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Global Health Disparities: A Literature Review on Social Determinants, Minority Disparities, and Access to Health for Population Health Equity

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Abstract

Global health disparities remain a complex challenge, influenced by a range of social, economic, and structural factors. This literature review synthesizes evidence from studies published between 2015 and 2025, examining how social determinants of health (SDOH), socioeconomic status, racial and ethnic inequalities, and healthcare access impact population health outcomes in low, middle, and high-income settings. The findings reveal a clear social gradient in health, where disadvantaged populations consistently face higher disease burdens, lower life expectancy, and limited access to essential services. These disparities are particularly pronounced in low and middle-income countries (LMICs), where resource constraints, human resource shortage, and systemic underinvestment exacerbate poor health outcomes. The COVID-19 pandemic has further highlighted and intensified these disparities, disproportionately affecting marginalized communities due to structural vulnerabilities, occupational exposure, and limited access to healthcare. Additionally, while emerging digital health innovations hold promise, they may also widen inequalities due to dispariies in access, literacy, and trust. Significant gaps in disease-specific outcomes, such as cancer survival rates and kidney disease management, also underscore the inequities in healthcare infrastructure worldwide. This review emphasizes the need for comprehensive, equity-focused interventions that address upstream determinants, including education, housing, and income, alongside necessary healthcare system reforms. It advocates for the decolonization of global health, the strengthening of LMIC-led research, and improved data representation to inform inclusive policies. Achieving health equity requires coordinated, multisectoral efforts

and sustained political commitment to translate evidence into actionable strategies.

Keywords: Health Disparities, Social Determinants of Health, Socioeconomic Status, Structural Inequalities, Healthcare Access, Racial Disparities, Ethnic Minorities, Aging Populations and Digital Disparity.

Introduction

Health inequalities refer to preventable differences in health outcomes and access to care influenced by social, economic, and environmental factors[1]. These disparities are exacerbated in low and middle- income countries [LMICS] and among marginalized groups in high-income countries (HICs), leading to higher burdens of chronic diseases, infectious outbreaks, and premature mortality. Health disparities are still a major problem, both locally and globally. The COVID-19 pandemic amplified these issues, revealing gaps in vaccine distribution and healthcare infrastructure. Health outcomes vary starkly by country income level and region. In Ruger & Kim (2006) cluster analysis of 192 countries identified 29 nations with high adult mortality (584 per 1,000) and 23 nations with high child mortality under age 5 (207 per 1,000)[2]. All high-mortality countries were in sub-Saharan Africa, western Africa, or Afghanistan, reflecting clustering of disadvantage. Studies by Wang et al. (2020) reveals the growing disparities by Asian-American and Pacific Islander communities during the COVID-19 pandemic—issues that have been made worse by racism and the lack of sufficient data[3]. In study by Mc Maughan et al. (2020), reveals how aging, economic insecurity, and access to healthcare are all intertwined in a way that makes it even more urgent for us to focus on equity in our reforms[4].

These studies reveal that social factors—like education, housing, income, and systemic discrimination—affect health outcomes. Social determinants of health (SDOH) are the nonmedical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, worship, and age. These conditions include a wide set of forces and systems that shape daily life such as economic policies and systems, development agendas, social norms, social policies, and political systems[5]. Advancing health equity requires addressing the underlying social determinants that shape health outcomes. This imperative demands a multisectoral approach, engaging all levels of government, the private sector, and civil society to enact systemic and sustainable change[1].

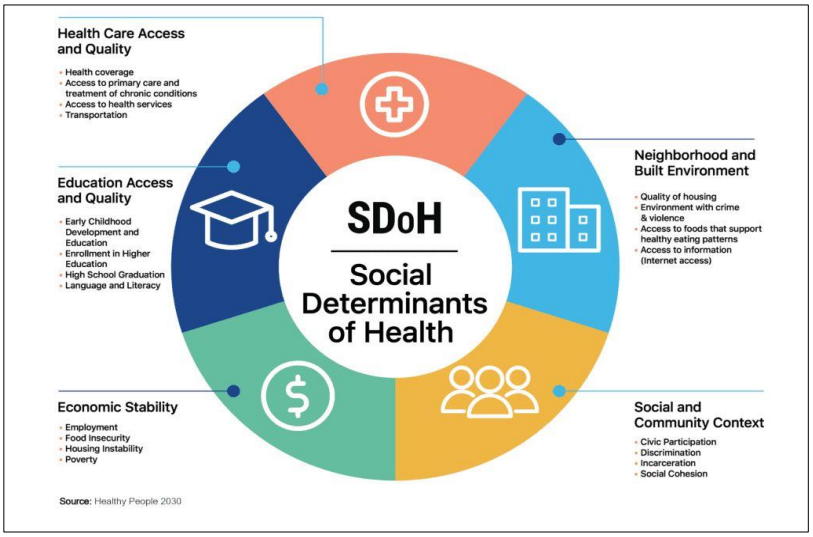

Figure 1: Social determinants of health are often grouped into 5 domains as illustrated.

Across all income levels, health outcomes exhibit a clear social gradient, with individuals in lower socioeconomic positions experiencing poorer health. Limited access to quality housing, education, social protection, and employment opportunities significantly increases the risk of illness and premature mortality. Evidence indicates that these social determinants of health can have a greater impact on health outcomes than genetic predispositions or access to healthcare services. Global health inequalities are widening, with statistics indicating geographic concentrations in LMICs and racial divides in HICs, addressing them requires grassroots efforts, policy reforms, and equitable resource allocation. Future research should prioritize LMIC-led studies and real-time data to track progress toward Sustainable Development Goals. This literature analysis aims at the need for multidimensional interventions targeting poverty, education, and healthcare access. We want to assess how current frameworks are working and find some real opportunities for targeted, inclusive, and scalable solutions that can help reduce health inequities and promote better health for everyone.

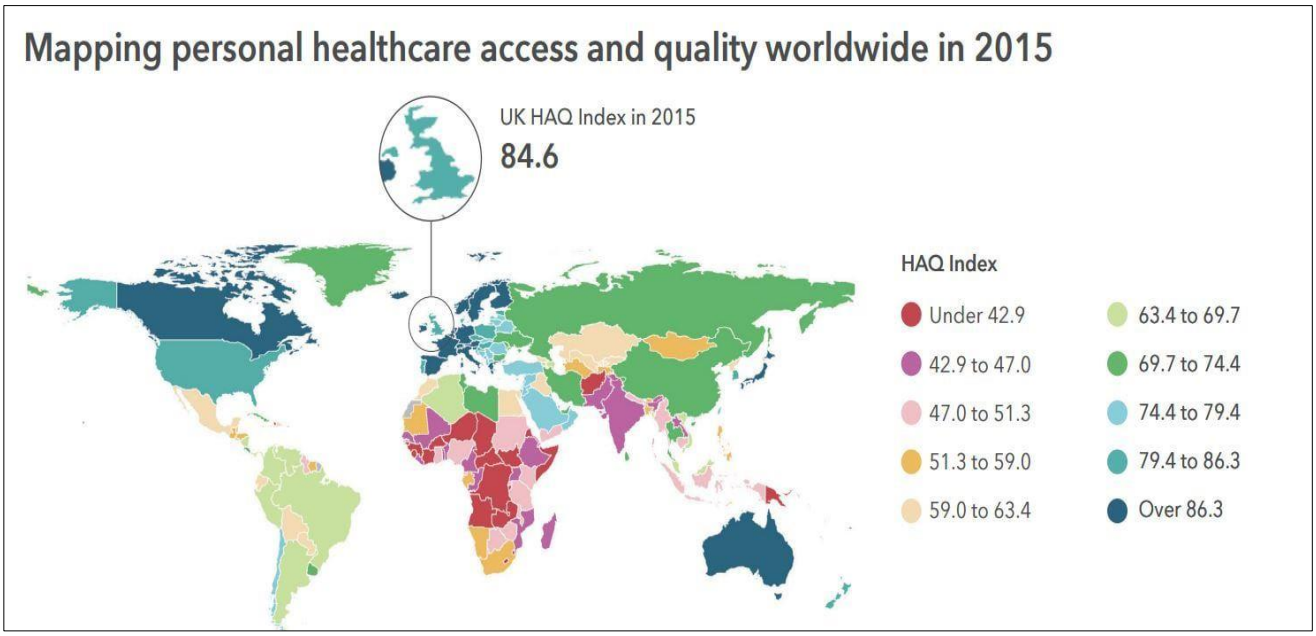

Figure 2: Healthcare Access and Quality Index based on mortality from causes amenable to personal healthcare in 195 countries, 1995-2015: a novel analysis from Global Burden of Disease Study. The Lancet. DOI: 10. 1016/S0140-6736(17)30818-8

Methods and Material

To review the literature, studies were selected from PubMed, Scopus, Web of Science, and Google Scholar, published between 2015 and 2025, to provide a comprehensive overview of current knowledge on social determinants of health, minority disparities, and healthcare access relevant to population health equity. The review focused on evaluating how socioeconomic status, structural inequalities, and systemic discrimination influence health outcomes among vulnerable populations, including racial and ethnic minorities and older adults. The search terms included: “Health disparities,” “Social determinants of health,” “Socioeconomic status,” “Structural inequalities,” “Healthcare access,” “Racial disparities,” “Ethnic minorities,” “Aging populations” and “Digital Disparity.” The research encompassed case

reports, observational studies, qualitative analyses, epidemiological studies, and systematic reviews.

Discussion

Global health disparities encompass the unequal distribution of health resources, services, and outcomes across populations. They manifest as differences in life expectancy, disease burden, maternal and child mortality, mental health outcomes, and access to healthcare between richer and poorer nations, as well as among groups within countries. The compilation of research papers on global health disparities reveals a persistent and multifaceted challenge, underscoring the interplay between social determinants of health (SDOH), socioeconomic status (SES), race/ethnicity, and access to care. These studies, spanning general health inequalities, pandemic-specific impacts like COVID-19, and disease-focused disparities (e.g., cancer and aging), collectively highlight how structural inequities exacerbate health outcomes across high-income countries (HICs), low- and middle-income countries (LMICs), and within vulnerable populations. By integrating these insights, this discussion identifies patterns, drivers and gaps and proposes implication of actionable strategies and future research to foster equity.

Persistent Global and Intra-National Inequalities

A central theme across the papers is the enduring nature of health disparities, driven by SDOH such as education, income, housing, and access to resources. Thornton et al. emphasize interventions targeting education, early childhood development, urban planning, housing, income supplements, and employment as evidence-based strategies to mitigate disparities in chronic conditions like obesity, cardiovascular disease, and cancer. They argue that while sufficient evidence exists for policy action, challenges in scaling and financing these interventions persist, particularly for vulnerable populations like racial/ethnic minorities and low-SES groups[6].

This aligns with Ruger and Kim's international comparison, which clusters countries into mortality groups using World Development Indicators data. They find stark inequalities in adult and child mortality, with worse-off countries (primarily in sub-Saharan Africa and Afghanistan) exhibiting higher rates linked to poverty, rural living, female illiteracy, and limited healthcare resources. Multivariate analyses reveal HIV prevalence as a key driver of adult mortality disparities, while slower progress in reducing child mortality in worse-off groups underscores growing global gaps since 1960[2].

In LMICs, these disparities are amplified by resource constraints and colonial legacies. The correspondence from LMIC researchers, critiques the power imbalances in global health, where HICs dominate resources, journals, and leadership (e.g., only 8.7% of Consortium of Universities for Global Health members are from LMICs). They advocate for decolonization through increased LMIC funding, evidence-based decision-making, and resistance to imposed HIC norms[7]. Similarly, initiatives like the Global Fund and Gavi, noting their successes in reducing AIDS-related deaths (60% decline from 2002-2020) and immunizing 760 million children, but highlights challenges in sustainability and vaccine equity, as seen during COVID-19 pandemic[7].

Within HICs, intra-national disparities mirror global patterns. Bambra et al. draw historical parallels to the 1918 Spanish influenza and 2009 H1N1 pandemics, showing higher mortality in deprived neighbourhoods, urban areas, and low-SES groups. For COVID-19, they argue for a "syndemic" perspective, where inequalities in chronic diseases and SDOH amplify pandemic impacts,

potentially widening gaps through economic fallout from lockdowns[8].

Global health disparities remain stark, with over 85% of children with cancer in HICs cured, compared to less than 20% in LMICs, primarily due to inadequate paediatric infrastructure and skilled workforce[10] .Similarly, kidney disease burdens LMICs disproportionately, with a global median chronic kidney disease prevalence of 9.5% (IQR 5.9-11.7), yet only 70% of countries offer kidney transplantation and 53% provide conservative kidney management[11], these gaps echo Ruger and Kim's clustering of countries into mortality groups.

In psychiatric care during COVID-19, vulnerable populations like ethnic minorities and children with disabilities experience worsened outcomes due to barriers in access and social isolation ups[12]

Racial/Ethnic and Socioeconomic Disparities

The COVID-19 pandemic emerges as a stark amplifier of disparities in several papers. Wang et al. focus on Asian-Americans and Pacific Islanders (AAPIs), noting disproportionate mortality in states like New York (7.9% of deaths vs. 13.9% population share) and Nevada (15.4% vs. 8.1%). They attribute this to overrepresentation in essential workforces, intergenerational living, comorbidities, and rising xenophobia, recommending data disaggregation and anti-discrimination efforts[3].

Magesh et al.'s meta-analysis of 4.3 million patients reinforces these findings, showing African American (RR 3.54) and Hispanic (RR 4.68) individuals most likely to test positive for COVID-19, with Asian Americans at highest ICU admission risk (RR 1.93). Socioeconomic factors, such as area deprivation index, correlate with higher mortality in Asian American and Hispanic groups, while reduced clinical care access drives positivity rates in African American and Hispanic populations. This suggests that race/ethnicity-based disparities are not inherent but mediated by SES and systemic inequities[13].

For chronic conditions, cancer care disparities, with 5-year survival rates for breast cancer at 88.6% in the US versus lower in LMICs. Using examples from Kenya (limited resources), Brazil (universal coverage but implementation gaps), and the US (racial disparities), they advocate for investments in prevention, early detection, and palliative care, emphasizing economic benefits like reduced productivity losses[13], while Bello et al. report workforce shortages (median 11.8 nephrologists per million population, with an 80-fold gap between low- and high-income countries) limiting kidney replacement therapy access[11].

Aging-related disparities are addressed by Mc Maughan et al., who link low SES to poorer healthy aging outcomes due to financial barriers and limited healthcare access[4]. They recommend grass root interventions and policy changes to support older adults in overburdened systems.

Digital Disparity

With the advancement in the field of health disparity, there has been digital transformation of the healthcare. Digital health refers to the use of information and communication technologies in medicine and other health professions to manage illnesses and health risks and to promote wellness. Digital health has a broad scope and includes the use of wearable devices, mobile health, telehealth, health information technology, and telemedicine.[15]

Barriers to effective use of digital health are experienced by underserved populations, defined as those who are socio economically disadvantaged (i.e., lower income, education, and underinsured or uninsured), persons from minoritized racial and ethnic groups, elderly persons,

persons with stigmatized characteristics, and persons living in rural areas. Included in these barriers are access, comfort with and motivation to use technology to support health, privacy concerns, and trust. Structural inequities such as disparities in income, internet access, and health insurance coverage account for a portion of the differences in digital health access and use between White patients and Black and Latino patients. Digital disparities in global health discourse are highlighted by Arshad et al., analysing #Global Health on X (formerly Twitter). Despite 843,762 posts, most originated from HICs like the US, UK, and Canada, with top influencers from international organizations and journals. This "digital discrepancy" reflects real-world inequities, where LMIC voices are underrepresented, perpetuating HIC dominance[16]. In psychiatric contexts, COVID-19 heightens depression, anxiety, and PTSD in ethnic minorities due to collective trauma and structural racism[12].

The rapid digitization of healthcare systems has the potential to widen existing health disparities. Emerging evidence suggests that digital health interventions can produce intervention-generated inequalities, as their uptake is often uneven across populations. Marginalized and socioeconomically disadvantaged groups are particularly likely to face barriers to adoption, thereby exacerbating inequities in access and outcomes.

Gender and Age-Specific Disparities

Gender inequities in health access are nuanced. Wagner et al. analysed World Health Survey data from 53 countries, finding women report higher needs for chronic care (OR 1.41 for at least one condition) but no systematic differences in access to treatment (e.g., OR 1.00 for chronic conditions). However, access remains low overall for both genders, particularly in LMICs. In psychiatric populations during COVID-19, pregnant women face increased domestic violence, while mature adults experience isolation-induced depression[12.]

Age-related vulnerabilities are evident in children and older adults. Children with disabilities show behavioural worsening amid pandemic disruptions[12] and low access to preventive services affects boys and girls under 5 equally[16]. McMaughan et al. link low SES to poorer healthy aging, recommending grassroots support for older adults[4].

Disparities in Specific Diseases and Vulnerable Populations

Childhood cancers exemplify disease-specific gaps, with LMICs' survival rates hindered by inadequate multidisciplinary paediatrics; HIC-LMIC partnerships are closing this through capacity building[10]. Kidney disease disparities include low haemodialysis availability (98% of countries) but limited coverage for over 50% of patients in 74% of nations with costs, exacerbating inequities[11] .Psychiatric patients in urban vs. rural areas face pollutants/overcrowding or telehealth barriers, respectively. Sexual and gender minorities with mental illness encounter discrimination and limited treatment access during crises like COVID-19[12].

Role of Intellectual Property and Diplomacy

Intellectual property rights contribute to access and R&D gaps, with patents creating barriers to affordable medicines and low-commercial-value researches[18]. Universities, driving much biomedical innovation, can address this through equitable access licensing to promote open science and reduce the "10/90 gap" (90% of R&D targeting 10% of global disease burden).

Global health diplomacy (GHD) is pivotal for equitable ATM, as states must ensure access as a human right. Emphasis GHD's role in resolving treatment gaps, particularly in LMICs where 2 billion lack essential medicines[19].

Common Drivers and Intersections

Across papers, SDOH intersect with race/ethnicity and geography. Poverty, rurality, illiteracy, and limited healthcare access recur as drivers, exacerbated by pandemics. For instance, COVID-19 studies show essential workers from minority groups facing higher exposure, while global analyses link colonial histories to funding imbalances. Initiatives like the Global Fund and Gavi demonstrate progress but face sustainability issues amid competing priorities.

Gaps include underrepresentation of LMIC data and the need for disaggregated metrics. Cost-effectiveness evaluations are often lacking and digital tools like hashtags may reinforce rather than bridge divides[7].

Implications and Recommendations

These papers collectively argue that addressing disparities requires multidimensional, equity-focused approaches. Ethically and economically, investments in LMICs yield long-term savings, while in HICs, rapid learning systems can mitigate intra-national gaps. Ultimately, as global health faces ongoing challenges like pandemics and aging populations, these studies call for urgent, collaborative action to ensure equity is not aspirational but achievable. Future efforts must prioritize the "worse-off" to prevent widening gaps for generations ahead.

Conclusion

This literature review highlights the pervasive and multifaceted nature of health inequities. In low- and middle-income countries (LMICs), persistent clusters of high mortality—particularly in sub-Saharan Africa and Afghanistan—reflect inadequate access to care and systemic underinvestment. Conversely, in high-income countries (HICs), entrenched racial and ethnic disparities persist, disproportionately affecting minority groups, older adults, and individuals in rural or socioeconomically deprived areas.

The COVID-19 pandemic functioned as a magnifying lens, exposing and exacerbating existing disparities. Unequal vaccine distribution, increased exposure among essential workers, and heightened mental health challenges—illustrate how intersecting vulnerabilities compound risk. While digital health innovations hold potential to address some gaps, they have simultaneously introduced new forms of exclusion: Barriers related to access, digital literacy, trust, and representation persist, particularly among underserved groups. Moreover, the global discourse on digital health remains dominated by HIC perspectives.

The analysis affirm that health outcomes follow a pronounced social gradient wherein structural inequities frequently outweigh genetic or biomedical determinants. This is exemplified by stark disparities such as childhood cancer survival rates—less than 20% in many LMICs compared to over 85% in HICs—and limited access to essential services such as kidney care. Additionally, global health inequities are perpetuated by structural factors such as intellectual property regimes and the legacy of colonialism, which contribute to the persistent “10/90 gap”—whereby less than 10% of global health research funding is directed toward conditions responsible for over 90% of the global disease burden. This misalignment reinforces inequities in medicine access, research priorities, and capacity building in LMICs.

The implications of these findings are far-reaching. Without deliberate and targeted interventions, health inequities will continue to undermine progress toward the Sustainable Development Goals (SDGs), exacerbate global economic disparities through productivity losses, and increase vulnerability to syndemic crises. Addressing

these challenges requires a fundamental reorientation of global health governance, including the decolonization of global health through LMIC-led initiatives, greater investment in community-based programs, and policy reforms that prioritize prevention, early detection, and universal health coverage. Evidence-based solutions to health inequities exist, their effective implementation demands sustained political will, cross-sectoral coordination, and a commitment to systemic transformation. Advancing global health equity must move from rhetorical aspiration to actionable, measurable reality.

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