

Social Determinants and Inequality in Maternal and Child Health in Sub-Saharan Africa: A Critical Review and Analytical Synthesis

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ABSTRACT

Sub-Saharan Africa (SSA) continues to bear a disproportionate burden of maternal and child mortality despite two decades of global health investment, accounting for approximately 70% of global maternal deaths and some of the highest under-five mortality rates worldwide. These outcomes are not reducible to biomedical or health-system failures alone; they reflect deeply rooted social determinants embedded within historical, political, and economic structures. This paper provides a comprehensive theoretical and empirical synthesis of the social determinants driving maternal and child health (MCH) inequalities in SSA, integrating the WHO Commission on Social Determinants of Health framework, the Mosley–Chen child survival model, and an intersectionality lens. A systematic narrative review of peer-reviewed literature, Demographic and Health Survey analyses, and multilateral organisation reports was conducted. Studies spanning wealth inequality, educational disadvantage, rural–urban spatial disparities, gender inequality, health system quality, temporal trends, and intersectional multiple disadvantages were critically synthesised. Persistent pro-rich inequalities in skilled birth attendance, antenatal care uptake, and child immunisation were identified across the region. Maternal education emerged as an independent protective factor for child survival. Rural populations face compounded barriers including geographic isolation, health workforce shortages, and weak emergency referral systems. Gender inequality and restricted female autonomy remain structural drivers of poor reproductive health outcomes. Healthcare quality deficits, not merely access gaps, contribute substantially to preventable mortality. The inverse equity hypothesis is supported: health improvements disproportionately benefit wealthier, urban populations first. MCH inequalities in SSA arise from the interaction of poverty, educational disadvantage, gender inequality, geographic isolation, and weak health systems. An intersectional approach reveals that compounded disadvantages produce multiplicative not merely additive harm. Achieving equitable MCH outcomes requires integrated policies addressing structural determinants alongside health system strengthening.

Keywords: maternal health; child health; social determinants; Sub-Saharan Africa; health inequity; poverty; gender inequality; geographic disparities; intersectionality; Mosley-Chen framework

JEL classification: I14, I15, I18, O15, J16, O55

INTRODUCTION

Maternal and child health (MCH) is widely recognised as a critical indicator of population wellbeing and social development. Improvements in maternal and child survival not only reflect the effectiveness of health systems but also reveal broader patterns of social and economic progress. Although substantial gains have been achieved globally over the past two decades, these improvements have been unevenly distributed. Sub-Saharan Africa (SSA) continues to experience some of the world's highest levels of maternal and child mortality, despite sustained international efforts to improve access to essential health services. Recent evidence confirms that these structural factors remain deeply entrenched. The African region still bears 70% of global maternal deaths and 57% of under-five deaths, with socioeconomic status, particularly maternal education, wealth, and urban residence, strongly predicting patterns of health service utilization across 31 countries (Adewole et al., 2024; WHO, 2023).

The persistence of these adverse outcomes has prompted growing recognition that biomedical interventions alone are insufficient to explain, or address, the region's MCH challenges. Increasingly, researchers have turned attention towards the social determinants of health consisting of the conditions in which people are born, grow, live, work, and age, and the wider systems that shape these conditions (Marmot, 2005; Solar & Irwin, 2010). Factors such as poverty, educational attainment, gender relations, geographical location, food security, access to clean water and sanitation, healthcare quality, and political stability all influence the health opportunities available to women and children. These determinants do not operate independently, rather, they are embedded within historical, economic, and political structures that continue to shape patterns of health and development across the region. Furthermore, the COVID-19 pandemic further exposed and intensified these disparities, disrupting routine maternal and child health services while exacerbating economic inequalities that limit families' access to care (WHO, 2023). Also, colonial legacies, structural adjustment programmes, rapid urbanisation, and persistent socioeconomic inequalities have all contributed to contemporary disparities in health outcomes (Kim et al., 2000; Ataguba et al., 2015; Kruk et al., 2018).

Understanding these disparities requires moving beyond simple comparisons of health outcomes between population groups. Differences in maternal and child health often reflect deeper inequities that are systematic, avoidable, and socially produced. As Whitehead (1992) and related public health scholarship argue, health inequities arise when particular groups experience poorer health because of unfair social arrangements rather than unavoidable biological differences. In SSA, women and children living in poverty, rural communities, or socially marginalised households frequently face multiple and overlapping disadvantages that limit access to healthcare and increase vulnerability to illness and death. These concerns have gained renewed importance within global development agendas. The Sustainable Development Goals (SDGs) place equity at the centre of health policy through the commitment to "leave no one behind." Yet evidence suggests that improvements in maternal and child health have often been concentrated among more advantaged populations, with poorer and marginalised groups benefiting less from progress (Victora et al., 2018). As a result, national averages may conceal widening inequalities within countries, raising important questions about the effectiveness and inclusiveness of existing health strategies.

While the literature on maternal and child health in SSA is extensive, much of it remains fragmented. Many studies focus on individual determinants, such as income, education, or geographic access to healthcare, without adequately examining how these factors interact to shape health outcomes. Similarly, limited attention has been given to the broader political and structural contexts through which inequalities are produced and sustained. A more integrated perspective is therefore needed to understand the complex pathways linking social conditions to maternal and child health outcomes. This paper addresses these gaps by providing a theory-informed and intersectional analysis of the social determinants of maternal and child health inequalities in Sub-Saharan Africa. Drawing on conceptual and empirical literature, it examines how structural and intermediary determinants interact to influence health outcomes and explores the implications for policy and future research.

The specific objectives of the paper are to:

Examine the conceptual foundations of health inequality and the social determinants of health; Analyse the major structural and intermediary determinants shaping maternal and child health outcomes in SSA; Synthesise empirical evidence on patterns of inequality, including temporal trends and intersectional dimensions; and Identify policy and research gaps and propose directions for equity-oriented interventions.

Conceptualising Health Inequality and Health Inequity

A fundamental distinction within public health literature is that between health inequality and health inequity. Health inequalities refer to observable and measurable differences in health outcomes, disease burden, mortality rates, or access to healthcare across individuals and population groups (Kawachi, Subramanian, & Almeida-Filho, 2002; Braveman et al., 2022). Such differences may arise from biological characteristics, demographic factors, or broader social circumstances. Health inequities, however, represent a subset of these inequalities that are considered unfair, avoidable, and systematically associated with social disadvantage, discrimination, or marginalisation (Whitehead, 1992; Braveman et al., 2022). Unlike inequality, the concept of inequity carries an explicit ethical dimension, drawing attention to issues of justice and fairness in the distribution of health

opportunities and outcomes. Contemporary public health scholarship increasingly emphasises that inequities emerge from unequal social arrangements that systematically disadvantage particular groups and constrain access to resources required for good health (World Health Organization [WHO], 2023; Marmot, 2017).

Whitehead's (1992) and more recent public health scholarship characterise health inequities as differences in health that are "unnecessary, avoidable, unfair and unjust" (Whitehead, 1992; Braveman et al., 2022; WHO, 2023). This perspective highlights the importance of distinguishing between health variations that are natural and those that result from social arrangements. For example, differences in health status associated with ageing may constitute inequalities without necessarily being inequitable. In contrast, disparities that disproportionately affect populations experiencing poverty, limited educational attainment, unemployment, gender-based discrimination, or social exclusion are generally regarded as inequities because they stem from socially and structurally produced disadvantages rather than biological inevitabilities.

The relationship between socioeconomic position and health further illustrates the complexity of health inequities. Rather than reflecting a simple divide between affluent and disadvantaged groups, evidence suggests the existence of a social gradient in health. Contemporary public health frameworks demonstrate that health outcomes tend to improve incrementally at each successive level of socioeconomic status, indicating that health advantages and disadvantages are distributed across the entire social hierarchy (Sen, 1999). This pattern is also evident in Sub-Saharan Africa (SSA), where individuals with higher levels of income and education consistently report better health outcomes, lower mortality risks, and greater access to healthcare services than their less advantaged counterparts (Hosseinpoor et al., 2012). Expanding on this understanding, multidimensional poverty frameworks argue that deprivation should not be viewed solely in terms of insufficient income. Instead, it reflects constraints on the freedoms and opportunities individuals require to lead healthy and productive lives (Sen, 1999; Sen, 1999). This perspective emphasises the multidimensional nature of disadvantage and provides a valuable framework for understanding persistent health inequities across the region.

The Who Commission Framework on Social Determinants of Health

The conceptual framework developed by the World Health Organization's Commission on Social Determinants of Health (CSDH) provides one of the most influential approaches for understanding how social conditions shape health outcomes. As elaborated by Solar and Irwin (2010) and Abdalla and Galea (2026), the framework distinguishes between structural determinants, which generate social stratification within society, and intermediary determinants, which represent the pathways through which social position influences health. This distinction is particularly valuable for analysing health inequalities in Sub-Saharan Africa (SSA), where social, economic, and political disadvantages often accumulate across multiple dimensions.

Structural determinants refer to the broader socioeconomic and political forces that shape individuals' positions within society. These include factors such as income, education, occupation, gender, ethnicity, and social class. However, the framework emphasises that these characteristics do not emerge in isolation; rather, they are produced and reinforced by wider contextual factors, including governance systems, macroeconomic policies, labour markets, taxation arrangements, and prevailing cultural norms (Solar & Irwin, 2010). Within SSA, historical and contemporary challenges such as political instability, weak institutional capacity, debt burdens, and underinvestment in public services have contributed to persistent patterns of social stratification and unequal access to opportunities (World Bank, 2023). Among these structural determinants, income and wealth occupy a particularly important position. Poverty constrains access to essential resources required for good health, including nutritious food, adequate housing, education, and healthcare services (Marmot, 2005; Sen, 1999). At the same time, unequal distributions of wealth can intensify disparities between social groups, often producing stark contrasts in living conditions and health outcomes between urban and rural populations, as well as between privileged and marginalised communities.

The framework further argues that structural inequalities influence health through a range of intermediary determinants. These include material circumstances such as housing quality, sanitation, and food security; behavioural and biological factors, including healthcare-seeking practices and nutritional behaviours; psychosocial conditions such as chronic stress, social support, and exposure to violence; and the characteristics

of health systems, including their accessibility, affordability, and quality. Together, these factors constitute the immediate conditions through which broader social inequalities are translated into differential health outcomes.

In many parts of SSA, adverse material and social conditions magnify the effects of structural disadvantage. Limited access to safe water, inadequate sanitation, poor housing conditions, and barriers to healthcare often interact to increase vulnerability to disease and premature mortality. These conditions can also generate self-reinforcing cycles of disadvantage, whereby poor health reduces educational attainment, labour productivity, and household income, thereby perpetuating poverty across generations. The COVID-19 pandemic provided a particularly clear illustration of these interconnected processes. Across the region, populations dependent on informal employment, lacking adequate social protection, or facing restricted access to healthcare experienced disproportionately severe economic and health consequences (United Nations, 2021). The pandemic therefore highlighted how existing social and economic inequalities can amplify vulnerability during public health crises, reinforcing the central argument of the WHO framework that health outcomes are shaped not only by medical care but also by the broader social conditions in which people live (WHO, 2023).

The Mosley–Chen Framework for Child Survival

The framework developed by Mosley and Chen (1984) remains one of the most influential models for understanding the determinants of child mortality in low- and middle-income countries. Recognising the limitations of approaches that treated social and biomedical factors separately, the authors proposed an integrated framework that explains how broader socioeconomic conditions ultimately affect child survival through a set of proximate determinants. According to the model, all social, economic, and environmental influences on child mortality operate through five key mechanisms: maternal factors, environmental contamination, nutrient deficiency, injury, and personal illness control.

A major strength of the framework is its ability to connect structural conditions with immediate biological risks. Rather than viewing child mortality solely as a consequence of disease, it demonstrates how social and economic disadvantage shapes children's exposure to health risks and their capacity to survive them. This perspective is particularly relevant in Sub-Saharan Africa (SSA), where many of the factors associated with poor child health are rooted in wider social inequalities.

Each of the proximate determinants identified by Mosley and Chen is strongly influenced by prevailing social and economic conditions. Maternal factors, including maternal age, parity, birth spacing, and educational attainment, are often shaped by poverty, limited educational opportunities, early marriage, and restrictive gender norms. Environmental contamination remains a significant challenge in many communities where access to safe drinking water, improved sanitation, and adequate housing is limited. Similarly, nutrient deficiency is closely linked to chronic poverty, food insecurity, conflict, and increasingly, the effects of climate-related shocks on agricultural production and household livelihoods.

The framework also highlights the importance of personal illness control, which refers to the prevention, recognition, and treatment of disease. In many parts of SSA, effective illness control is constrained by shortages of healthcare personnel, inadequate infrastructure, financial barriers to care, and long distances to health facilities. These challenges reduce access to preventive and curative services, thereby increasing children's vulnerability to otherwise preventable illnesses.

Beyond its descriptive value, the Mosley–Chen framework carries important policy implications. By demonstrating that child mortality results from the interaction of social, environmental, and biological processes, it emphasises that sustainable improvements in child survival cannot be achieved through medical interventions alone. Reductions in child mortality require coordinated action across sectors, including health, education, nutrition, water and sanitation, and social protection. Consequently, the framework provides a useful analytical lens for examining how social determinants contribute to persistent inequalities in child health outcomes across SSA.

Intersectionality And Multidimensional Inequality

The concept of intersectionality, first introduced by Crenshaw (1989), emerged from critical legal scholarship as a way of understanding how multiple forms of social disadvantage interact to shape lived experiences. Initially developed to explain the unique forms of discrimination experienced by Black women at the intersection of race and gender, intersectionality has since become an influential analytical framework across disciplines, including public health, education, and social policy. In health research, the framework challenges approaches that examine determinants of health in isolation. Instead, it emphasises that health outcomes are shaped by the interaction of multiple social identities and structural conditions, including gender, socioeconomic status, ethnicity, disability, geographic location, and other dimensions of inequality (Bowleg, 2012; Sen et al., 2009).

The relevance of intersectionality to maternal and child health (MCH) in Sub-Saharan Africa (SSA) lies in its ability to explain why aggregate improvements in health indicators often fail to benefit all population groups equally. National reductions in maternal or child mortality may conceal substantial disparities among individuals who experience overlapping forms of disadvantage. Consequently, analyses that focus on a single determinant, such as income or education alone, may underestimate the complexity of health inequalities and overlook those most at risk.

Emerging evidence from SSA supports the value of an intersectional perspective. Samadoulougou et al. (2025), for example, examined the combined effects of education, household wealth, women's empowerment, and employment status on maternal and child health service coverage across multiple countries in the region. Their findings suggest that overlapping disadvantages are associated with substantially lower levels of service utilisation than would be predicted by considering each factor independently. This highlights an important insight of intersectionality theory: inequalities are often multiplicative rather than simply additive.

For instance, a rural adolescent woman living in poverty and lacking formal education may simultaneously face financial constraints, limited access to healthcare facilities, reduced decision-making power within the household, and restricted access to health information. These disadvantages interact in ways that intensify vulnerability and create barriers that are greater than the sum of their individual effects. An intersectional lens therefore provides a more nuanced understanding of MCH inequalities by revealing how multiple forms of disadvantage combine to shape health outcomes across different social contexts.

Political Economy of Health Inequality

While social determinants frameworks explain the pathways through which inequalities influence health, political economy perspectives focus on the broader structures of power that generate and sustain those inequalities. Political economy approaches argue that health outcomes cannot be fully understood without considering how resources, opportunities, and decision-making power are distributed within and between societies (Navarro, 2007). From this perspective, health inequalities are not merely the result of individual circumstances or policy failures but are deeply embedded within economic and political systems.

The relevance of this perspective to Sub-Saharan Africa is evident in the historical processes that have shaped the region's health systems and development trajectories. During the 1980s and 1990s, many countries implemented structural adjustment programmes promoted by international financial institutions. These programmes often involved reductions in public expenditure, market liberalisation, and the privatisation of public services. Although intended to improve economic efficiency, they frequently resulted in reduced investment in healthcare, education, and social welfare, weakening public health systems and increasing barriers to access among poorer populations (Kim et al., 2000).

The legacy of these reforms continues to influence health outcomes today. In many settings, underfunded health systems, shortages of healthcare workers, and high out-of-pocket healthcare costs remain significant obstacles to equitable service delivery. At the same time, contemporary processes such as globalisation, rapid urbanisation, conflict, and climate change have introduced new forms of vulnerability that disproportionately affect disadvantaged populations. These challenges highlight the extent to which national health outcomes are shaped not only by domestic policies but also by broader international economic and political structures.

A political economy perspective therefore complements social determinants approaches by directing attention to the underlying distribution of power and resources. It encourages a shift from viewing health inequalities solely as technical or administrative problems towards recognising them as manifestations of broader social and economic arrangements. Such an approach is particularly valuable for understanding the persistence of maternal and child health inequalities in SSA, where many of the determinants of poor health originate beyond the healthcare sector itself.

Conceptual Contribution

This review contributes to the literature by adopting a multidimensional approach to the study of maternal and child health inequalities in Sub-Saharan Africa. Rather than examining individual determinants in isolation, it integrates insights from the WHO Commission on Social Determinants of Health framework, the Mosley–Chen model of child survival, intersectionality theory, and political economy perspectives. Together, these frameworks provide a comprehensive analytical foundation for understanding how inequalities are produced and reproduced across different levels of society.

The integrated framework proposed in this review highlights the interconnected nature of structural conditions, proximate health determinants, intersecting forms of disadvantage, and broader political and economic forces. By bringing these perspectives together, the review offers a more holistic explanation of maternal and child health inequalities and identifies potential pathways through which more equitable health outcomes can be achieved across the region.

This study employed a systematic narrative review approach to synthesise theoretical and empirical evidence on maternal and child health inequalities in Sub-Saharan Africa. A systematic search of PubMed, Web of Science, Scopus, and Google Scholar was conducted using Boolean combinations of ('maternal health' OR 'child health' OR 'under-five mortality') AND ('social determinants' OR 'inequality' OR 'equity') AND ('Sub-Saharan Africa'). The review focused primarily on peer-reviewed studies, Demographic and Health Survey analyses, and multilateral reports published between 2000 and 2024. Articles were included if they examined socioeconomic, geographic, gender, educational, or health-system determinants of maternal and child health outcomes in Sub-Saharan Africa. Studies focusing exclusively on biomedical or clinical interventions without reference to social determinants were excluded. After screening titles, abstracts, and full texts for relevance, the final synthesis included studies that contributed directly to the conceptual and empirical themes examined in this review.

METHODS

This study employed a systematic narrative review design to synthesise theoretical and empirical evidence on the social determinants of maternal and child health (MCH) inequalities in Sub-Saharan Africa (SSA). A systematic narrative review was considered appropriate because the study sought not only to summarise empirical findings but also to integrate multiple theoretical frameworks, including the World Health Organization (WHO) Commission on Social Determinants of Health framework, the Mosley–Chen child survival model, intersectionality theory, and political economy perspectives, into a unified analytical lens.

The review involved a structured search of relevant academic and institutional literature published between 2000 and 2024. Electronic databases searched included PubMed, Scopus, Web of Science, JSTOR, and Google Scholar, alongside reports from major multilateral organisations such as the World Health Organization (WHO), UNICEF, World Bank, UNESCO, and the United Nations Development Programme (UNDP). The search period was selected to capture contemporary evidence relating to maternal and child health inequalities during the era of the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs).

Search terms were developed using Boolean combinations of keywords related to maternal and child health, social determinants, inequality, and the regional context. Typical search strings included: ("maternal health" OR "child health" OR "under-five mortality" OR "maternal mortality") AND ("social determinants" OR "health inequality" OR "health inequity" OR "equity") AND ("Sub-Saharan Africa" OR "Africa South of the Sahara"). Additional searches focused on specific determinants including poverty, maternal education, rural–urban disparities, gender inequality, healthcare quality, and intersectionality.

Studies were included if they: (i) focused on maternal or child health outcomes in SSA; (ii) examined one or more social determinants of health, including socioeconomic status, education, gender, geography, health system quality, or structural inequality; (iii) employed empirical, theoretical, or policy-oriented approaches relevant to MCH inequality; and (iv) were published in peer-reviewed journals or reputable institutional reports. Both quantitative and qualitative studies were considered to ensure comprehensive coverage of statistical trends and contextual experiences. Studies focused exclusively on biomedical or clinical interventions without attention to broader social determinants were excluded from the final synthesis.

The screening process involved reviewing titles and abstracts for relevance, followed by full-text assessment of selected studies. Particular attention was given to frequently cited Demographic and Health Survey (DHS)-based studies because of their relevance to wealth, education, and geographic inequalities in maternal and child health outcomes. In addition, landmark theoretical contributions and high-quality systematic reviews were purposively included to strengthen conceptual integration and analytical depth. The final body of literature was synthesised thematically around major dimensions of inequality, namely wealth, education, geography, gender relations, healthcare quality, temporal trends, and intersectional disadvantage.

Given the heterogeneity of study designs, contexts, and outcome measures, a statistical meta-analysis was not considered appropriate. Instead, findings were analysed through narrative synthesis to identify recurring patterns, points of convergence and divergence, and broader implications for maternal and child health inequality in SSA. This approach enabled the study to move beyond descriptive reporting towards a more integrated explanation of how structural and intermediary determinants interact to shape maternal and child health outcomes across the region.

Empirical Review

The following sections critically synthesise empirical evidence on MCH inequalities in SSA, structured around the principal dimensions of social disadvantage which includes wealth, education, geography, gender, health system quality, temporal trends, and intersectional compounding. While substantial progress in reducing maternal and child mortality has occurred over the past two decades, benefits have been unequally distributed, and structural disadvantages continue to shape health outcomes and survival probabilities among vulnerable populations.

Wealth-Related Inequalities in Maternal Health

Wealth remains one of the strongest and most consistent predictors of maternal healthcare utilisation across SSA. Women from wealthier households report substantially higher rates of antenatal care attendance, skilled birth attendance, institutional delivery, and postnatal care compared to women from poorer households (Nwosu & Ataguba, 2019; Barros et al., 2020). These disparities persist despite significant international investment in maternal health programmes and official commitments to universal health coverage.

Using nationally representative Demographic and Health Survey (DHS) data, Barros et al. (2020) documented pronounced pro-rich inequalities in maternal healthcare coverage throughout SSA. Skilled birth attendance exhibited some of the largest wealth gaps, with women in the highest wealth quintiles substantially more likely to deliver with trained professionals. A decomposition analysis across 32 SSA countries identified household wealth as a major contributor to under-five mortality inequalities (Van Malderen et al., 2019).

Financial barriers persist even where maternal healthcare is officially provided free of charge. Ataguba et al. (2015) demonstrated that healthcare financing systems in many SSA countries remain regressive, disproportionately burdening poorer populations through informal payments, transportation costs, medication expenses, and opportunity costs. Banke-Thomas et al. (2020) found that in urban Lagos, physical proximity to facilities did not translate to timely access as travel times far exceeded estimated distances, illustrating how indirect costs compound formal access deficits. Catastrophic health expenditures frequently push vulnerable households further into poverty, reinforcing cycles between ill health and economic deprivation.

Poverty also intensifies the 'three delays' model of maternal mortality (Thaddeus & Maine, 1994; Bobo et al., 2022). The first is the delay in deciding to seek care which reflects financial insecurity and fear of catastrophic costs. The next is the delay in reaching facilities which disproportionately affects rural poor populations. The third refers to delays within facilities relating to under-resourced public systems serving impoverished communities. Addressing wealth-based MCH inequalities therefore, requires simultaneous action across all three delay points, integrated with broader poverty reduction strategies.

Educational Inequality and Child Survival

Maternal education is consistently identified as one of the most important and analytically robust determinants of child survival in SSA. Van Malderen et al. (2019) found, using DHS data from multiple SSA countries, that maternal secondary education was strongly associated with reduced child mortality risk even after controlling for household wealth and place of residence, demonstrating an independent effect beyond socioeconomic proxies.

The protective effects of education operate through multiple, well-documented pathways. First, education improves health literacy, enabling mothers to understand immunisation schedules, nutritional requirements, and danger signs during pregnancy and childhood illness (Cleland & van Ginneken, 1988; Caldwell, 1979). Furthermore, educational attainment expands economic opportunities and earning potential, improving household living conditions and healthcare access. Moreover, education strengthens women's autonomy and household decision-making power, facilitating healthcare utilisation in contexts where women otherwise require spousal permission (Jejeebhoy, 1995).

Despite these demonstrated benefits, educational inequalities remain pronounced, particularly among rural populations and girls. Structural barriers such as poverty, early marriage, gender discrimination, and inadequate educational infrastructure continue to limit attainment across the region (UNESCO, 2022). These barriers contribute to intergenerational cycles of poverty and poor health, as daughters of uneducated mothers face similar constraints. Evidence also suggests that the quality of education, and specifically functional health literacy, may be a stronger predictor of health behaviour change than years of schooling alone, pointing to the importance of integrating health education into formal curricula.

Rural–Urban and Spatial Inequalities

Geographic and spatial inequalities constitute important features of MCH disparities in SSA. Rural populations consistently experience lower healthcare access, poorer outcomes, and higher mortality rates compared to urban populations (Ezeh et al., 2017). In a decomposition analysis across 35 SSA countries, (Yaya et al. 2019), demonstrated that rural–urban disparities in under-five mortality are substantially explained by inequalities in healthcare access, maternal education, and household wealth operating simultaneously thereby underscoring the intersectional nature of geographic disadvantage.

Rural populations are less likely to access skilled birth attendants, emergency obstetric care, family planning services, and immunisation programmes due to facility shortages and healthcare workforce deficits. Poor road infrastructure, limited transportation, and seasonal barriers such as flooding further constrain access. Healthcare workers are disproportionately concentrated in urban centres where working conditions, salaries, and career opportunities are superior, leaving rural facilities chronically understaffed.

Ezeh et al. (2017) importantly challenged the assumption that urbanisation necessarily improves health outcomes, demonstrating severe health deprivation within urban informal settlements. Overcrowding, inadequate sanitation, limited healthcare access, and unsafe water in slums expose urban poor residents to infectious disease risks comparable to or exceeding those in rural areas. Subnational analyses by Barros et al. (2020) confirmed that within-country inequalities can rival between-country differences, with remote or historically marginalised regions exhibiting MCH indicators far worse than national averages suggest. These findings render national aggregate data insufficient for policy targeting and underscore the importance of subnational, disaggregated analyses.

Gender Inequality and Reproductive Power Relations

Gender inequality represents a central structural driver of MCH inequities throughout SSA. Patriarchal social norms, unequal power relations, limited reproductive autonomy, and gender-based violence collectively shape women's healthcare access, health behaviour, and reproductive health outcomes (Dixon-Mueller, 1993; Budu et al., 2021). Chiroma (2021) found, across a scoping review of socioeconomic factors affecting maternal mortality in SSA, that women's empowerment and prevailing gender norms significantly influence the utilisation of maternal and newborn health services, with low empowerment linked to reduced antenatal care attendance and skilled delivery use.

Adolescent pregnancy warrants particular attention as a compounded vulnerability. Neal et al. (2016) demonstrated that adolescent mothers face elevated risks of obstructed labour, obstetric fistula, preterm birth, anaemia, and maternal mortality due to both biological immaturity and social disadvantage. Budu et al. (2021) showed that at early age, first childbirth is associated with reduced skilled birth attendance across SSA, linking early marriage, constrained educational opportunities, and poor reproductive health outcomes in a reinforcing cycle. Adolescent mothers often lack household bargaining power to negotiate contraceptive use, seek skilled care, or resist early marriage.

Women's limited financial autonomy and constrained mobility further delay healthcare seeking during pregnancy and childbirth. In some communities, women require spousal consent before attending health facilities or consenting to emergency obstetric procedures, creating life-threatening delays. Gender inequality also intersects powerfully with poverty and rural residence with rural poor women facing simultaneous disadvantages that collectively reduce healthcare utilisation below what any single disadvantage would predict (Bobo et al., 2022).

Health System and Quality Inequality

Growing evidence have identified healthcare quality by linking it not merely to access as a critical determinant of MCH outcomes to a multiplicity of factors. Kruk et al. (2018) argued that poor-quality healthcare contributes substantially to preventable mortality in low- and middle-income countries, and that expanding coverage without improving quality produces limited mortality reductions. In SSA, health systems face pervasive challenges including inadequate financing, healthcare personnel shortages, infrastructure deficits, inconsistent drug supplies, and limited diagnostic capacity.

Rural and low-income facilities are disproportionately understaffed and poorly equipped, compromising the quality of maternal and neonatal care. Bohren et al. (2015), in a mixed-methods systematic review, documented widespread disrespectful treatment, verbal abuse, discrimination, and neglect during childbirth in health facilities globally, including SSA with evidence that such experiences directly discourage future institutional delivery. Provider attitudes and patient experiences are increasingly recognised as important quality dimensions that health system metrics often fail to capture.

The unequal distribution of healthcare investment further amplifies disparities. Urban tertiary hospitals receive greater funding, staffing, and infrastructure investment than rural primary care facilities, perpetuating geographic inequality in care quality. Frenk et al. (2010) argued that health system weaknesses in SSA are themselves partly attributable to training and education deficits among health professionals, underscoring the need for concurrent investment in health workforce development and service delivery quality.

Temporal Trends and The Inverse Equity Hypothesis

Although SSA has achieved substantial reductions in maternal and child mortality over recent decades, relative inequalities have frequently persisted or widened. Victora *et al.* (2018) articulated the inverse equity hypothesis to explain this pattern, stating that, new health interventions initially benefit wealthier, more educated, and urban populations before trickling down to poorer groups, temporarily increasing relative inequalities during periods of overall progress.

Empirical evidence from across Sub-Saharan Africa provides considerable support for the inverse equity hypothesis. In many settings, wealthier and more educated households are the first to benefit from new health interventions, immunisation programmes, and reproductive health services, largely because they possess greater financial resources, better access to information, and closer proximity to healthcare facilities. As a result, improvements in national maternal and child health (MCH) indicators do not necessarily reflect equitable progress across all segments of the population. While overall mortality rates may decline, disadvantaged groups often experience slower gains, leading to the persistence or even widening of relative inequalities. These patterns highlight the limitations of relying solely on national averages to assess progress. A more meaningful evaluation requires disaggregated analyses that examine outcomes across wealth groups, educational levels, geographic locations, and gender, thereby revealing whether health improvements are reaching the populations most in need.

Intersectionality And Multiple Disadvantage

Recent research has increasingly demonstrated the value of intersectional approaches for understanding maternal and child health (MCH) inequalities in Sub-Saharan Africa. While traditional analyses often examine determinants such as wealth, education, gender, or place of residence separately, intersectionality highlights how these dimensions interact to shape health outcomes. This perspective is particularly important in SSA, where individuals frequently experience multiple and overlapping forms of disadvantage that cannot be adequately captured through single-factor analyses.

Empirical evidence supports the importance of this approach. Using an intersectionality framework, Samadoulougou *et al.* (2025) examined the combined effects of educational attainment, economic status, women empowerment, and employment on MCH service coverage across SSA. Their findings revealed that individuals experiencing multiple disadvantages consistently reported lower levels of service utilisation than would be predicted by considering each determinant independently. This suggests that inequalities in MCH coverage are not merely additive; rather, overlapping disadvantages interact in ways that intensify exclusion from essential health services.

Similar patterns are evident in child survival outcomes. Ahinkorah *et al.* (2021) found that children from the poorest households faced significantly higher risks of under-five mortality across SSA, even within the same national contexts. Importantly, these disparities were not determined by wealth alone. Mortality risks were further shaped by maternal education, geographic location, and other social factors, indicating that health inequalities emerge through the interaction of multiple dimensions of disadvantage rather than any single determinant in isolation.

An intersectional perspective also draws attention to population groups that are frequently overlooked in aggregate analyses. Internally displaced persons, refugees, conflict-affected communities, ethnic minorities, and adolescent mothers often experience several forms of vulnerability simultaneously. Poverty, displacement, educational exclusion, food insecurity, and limited access to healthcare can intersect to create levels of disadvantage that are substantially greater than those experienced by the general population. Consequently, national averages may obscure the realities of groups facing the greatest barriers to achieving positive health outcomes.

The growing body of intersectional evidence carries important implications for both research and policy. Methodologically, it highlights the limitations of analyses that treat social determinants as independent variables operating in isolation. Such approaches may underestimate the extent of inequality and fail to identify the populations at greatest risk. From a policy perspective, the findings suggest that interventions focused on a single determinant are unlikely to achieve equitable improvements in maternal and child health. Expanding healthcare coverage without addressing poverty, for example, may leave financial barriers intact, while educational interventions may have limited impact if gender norms continue to restrict women's autonomy and decision-making power.

Taken together, the evidence suggests that reducing MCH inequalities in SSA requires integrated and equity-oriented strategies that address multiple determinants simultaneously. An intersectional approach therefore

provides a valuable framework for identifying populations experiencing compounded disadvantage and for designing interventions capable of reaching those most likely to be left behind.

Cross-Cutting Analytical Synthesis

Taken together, the empirical evidence reviewed in this chapter demonstrates that maternal and child health (MCH) inequalities in Sub-Saharan Africa are produced through the interaction of multiple and interconnected social determinants rather than any single factor operating in isolation. Although wealth, education, geographic location, gender relations, and health system quality are often examined separately within the literature, the evidence suggests that they function as part of a broader system of disadvantage that shapes health opportunities and outcomes throughout the course of individual's life.

Poverty emerges as a particularly important determinant because of its influence across several domains simultaneously. Limited financial resources restrict access to healthcare services, adequate nutrition, improved sanitation, and educational opportunities, while also increasing vulnerability to economic shocks and illness. However, poverty alone does not fully explain observed inequalities. Maternal education exerts an independent influence on health outcomes by improving health literacy, strengthening decision-making capacity, and increasing the likelihood of healthcare utilisation. Likewise, geographic location affects access to essential services and opportunities in ways that extend beyond differences in household income, particularly in remote and underserved communities.

The literature further demonstrates that these determinants are mutually reinforcing. Rural residence is frequently associated with higher levels of poverty, lower educational attainment, weaker infrastructure, and reduced access to healthcare facilities. Similarly, gender inequality constrains women's ability to access and utilise healthcare resources even when services are available. Consequently, individuals experiencing multiple forms of disadvantage often face barriers that are substantially greater than those associated with any single determinant. This finding is consistent with the intersectionality literature, which emphasises that health inequalities are often multiplicative rather than additive.

Another important theme concerns the distinction between healthcare access and healthcare quality. While many countries in the region have expanded coverage of essential maternal and child health services, evidence increasingly suggests that access alone is insufficient to achieve equitable outcomes. Inadequate staffing, shortages of medicines and equipment, and poor patient experiences can significantly reduce the effectiveness of healthcare utilisation. As a result, improvements in service coverage do not always translate into proportional improvements in maternal and child survival.

The reviewed evidence also highlights the uneven distribution of progress. Although maternal and child mortality rates have declined across much of SSA, these gains have frequently been concentrated among wealthier, more educated, and urban populations. This pattern lends support to the inverse equity hypothesis, which suggests that new health interventions are often adopted first by socially advantaged groups before reaching more marginalised populations. Consequently, national averages may create an impression of widespread progress while concealing persistent inequalities within countries and communities.

Overall, the evidence indicates that maternal and child health inequalities in SSA are sustained by the interaction of structural and intermediary determinants operating across multiple levels of society. Addressing these inequalities therefore, requires more than sector-specific interventions. Sustainable progress depends on integrated strategies that simultaneously address poverty, education, gender inequality, geographic exclusion, and health system quality while prioritising populations experiencing multiple and overlapping forms of disadvantage.

METHODOLOGICAL CRITIQUE OF EXISTING STUDIES

Although the literature on maternal and child health (MCH) inequalities in Sub-Saharan Africa has expanded considerably over the past two decades, several methodological limitations constrain the strength, interpretation,

and generalisability of existing findings. These limitations are important to acknowledge, as they shape both current understanding of MCH inequalities and the evidence available to inform policy interventions.

One of the most notable characteristics of the literature is its heavy reliance on Demographic and Health Survey (DHS) data. The DHS programme has made an invaluable contribution to MCH research by providing large, nationally representative datasets that facilitate cross-country comparisons and trend analyses. However, the widespread use of DHS data has also introduced certain limitations. In particular, household wealth is commonly measured through asset-based indices rather than direct measures of income or consumption. While this approach offers practical advantages in low-resource settings, it may not fully capture the depth of deprivation experienced by the poorest households, especially in rural areas where patterns of asset ownership differ substantially from urban contexts. Consequently, wealth-based inequalities may sometimes be underestimated or misclassified.

Other limitations relate to study design. Much of the evidence base relies on cross-sectional analyses, which are well suited for identifying associations between social determinants and health outcomes but are less capable of establishing causality. As a result, it is often difficult to determine the direction of observed relationships or to disentangle complex feedback mechanisms between health and socioeconomic conditions. For example, while poverty may contribute to poor maternal and child health outcomes, ill health can also reduce household productivity and income, creating a reciprocal relationship that cross-sectional data cannot adequately capture. Longitudinal studies, natural experiments, and quasi-experimental approaches remain comparatively uncommon within the SSA context, limiting opportunities for stronger causal inference.

The tendency to treat Sub-Saharan Africa as a single analytical category presents an additional challenge. Although regional analyses provide valuable insights into broad patterns of inequality, they can obscure substantial variation between and within countries. Health outcomes are shaped by diverse political, economic, and social contexts, including differences in governance, conflict exposure, health system capacity, cultural norms, and levels of economic development. Consequently, findings derived from regional datasets may conceal important contextual differences and may not be equally applicable across all countries in the region.

Another weakness of the existing literature is its predominant emphasis on quantitative indicators of inequality. While measures such as mortality rates, service utilisation, and wealth gradients provide important evidence, they often fail to capture the lived experiences underlying statistical disparities. Factors such as disrespectful maternity care, provider discrimination, social stigma, cultural beliefs, and women's perceptions of healthcare services can significantly influence health-seeking behaviour but are difficult to measure through large-scale surveys. As a result, important dimensions of inequality may remain underexplored. Greater use of mixed-methods approaches could help bridge this gap by combining quantitative evidence on population-level patterns with qualitative insights into the social processes that shape health outcomes.

Recent scholarship has also highlighted the importance of intersectional approaches to understanding health inequalities. However, empirical applications of intersectionality within MCH research remain relatively limited. Modelling the combined effects of multiple forms of disadvantage presents significant methodological challenges, particularly when researchers seek to examine interactions among wealth, education, gender, geographic location, ethnicity, and other social determinants simultaneously. Although advances in multilevel modelling, interaction analysis, and intersectionality-informed policy frameworks offer promising avenues for future research, their application within SSA remains at an early stage.

Taken together, these limitations suggest that the current evidence base, while substantial, provides only a partial understanding of the processes that generate and sustain MCH inequalities across Sub-Saharan Africa. Future research would benefit from greater methodological diversity, increased use of longitudinal and mixed-methods designs, stronger attention to contextual variation, and more sophisticated approaches to analysing intersecting forms of disadvantage. Such developments would strengthen the evidence available for designing policies capable of addressing the complex and multidimensional nature of MCH inequities in the region.

Research Gaps and Directions for Future Inquiry

Despite the growing body of literature on maternal and child health (MCH) inequalities in Sub-Saharan Africa, important gaps remain in both the evidence base and the methodological approaches used to investigate these inequalities. Addressing these gaps is essential for developing a more comprehensive understanding of the mechanisms through which social disadvantage influences health outcomes and for informing more effective policy responses.

One significant limitation of existing research is the scarcity of longitudinal evidence. Much of the current literature relies on cross-sectional data, which provides valuable insights into patterns of inequality but offers limited understanding of how disadvantage accumulates over time. Longitudinal studies following individuals, households, and communities across the course of life would help clarify the causal pathways linking early-life socioeconomic conditions to maternal and child health outcomes. Such research could also identify critical intervention points and improve understanding of how health inequalities are transmitted across generations.

Another area requiring greater attention concerns the health experiences of urban poor populations. While rural–urban disparities have been extensively documented, less is known about inequalities within rapidly expanding urban environments. Informal settlement residents, migrants, refugees, and internally displaced populations often face unique combinations of overcrowding, insecure livelihoods, environmental hazards, and limited access to quality healthcare. As urbanisation continues across the region, understanding the health needs of these populations will become increasingly important for both research and policy.

The political economy dimensions of health inequality also remain insufficiently explored. Existing studies tend to focus on household- or community-level determinants while paying comparatively less attention to the broader economic and political structures that shape health systems and public investment. Future research should examine how factors such as donor dependence, debt obligations, taxation policies, fiscal capacity, governance quality, and public expenditure decisions influence the availability and distribution of maternal and child health services. Such analyses would contribute to a deeper understanding of how macro-level processes shape health outcomes at the population level.

Further methodological development is also needed to advance intersectional approaches to health inequality. Although increasing attention has been given to the interaction of factors such as poverty, gender, education, and geographic location, relatively few studies have been able to model these relationships comprehensively. More sophisticated analytical techniques, including multilevel and intersectionality-informed approaches, could improve understanding of how multiple forms of disadvantage combine to influence maternal and child health outcomes. Particular attention should be given to dimensions of inequality that remain underrepresented in current research, including ethnicity, disability, migration status, and conflict-related vulnerability.

Another emerging priority relates to the health implications of climate change. Environmental shocks, changing disease patterns, food insecurity, water scarcity, and population displacement are increasingly recognised as important determinants of health in the region. However, relatively little research has examined how these processes affect maternal and child health outcomes or interact with existing social inequalities. Given projections of increasing climate-related risks across many parts of Sub-Saharan Africa, this area is likely to become an increasingly important focus of future inquiry.

Finally, there is a need for stronger implementation science and policy evaluation research. While considerable evidence exists on the determinants of MCH inequalities, less is known about which interventions are most effective in reducing them. Future studies should examine how equity-focused policies and programmes operate in different contexts, which populations they successfully reach, the resources required for implementation, and the governance conditions that facilitate or constrain success. Such evidence is essential for translating theoretical and empirical insights into practical strategies capable of reducing persistent inequalities in maternal and child health.

Overall, future research should move beyond documenting disparities towards generating evidence on the mechanisms, contexts, and interventions most relevant to achieving equitable health outcomes. Strengthening

methodological diversity, incorporating broader structural perspectives, and prioritising the experiences of marginalised populations will be critical to advancing both scholarship and policy in this field.

The evidence reviewed suggests that reducing maternal and child health inequalities in Sub-Saharan Africa requires targeted and equity-oriented interventions. First, governments should expand conditional cash transfer programmes linked to antenatal care attendance, skilled birth attendance, and maternal education, particularly in rural and low-income districts. Second, national health financing reforms should incorporate mandatory equity audits to evaluate whether public expenditures are reaching disadvantaged populations. Third, ministries of health should integrate intersectionality-based assessment tools into maternal and child health strategic plans to identify populations experiencing compounded disadvantages. Finally, maternal and child health indicators should be systematically disaggregated at subnational levels to monitor within-country inequalities and improve policy targeting.

Policy Implications

The findings of this review carry important implications for public policy and maternal and child health (MCH) programming in Sub-Saharan Africa (SSA). Since MCH inequalities arise through the interaction of poverty, educational disadvantage, gender inequality, geographic exclusion, and health system deficiencies, isolated or sector-specific interventions are unlikely to generate equitable and sustainable improvements. Instead, policies must adopt an integrated and equity-oriented approach capable of addressing multiple determinants simultaneously.

First, poverty reduction should be recognised as a central component of maternal and child health policy. The evidence reviewed demonstrates that wealth-related inequalities continue to shape access to antenatal care, skilled birth attendance, institutional delivery, immunisation, and postnatal care. Governments should therefore expand conditional cash transfer programmes, maternal health insurance schemes, and transportation subsidies targeted at low-income households, particularly in rural and underserved regions. Linking social protection interventions to maternal healthcare attendance may help reduce financial barriers while improving service utilisation among vulnerable populations.

Similarly, investments in female education and health literacy should be prioritised as long-term strategies for improving maternal and child health outcomes. Maternal education consistently emerged as one of the strongest predictors of child survival and healthcare utilisation across the studies reviewed. Policies aimed at reducing school dropout rates among girls, delaying child marriage, and strengthening secondary school completion should therefore be integrated into national health and development strategies. In addition, incorporating maternal and reproductive health education into school curricula may improve health knowledge and future healthcare-seeking behaviour.

Furthermore, reducing geographic inequalities in healthcare access requires targeted investment in rural health systems and underserved urban communities. The literature highlights persistent disparities associated with healthcare workforce shortages, weak referral systems, poor transportation infrastructure, and limited emergency obstetric care in remote areas. Governments should prioritise the equitable distribution of skilled healthcare personnel, strengthen rural primary healthcare facilities, expand mobile outreach services, and invest in transportation and referral infrastructure to reduce delays in accessing life-saving maternal and child healthcare.

Moreover, addressing gender inequality and reproductive autonomy is essential for improving maternal health outcomes. Policies should strengthen women's decision-making power, expand access to reproductive healthcare and family planning services, and eliminate social barriers that restrict healthcare utilisation. Legal and institutional efforts to prevent early marriage and adolescent pregnancy should also be prioritised, given the heightened vulnerability associated with early childbearing.

Also, healthcare policy must move beyond expanding access to emphasising quality of care. Evidence reviewed suggests that poor-quality healthcare, disrespectful treatment, inadequate staffing, and shortages of essential medicines substantially limit the effectiveness of service coverage. National health reforms should therefore

incorporate mandatory equity and quality audits, with indicators measuring not only service access but also patient experience, continuity of care, and provider responsiveness.

Finally, national monitoring frameworks should prioritise subnational and intersectional analysis of maternal and child health indicators. National averages frequently conceal substantial inequalities between wealth groups, geographic regions, and socially disadvantaged populations. Disaggregated monitoring systems capable of identifying populations experiencing multiple disadvantages would enable more precise policy targeting and improve accountability in achieving Sustainable Development Goal commitments to “leave no one behind.”

Overall, the evidence suggests that achieving equitable maternal and child health outcomes in SSA requires multisectoral policies that address the structural foundations of health inequality rather than relying solely on biomedical interventions. Effective progress will depend on coordinated action across health, education, social protection, gender, and infrastructure sectors to ensure that improvements in maternal and child health are both inclusive and sustainable.

CONCLUSION

Maternal and child health (MCH) inequalities in Sub-Saharan Africa remain among the most significant public health and development challenges confronting the region. As this review has demonstrated, these inequalities are neither random nor inevitable. Rather, they emerge from the interaction of deeply rooted social, economic, political, and institutional conditions that shape individuals' opportunities to achieve and maintain good health. Poverty, limited educational attainment, gender inequality, geographic marginalisation, and weaknesses in health systems continue to influence who survives, who accesses care, and who benefits from health improvements.

By integrating insights from the WHO Social Determinants of Health framework, the Mosley–Chen model of child survival, intersectionality theory, and political economy perspectives, this review has highlighted the multidimensional nature of MCH inequalities. No single framework is sufficient to explain the complexity of health disparities across the region. Instead, understanding maternal and child health outcomes requires attention to the ways in which structural determinants, proximate risk factors, intersecting forms of disadvantage, and broader political and economic forces interact to shape health trajectories.

The empirical evidence reviewed throughout this paper points to several consistent conclusions. First, substantial inequalities in access to maternal and child health services persist despite overall improvements in health indicators. Second, maternal education remains one of the most powerful protective factors for child survival and health service utilisation. Third, geographic disadvantage, particularly in rural and underserved areas, continues to limit access to essential services and opportunities. Fourth, gender inequality remains a fundamental determinant of maternal and reproductive health outcomes, influencing women's autonomy, decision-making capacity, and access to care. Finally, the quality of healthcare is increasingly recognised as being as important as access itself, with deficiencies in service quality contributing to preventable maternal and child morbidity and mortality.

The review also demonstrates that progress in aggregate health indicators should be interpreted with caution. Consistent with the inverse equity hypothesis, improvements often reach wealthier, more educated, and socially advantaged populations first, while poorer and more marginalised groups benefit more slowly. Consequently, national averages can obscure substantial inequalities within countries and create a misleading impression of equitable progress. Monitoring and evaluation efforts must therefore prioritise disaggregated data and distributional analyses capable of revealing who is being reached and who continues to be left behind.

The central implication of this review is that reducing MCH inequalities requires a shift from narrowly biomedical approaches towards integrated, multisectoral strategies that address the broader determinants of health. Investments in healthcare services remain essential, but they must be complemented by policies that reduce poverty, expand educational opportunities, promote gender equality, strengthen social protection systems, improve water and sanitation infrastructure, and enhance the quality and accessibility of healthcare. These interventions should not be viewed as peripheral to health policy; rather, they are fundamental components of any sustainable effort to improve maternal and child health outcomes.

Achieving equitable maternal and child health outcomes in Sub-Saharan Africa requires integrated strategies that address poverty, education, gender inequality, geographic exclusion, and health system quality simultaneously. Without confronting these structural determinants, improvements in aggregate health indicators are likely to remain uneven across populations.

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