HEALTH EQUITY IN PUBLIC HEALTH RESEARCH AND PRACTICE: ADDRESSING STRUCTURAL DETERMINANTS AND POPULATION-LEVEL DISPARITIES

By

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Abstract

Health inequities persist across global populations despite decades of public health research documenting their scope, causes, and consequences. These inequities reflect deeply embedded structural, social, economic, and political conditions that systematically disadvantage certain population groups while privileging others. This study critically examines how public health research and practice engage with health equity, with particular attention to the role of structural determinants, policy design, and health system organization. Using a mixed-methods approach that integrates secondary analysis of population health data with qualitative insights from policymakers, health system managers, and civil society actors, the study identifies persistent socioeconomic and geographic disparities in health outcomes and service coverage. Quantitative findings reveal pronounced gradients in mortality, service utilization, and financial protection, while qualitative findings highlight governance gaps, limited political commitment, and under-resourced community engagement mechanisms. The study concludes that equity-oriented public health practice requires sustained political will, intersectoral collaboration, and explicit integration of equity principles into research, policy formulation, and health system governance.

Keywords: Health equity, public health research, social determinants of health, health disparities, population health

1. Introduction

Health equity has become a central organizing principle in contemporary public health, reflecting a growing recognition that health outcomes are shaped not only by biomedical factors and individual behaviors but also by broader social, economic, and political conditions. Despite global

improvements in life expectancy and reductions in certain communicable diseases, substantial disparities in health outcomes persist both within and between countries. These disparities are evident across multiple axes, including income, education, gender, ethnicity, geography, and disability status.

Health inequities are widely understood as differences in health outcomes that are avoidable, unfair, and socially produced (Whitehead, 1992). They arise from unequal distributions of power, resources, and opportunities across the life course, leading to differential exposure to health risks and unequal access to protective factors. Public health research has been instrumental in documenting these patterns, yet evidence alone has proven insufficient to generate sustained equity gains.

In low- and middle-income countries (LMICs), health inequities are further compounded by fragile health systems, uneven economic development, and historical legacies of colonialism and structural adjustment. Even where national averages suggest progress, disaggregated data often reveal widening gaps between advantaged and marginalized populations (World Health Organization [WHO], 2018). These patterns challenge conventional public health approaches that prioritize aggregate improvements over distributive justice.

The COVID-19 pandemic provided a stark illustration of how social and structural inequities translate into unequal health outcomes. Disadvantaged populations experienced higher exposure to infection, greater economic vulnerability, and reduced access to healthcare services, resulting in disproportionate morbidity and mortality (Bambra et al., 2020). These experiences renewed calls for public health approaches that explicitly center equity rather than treating it as a secondary concern.

This study examines health equity within public health research and practice, focusing on how evidence informs policies and interventions aimed at reducing population-level disparities. By integrating quantitative population health data with qualitative perspectives from key stakeholders, the study seeks to deepen understanding of the mechanisms through which equity-oriented public health action succeeds or fails in real-world contexts.

2. Aims and Objectives

2.1 Aim

To examine how public health research and practice address health equity and reduce population-level disparities.

2.2 Specific Objectives

1. To analyze socioeconomic and geographic patterns of health inequities.
2. To assess the effectiveness of equity-oriented public health policies and interventions.
3. To explore institutional, political, and governance factors shaping equity outcomes.
4. To identify strategies for strengthening equity-focused public health research and practice.

3. Research Questions

1. What patterns of health inequities exist across socioeconomic and geographic groups?
2. How do public health interventions address structural determinants of health?
3. What institutional and political factors influence equity-oriented public health practice?

4. Literature Review

4.1 Conceptual Foundations of Health Equity

Health equity is grounded in principles of social justice and human rights. Unlike health equality, which implies uniform distribution of resources, equity emphasizes fairness and proportionality, recognizing that different population groups require different levels and forms of support to achieve comparable health outcomes (Braveman & Gottlieb, 2014). This distinction is critical for public health policy, as uniform interventions may inadvertently reinforce existing inequalities.

The concept of proportional universalism has gained prominence as a guiding framework for equity-oriented policy. It advocates for universal policies implemented at a scale and intensity commensurate with need, thereby avoiding stigmatization while addressing gradients in disadvantage (Marmot et al., 2020). Empirical evidence suggests that policies guided by this principle are more likely to produce sustained equity gains than narrowly targeted interventions.

4.2 Social and Structural Determinants of Health

A substantial body of research demonstrates that social determinants account for a significant proportion of health outcomes. Income, education, employment, housing, and social protection influence health directly and indirectly by shaping living conditions, stress exposure, and access to healthcare services (Solar & Irwin, 2010). These determinants operate across the life course, producing cumulative advantages or disadvantages.

Structural determinants operate at a macro level and include political systems, economic policies, and institutionalized forms of discrimination. Racism, gender inequality, and social exclusion have been identified as fundamental causes of health inequities, operating through multiple pathways and interacting with other social determinants (Krieger, 2014). Addressing these determinants requires policy action beyond the health sector, underscoring the importance of intersectoral governance.

4.3 Health Systems and Equity

Health systems play a central role in mediating the relationship between social determinants and health outcomes. Systems characterized by strong primary healthcare, public financing, and universal coverage are consistently associated with more equitable outcomes (WHO, 2018). In contrast, reliance on out-of-pocket payments and fragmented service delivery disproportionately burdens low-income populations.

However, the equity potential of health systems is often undermined by implementation gaps. Rural–urban disparities, workforce shortages, and weak accountability mechanisms limit access for marginalized populations. Evidence from LMICs suggests that even equity-oriented policies may fail to reach intended beneficiaries without sustained political and financial commitment (Victora et al., 2018).

4.4 Community Engagement and Participation

Community participation is widely recognized as a cornerstone of equity-oriented public health practice. Participatory approaches enhance the relevance, acceptability, and accountability of interventions, particularly among historically marginalized groups (Rifkin, 2014). Yet participation is frequently symbolic rather than substantive, constrained by power imbalances and limited institutional support.

5. Methodology

5.1 Study Design

A convergent mixed-methods design was employed, integrating quantitative secondary data analysis with qualitative inquiry. This design allows for triangulation of findings and a more comprehensive understanding of both outcome patterns and underlying processes.

5.2 Quantitative Data Sources

Secondary data were obtained from national demographic and health surveys, routine health management information systems, and national health insurance databases. Key indicators

included maternal mortality, under-five mortality, service coverage, and healthcare utilization, disaggregated by socioeconomic status and geography.

5.3 Qualitative Data Collection

Semi-structured interviews were conducted with:

- Policymakers involved in health and social policy (n = 8)
- Health system managers at national and subnational levels (n = 10)
- Civil society and community representatives (n = 7)

5.4 Data Analysis

Quantitative data were analyzed using stratified comparisons and concentration indices to assess inequality gradients. Qualitative data were analyzed thematically using an inductive–deductive approach informed by existing equity frameworks.

5.5 Ethical Considerations

Ethical approval was obtained from a recognized institutional review board. Written informed consent was obtained from all participants, and confidentiality was maintained throughout the study.

6. Results

6.1 Socioeconomic Inequities in Health Outcomes

Table 1: Health Outcomes by Wealth Quintile

Indicator	Lowest Quintile	Middle Quintile	Highest Quintile
Under-five mortality (per 1,000)	82	54	24
Maternal mortality (per 100,000)	610	420	180
Life expectancy (years)	56.3	61.7	69.4

These results demonstrate a clear socioeconomic gradient, with mortality rates substantially higher among the poorest populations.

6.2 Inequities in Health Service Coverage

Table 2: Service Coverage by Socioeconomic Status

Service	Lowest Quintile (%)	Highest Quintile (%)
Skilled birth attendance	38	91
Full immunization	61	89
Health insurance coverage	21	78

6.3 Geographic Disparities

Table 3: Urban–Rural Differences in Health Services

Indicator	Urban (%)	Rural (%)
Facility-based delivery	89	55
Improved sanitation	76	41
Access to primary care	82	49

6.4 Financial Protection and Catastrophic Expenditure

Table 4: Household Financial Burden

Indicator	Lowest Quintile	Highest Quintile
Catastrophic health expenditure (%)	18	4
Forgone care due to cost (%)	31	7

6.5 Qualitative Findings

Three major themes emerged:

1. Structural barriers outweigh individual choice
2. Equity policies lack sustained political commitment
3. Community participation enhances accountability but remains under-resourced

7. Discussion

The findings confirm that health inequities remain deeply entrenched and closely aligned with socioeconomic and geographic disadvantage. The observed gradients in mortality, service coverage, and financial protection are consistent with global evidence demonstrating that health outcomes follow social hierarchies (Marmot et al., 2020).

Interventions addressing structural determinants—such as financial protection and primary healthcare expansion—demonstrated greater potential for equity gains than narrowly focused behavioral interventions. However, qualitative findings highlight persistent implementation challenges, including weak governance, fragmented financing, and limited intersectoral coordination.

Geographic disparities underscore the ongoing neglect of rural populations, where shortages of health workers and infrastructure constrain service delivery. These findings align with prior research indicating that decentralization without adequate resourcing may exacerbate inequities (Victora et al., 2018).

Community participation emerged as a critical but insufficiently institutionalized component of equity-oriented practice. While participatory mechanisms enhance relevance and accountability, they require sustained political and financial support to move beyond symbolic engagement.

Overall, the study reinforces the argument that achieving health equity requires systemic change rather than incremental programmatic adjustments. Equity must be embedded as a core principle across public health research, policy design, and health system governance.

8. Contribution to Knowledge

This study advances public health scholarship by:

- Integrating quantitative and qualitative evidence on health inequities

- Deepening understanding of structural determinants in LMIC contexts
- Informing equity-centered public health policy and practice

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