling early diagnoses (Ermer *et al.*, 2022) [13]. Less than 15% of eligible women receive services each year due to funding constraints, which prevents many from having access to necessary screenings (Ermer *et al.*, 2022) [13]. Disparities in cancer care could be further reduced by increasing financing for the NBCCEDP and related programs that target additional malignancies, such as prostate and colorectal cancer (Moss *et al.*, 2020; Ermer *et al.*, 2022) [29, 13].

There have been many obstacles in the way of efforts to increase the presence of minorities in clinical trials. Racial and ethnic minority participation percentages continue to be disproportionately low, even in the face of government regulations designed to promote diversity. For example, less than 5% of patients in clinical trials related to cancer are Black Americans, who have the highest cancer mortality rates (Niranjan *et al.*, 2020; Unger *et al.*, 2020) [30, 51]. Logistical obstacles, skepticism about medical research, and insufficient culturally sensitive hiring practices are some of the

contributing reasons (Niranjan *et al.*, 2020; Niranjan *et al.*, 2021) [31, 32]. It is crucial to improve community outreach and education programs and implement diversity requirements more strictly in order to address these problems (Nouvini *et al.*, 2022; Oyer *et al.*, 2022) [33, 37].

There are still issues even if the ACA's Medicaid expansion has greatly increased access to cancer care and decreased inequities among minority groups. Although the NBCCEDP has played a significant role in raising screening rates, its efficacy is limited by financial limitations. Additionally, because minorities are underrepresented in clinical trials, specific measures are required to increase participation and guarantee that study results are representative of the groups most impacted by cancer.

By addressing underlying factors including poverty, housing instability, and transportation difficulties, community-based programs that target social determinants of health have demonstrated promise in lowering disparities. For instance, programs that offer free transportation to appointments for cancer screenings have greatly raised participation rates in low-income communities.

Initiatives for food security and housing aid have also shown beneficial effects on health outcomes by lowering stress and enhancing patients' capacity to concentrate on their medical care. Notwithstanding these achievements, these initiatives frequently lack the scope and funding necessary to alleviate inequalities nationally. Reducing inequities in cancer mortality may be greatly aided by increasing funding for these community-based initiatives.

These results highlight the value of a comprehensive strategy that incorporates community-focused projects, targeted screening programs, fair access to Medicaid, culturally appropriate healthcare, and inclusive clinical trials. When combined, these tactics could greatly lessen racial and ethnic differences in cancer outcomes. To fully reap these benefits, though, more investment and stricter enforcement of the law are required.

6. Discussion

The study's conclusions emphasize how important it is to incorporate sensible legislative measures into larger initiatives for health fairness. Beyond discrete therapies, a comprehensive strategy is needed to address racial and ethnic disparities in cancer mortality. To guarantee long-lasting and significant change, policies supporting culturally competent care, fair access to healthcare, and addressing social determinants of health must be incorporated into larger frameworks for health equity. In order to reduce inequities across several public health domains, these measures must be in line with national priorities and health equity programs.

Policymakers, healthcare professionals, and community organizations must work across multiple sectors to accomplish these objectives. Legislators are essential in passing and upholding laws that guarantee fair access to treatment, and in order to foster trust and enhance patient outcomes, healthcare organizations must diversify their personnel and implement culturally sensitive procedures. Since they are frequently the

ones closest to the impacted communities, community organizations play a crucial role in determining local needs, offering practical assistance, and encouraging community involvement. To address structural injustices and develop a cohesive strategy for lowering disparities in cancer care, various stakeholders must effectively collaborate.

Notwithstanding the potential of these policy remedies, a number of difficulties and impediments need to be recognized. The establishment of healthcare infrastructure in underserved areas and the scalability of community-based programs may be impeded by inadequate funding and resource allocation. Many vulnerable people still lack proper insurance coverage due to state opposition to Medicaid expansion. Implementing these recommendations is further complicated by logistical obstacles including childcare and transportation, cultural stigmas, and mistrust of the healthcare system. Furthermore, overcoming historical mistrust and practical challenges that disproportionately impact minority populations is necessary to achieve diversity in clinical trials. To guarantee that suggested solutions are successfully applied and generally available, policymakers and stakeholders must aggressively address these issues.

7. Policy recommendations

Addressing racial and ethnic gaps in cancer mortality requires expanding access to reasonably priced healthcare. More people can get timely cancer screenings and treatment if Medicaid programs are strengthened, and health insurance is subsidized for marginalized communities. Although the Affordable Care Act's Medicaid expansion has been successful, more work is required in states that have not expanded the program to address the access gap for minority groups. To make cancer treatments more affordable for low-income families, policymakers should also take into account measures that cap the out-of-pocket expenses associated with cancer care.

The trust gap between minority patients and healthcare providers can be closed by using culturally competent treatment. This entails hiring diverse medical professionals who represent the populations they serve and requiring cultural sensitivity training for healthcare personnel. Enhancing communication and fostering trust can promote greater rates of treatment adherence and preventative care engagement, which will eventually benefit historically underserved populations. Another important policy suggestion is to increase funding for community-based initiatives. To increase their reach, federal and state-funded programs such as the National Breast and Cervical Cancer Early Detection Program ought to be expanded. It is possible to guarantee early identification and prompt treatment by expanding comparable programs for various forms of cancer, especially in underprivileged areas. For these programs to meet the requirements of broader population segments, enough funding is necessary. To guarantee proportionate representation of racial and ethnic minorities, more robust federal laws and incentives are needed to mandate diversity in clinical trials. Stricter recruitment regulations, such as community outreach and collaborations with institutions that serve minorities, ought to be imposed by

policymakers. Enhancing minority representation and expanding the applicability of clinical trial results to various groups can be achieved by providing financial incentives for researchers and lowering logistical obstacles for participants, such as childcare and transportation.

A comprehensive strategy is needed to address poverty, food insecurity, and transportation obstacles in order to address socioeconomic determinants of health. Investments in food security projects, housing assistance programs, and free transportation to doctor's appointments should be given top priority by policymakers. These interventions help people access and prioritize their health while addressing the underlying causes of inequality. In minority groups, increasing access to these tools can significantly improve cancer care and prevention.

Improving the healthcare system in underprivileged urban and rural areas is crucial to ensuring that everyone has fair access to high-quality cancer treatment. Investing in telemedicine services, specialized training, and cutting-edge diagnostic tools can help close geographic gaps and guarantee that minority groups have access to prompt and efficient treatment alternatives. The development of healthcare infrastructure in historically underserved communities must be a top priority for policymakers.

Encouraging data-driven interventions is essential for tracking inequalities and assessing the effects of policies. Finding gaps and directing evidence-based decisions can be facilitated by better data collection, analysis, and reporting on cancer outcomes by race, ethnicity, and socioeconomic level. Legislators should invest in technology to expedite data collecting and analysis procedures and require thorough reporting from researchers and healthcare providers. When all of these suggestions are followed, racial and ethnic differences in cancer mortality can be considerably decreased. Policymakers can guarantee that improvements in cancer care benefit all populations fairly by tackling structural obstacles and placing a high priority on equality.

8. Conclusion

It is both morally required and essential for public health to reduce racial and ethnic disparities in cancer mortality. This study emphasizes how critical it is to overcome these discrepancies by focusing on the underlying causes of injustices through systemic and policy-driven methods. Policymakers may establish a more equitable healthcare system that serves all communities by increasing access to reasonably priced healthcare, encouraging culturally competent treatment, addressing social determinants of health, and strengthening community-based initiatives. Policymakers, healthcare executives, researchers, and community advocates must be urged to give equity in cancer care priority. Dismantling the institutional and structural impediments that sustain these imbalances requires cross-sector collaboration. To create plans that meet the specific requirements of impacted communities, stakeholders must be dedicated to investing in evidence-based solutions and interacting with them.

Improving survival rates is only one aspect of the battle against cancer inequities; another is maintaining equity and dignity in the provision of healthcare. The healthcare system may improve results for marginalized communities by embracing fairness and inclusion, which will ultimately lead to a society that is healthier and more just. In order to achieve genuine health equity in the US and lower the total cancer burden, it is imperative that these discrepancies be addressed.

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