

Original Article

Inclusion, Equitable Access, and Population Health in Africa: A Review of Current Evidence

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Abstract: (1) Background: Persistent inequalities in access to health services remain a defining challenge for population health in Africa, reflecting financial, geographic, institutional, and socio-cultural exclusion within health systems. Despite policy commitments to universal health coverage, disparities in access continue to undermine health-system effectiveness and population wellbeing; (2) Methods: This study employed a structured integrative review and qualitative health-systems analysis. Evidence from peer-reviewed empirical studies and review articles was synthesised to examine patterns of inclusion, equitable access, and population health outcomes across African contexts, while conceptual and methodological publications informed the analytical framework; (3) Results: The analysis identified major barriers to equitable access, including high out-of-pocket expenditure and indirect costs, rural–urban disparities in service availability and workforce distribution, fragmented service delivery and weak accountability, and socio-cultural barriers linked to stigma, discrimination, and unequal decision-making power. Costs and workforce inequities delayed care and restricted access in rural areas. Financial protection, community health workers, mobile outreach, and digital health interventions improved access, continuity, and reach; (4) Conclusions: Inclusion and equitable access are important influences on population health in Africa. Strengthening health systems through integrated, equity-oriented, and evidence-informed policy interventions is essential for reducing health disparities and achieving sustainable improvements in population health outcomes.

Keywords: Africa; Equitable Access; Health Equity; Health Systems Strengthening; Population Health; Primary Health Care; Universal Health Coverage

1. Introduction

Persistent inequalities in access to health services remain a defining challenge for health systems across Africa, with far-reaching implications for population health and development [1]. Despite sustained policy commitments to universal health coverage and notable improvements in selected health indicators, access to essential health services remains unevenly distributed both within and across countries [2]. Socioeconomic status, geographic location, gender, disability, age, and other intersecting forms of vulnerability shape who can obtain timely, affordable, and appropriate care [3]. These inequities undermine health-system effectiveness and contribute to avoidable disparities in morbidity, mortality, and overall population wellbeing. Promoting inclusion and equitable access is therefore central to strengthening African health systems and improving population health outcomes.

From a population health perspective, equitable access to health services is fundamental to improving aggregate health outcomes while reducing disparities between social groups [4]. Population health scholarship emphasises not only average levels of health but also the distribution of health across populations. In this regard, exclusionary health systems disproportionately disadvantage marginalised groups, including rural communities, residents of informal settlements, women, children, older persons, and people with disabilities [5]. Limited access to preventive, promotive, and curative services intensifies the continuing burden of communicable diseases, constrains responses to the growing prevalence

of non-communicable diseases, and increases the economic burden of illness on households and health systems. Poor health outcomes among disadvantaged groups may, in turn, reinforce cycles of poverty and social exclusion [6]. In resource-constrained African settings, reducing inequalities in access is both a normative obligation and a strategic requirement for sustainable improvements in population health.

A substantial body of literature has examined health system performance and health inequalities in Africa, with particular attention to financing arrangements, service availability, workforce distribution, and governance structures [7]. This literature consistently demonstrates that out-of-pocket payments, geographic barriers, weak primary health care systems, and fragmented service delivery contribute to unequal patterns of access and utilisation [8]. Social and cultural factors including gender norms, stigma, and discrimination further shape health-seeking behaviour and interactions with health services [9]. Although this literature provides important evidence, financial, geographic, institutional, and socio-cultural barriers are frequently examined separately, while access is often treated primarily as a technical or logistical issue. Comparatively less attention has been given to inclusion as an integrated, systemic, and relational dimension of health-system performance.

Inclusion extends beyond the physical availability of health services to encompass affordability, geographic accessibility, institutional responsiveness, socio-cultural acceptability, quality, and continuity of care [10]. Inclusive health systems recognise population diversity and address the structural and institutional conditions that prevent particular groups from benefiting equitably from available services. They also require participatory governance, community engagement, effective accountability, respectful care, and social-protection mechanisms that reduce financial and non-financial barriers. An inclusion-oriented perspective, therefore, provides a broader explanation for why substantial inequities may persist despite formal commitments to universal health coverage and service expansion. Despite growing recognition of the importance of inclusion and equity, significant gaps remain in how these concepts are operationalised and analysed within African health systems [11]. Much existing research focuses on individual diseases, interventions, countries, or population subgroups without adequately examining how multiple forms of exclusion interact to shape healthcare utilisation and population health outcomes. Similarly, policy assessments commonly prioritise aggregate coverage and service expansion targets while paying insufficient attention to the quality, acceptability, continuity, and distribution of access across social groups. Consequently, improvements in national indicators may conceal persistent or widening inequalities among vulnerable populations.

This study seeks to address these gaps by examining inclusion and equitable access within African health systems and assessing their implications for population health outcomes. Inclusion is conceptualised as an interconnected dimension of health-system performance that determines who benefits from health services, under what conditions, and with what implications for health equity [12]. By synthesising evidence on structural barriers, enabling factors, and policy approaches, the study provides an integrated analysis of how health systems can be strengthened to promote more equitable population health outcomes.

The study has three objectives. First, it identifies the principal financial, geographic, institutional, and socio-cultural barriers that restrict inclusive access to health services across African contexts. Second, it examines policy and health-system interventions that may strengthen inclusion and reduce inequities in access, including financial protection, primary health care, community-based delivery, governance reform, and appropriately supported digital health strategies [13]. Third, it analyses the implications of inclusive and exclusionary health systems for service utilisation and population health outcomes, with particular attention to vulnerable and marginalised groups. Through these objectives, the study contributes to debates on health equity, universal health coverage, health systems strengthening, and population well-being in Africa.

2. Conceptual Framework

The conceptual and analytical framework developed in this study provides a structured basis for examining inclusion and equitable access as important influences on population health outcomes in African health systems. As illustrated in Figure 1, the framework presents a theorised directional pathway through which broader social determinants of health shape the financial, geographic, institutional, and socio-cultural dimensions of health-system inclusion. These dimensions are subsequently associated with equitable access, service utilisation, quality and continuity of care, and population health outcomes. Inclusion is therefore conceptualised as a multidimensional attribute of health-system performance that influences who can obtain appropriate care, under what conditions, and with what implications for health equity.

The framework proposes that social determinants, including income, education, gender, disability, age, and place of residence, influence both exposure to health risks and the capacity of individuals and communities to obtain healthcare. These determinants interact with health-system conditions to create or reduce financial, geographic, institutional, and

socio-cultural barriers. The extent to which these barriers are addressed influences whether populations can obtain services that are affordable, geographically accessible, socio-culturally acceptable, continuous, and of adequate quality. Equitable access, service utilisation, quality, and continuity of care therefore operate as intermediate pathways linking health-system inclusion with population-level outcomes, including service coverage, preventable morbidity, mortality differentials, and overall wellbeing. Equity, intersectionality, and vulnerability are treated as cross-cutting considerations throughout this pathway.

The framework also guided the study's analytical procedures. During data extraction and thematic analysis, evidence was initially classified according to the four dimensions of health-system inclusion: financial, geographic, institutional, and socio-cultural. The analysis then examined how these dimensions interacted with broader social determinants and were associated with equitable access, service utilisation, quality and continuity of care, and population health outcomes. Policy, institutional, community-based, and technological interventions were interpreted as enabling mechanisms that may reduce barriers at different stages of the pathway, particularly at the levels of health-system inclusion and equitable access.

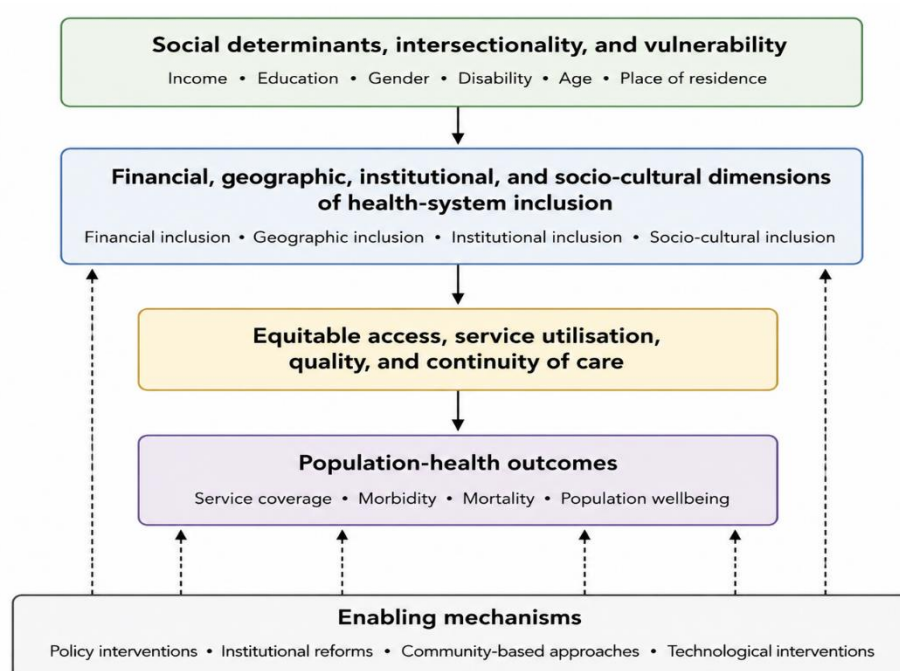


Figure 1. Directional conceptual and analytical framework linking social determinants, dimensions of health-system inclusion, equitable access, and population health outcomes in Africa.

3. Materials and Methods

This study employed a structured integrative review and qualitative health-systems analysis to examine inclusion and equitable access in African health systems and their implications for population health outcomes. The conceptual framework presented in Figure 1 guided source identification, data extraction, thematic classification, comparative analysis, and interpretation.

3.1. Study Design

The study employed a qualitative health-systems analytical design based on secondary scholarly evidence and an integrative synthesis of existing research. This design was appropriate for investigating multidimensional health-system phenomena in which inclusion, equity, and population health outcomes are shaped by interacting structural, institutional, socioeconomic, and socio-cultural conditions. Rather than generating primary empirical data or evaluating a single intervention, the study synthesised eligible scholarly publications to identify recurring patterns, relationships, implementation conditions, and policy-relevant implications across African health-system contexts.

The review was integrative rather than meta-analytical because the evidence base comprised heterogeneous study designs, populations, indicators, and review approaches. The unit of analysis was each eligible publication containing

relevant evidence on barriers to healthcare access, equity-oriented interventions, health-system performance, service utilisation, or population health outcomes in an African context.

The qualitative analytical approach enabled consideration of evidence from different study designs and scholarly publication types within a common framework. It was appropriate to examine systemic barriers and enabling conditions associated with equitable access, rather than to estimate the pooled effectiveness of a single intervention.

3.2. Study Context

The analysis focused on health systems across the African continent while recognising substantial heterogeneity among countries and subregions in financing arrangements, service-delivery models, governance capacity, workforce distribution, infrastructure, and epidemiological profiles. Despite these differences, many African health systems experience common challenges, including limited public financing, high out-of-pocket expenditure, unequal distribution of health facilities and personnel, fragmented service delivery, and persistent social and geographic inequalities.

A continent-wide analytical lens was used to identify shared structural patterns affecting inclusion and equitable access, while illustrative national and subregional examples were retained where relevant. Country-level and subregional differences were considered during data extraction and comparative interpretation to avoid treating African health systems as homogeneous. Where sufficiently detailed evidence was available, differences in geographical setting, population group, health-service area, financing arrangement, and institutional capacity were considered during interpretation. This approach facilitated the identification of cross-cutting issues while preserving the contextual differences that influence population health outcomes across African settings.

3.3. Data Sources

Data for the study were obtained from publicly available secondary scholarly sources. Peer-reviewed literature was identified through PubMed/MEDLINE, Scopus, the Web of Science Core Collection, African Journals Online, and Google Scholar. These databases were selected because they provide broad coverage of public health, population studies, health policy, health-system research, and African scholarship.

Grey-literature repositories maintained by organisations such as the World Health Organization, the World Bank, the Africa Centres for Disease Control and Prevention, the African Union, United Nations agencies, and African ministries of health were searched to identify contextual information and additional scholarly references. Grey literature materials were not included as evidence in the final thematic synthesis unless they independently met the predefined publication eligibility criteria.

The search covered English-language publications issued from 1 January 2000 to 30 June 2026, and the final search was completed on 30 June 2026. This period was selected to capture contemporary health-system reforms, universal health coverage initiatives, developments in primary health care, community-based service delivery, and the expansion of digital health interventions across Africa. Reference lists of eligible articles and reviews were also examined to identify additional relevant publications. The use of multiple bibliographic databases and reference-list searching improved evidence coverage and enabled findings across empirical studies and reviews to be compared for convergence, contradiction, and contextual variation.

3.4. Search, Eligibility, and Data-Extraction Procedures

A structured and purposive search strategy was used to identify relevant scholarly publications. The search sought broad conceptual, empirical, and policy-related coverage of the financial, geographic, institutional, and socio-cultural dimensions of health-system inclusion rather than the exhaustive retrieval required for a systematic review or meta-analysis. The study was therefore designed and reported as an integrative review and a qualitative health policy analysis.

Search terms were organised into four concept groups: health equity and inclusion, healthcare access, health-system characteristics, and African geographical context. The principal search expression was:

("health equity" OR "equitable access" OR inclusion OR exclusion OR inequality OR inequity OR disparity OR "universal health coverage") AND ("healthcare access" OR "health service access" OR utilisation OR coverage) AND ("health system" OR "primary health care" OR financing OR workforce OR governance OR "community health" OR "digital health") AND (Africa OR African).

Supplementary searches combined terms including "out-of-pocket expenditure," "catastrophic health expenditure," "financial protection," "rural access," "health workforce distribution," "disability inclusion," "gender inequality,"

stigma, discrimination, “community health worker,” “mobile clinic,” telemedicine, morbidity, mortality, and “population health.” Search strings were adapted to the indexing requirements of each database. In PubMed/MEDLINE, Medical Subject Headings and free-text terms were combined where applicable. In Scopus and the Web of Science Core Collection, searches were conducted within the title, abstract, and keyword fields.

Google Scholar was used as a supplementary search source because it generated a large volume of overlapping and variably relevant records. Results were screened by relevance, and the first 200 records retrieved for each principal search combination were assessed for eligibility.

Publications were eligible when they addressed one or more African countries, African subregions, or the African continent; examined at least one financial, geographic, institutional, or socio-cultural dimension of health-system inclusion; and reported evidence relating to healthcare access, service utilisation, coverage, quality, continuity of care, morbidity, mortality, or population wellbeing. Eligible publications included peer-reviewed quantitative, qualitative, and mixed-methods studies, as well as systematic, scoping, integrative, and narrative reviews. Conceptual and methodological publications were used to support the study's theoretical and analytical framing but were not automatically treated as evidence in the thematic synthesis.

Publications were excluded when they lacked an African context; focused exclusively on clinical treatment without examining access, inclusion, or equity; duplicated another record; were unavailable in full text; contained no identifiable empirical or review-based evidence; or consisted solely of unsupported commentary. Non-African publications were retained only when they contributed to the conceptual or methodological framing and were not included as empirical evidence in the synthesis of African health systems.

Because this was a single-author study, source identification, screening, eligibility assessment, and data extraction were conducted by the author. Titles and abstracts were screened initially, after which potentially eligible publications were assessed in full text. Publications meeting the eligibility criteria were retained for thematic analysis. Following a full-text eligibility assessment, all publications that met the predefined eligibility criteria were included in the thematic synthesis.

Data from eligible publications were organised in a Microsoft Excel worksheet according to predefined analytical categories. Extracted information included publication characteristics, study design, geographical context, study population or target group, healthcare setting, health-service area, dimension of inclusion, identified barriers, enabling interventions, reported access or utilisation outcomes, population-health implications, and principal methodological limitations. The extracted data were then organised thematically to support structured comparison across publications and alignment with the conceptual framework.

3.5. Quality and Relevance Assessment

Each publication included in the thematic synthesis underwent a structured assessment of credibility and relevance. Empirical studies were assessed for clarity of research design, appropriateness of sampling, transparency of data collection and analysis, adequacy of outcome reporting, and consistency between the reported evidence and conclusions. Review articles were assessed for the transparency of their search strategies, eligibility criteria, source appraisal procedures, and synthesis methods. Conceptual and methodological publications used to frame the review were assessed for theoretical clarity, methodological relevance, and contribution to the analytical framework. Still, they were not assigned the same evidentiary weight as empirical findings.

The credibility assessment informed the interpretive weight assigned to each source rather than serving as a formal exclusion threshold. Findings supported by transparent methods and multiple independent sources received greater analytical emphasis, whereas evidence with limited methodological detail was interpreted cautiously.

3.6. Data Analysis

Data were analysed using thematic and comparative analytical techniques. A hybrid deductive–inductive thematic approach was applied. The conceptual framework and classified evidence guided deductive coding according to financial, geographic, institutional, and socio-cultural inclusion. Inductive coding was then used to identify additional patterns concerning vulnerable population groups, interactions among barriers, enabling mechanisms, implementation constraints, and population-health implications.

The analysis was conducted in four stages. First, relevant findings and reported quantitative indicators were extracted and assigned initial codes. Second, related codes were grouped into broader themes concerning structural barriers, equity-oriented interventions, service access and utilisation, quality and continuity of care, and population health outcomes. Third, the themes were mapped onto the directional conceptual framework presented in Figure 1. Fourth,

cross-source comparisons were conducted to examine similarities and differences across countries, African subregions, population groups, health-service areas, and source types.

Comparative analysis was used to examine similarities and differences across health-system contexts, highlighting how variations in policy design, financing structures, service-delivery arrangements, workforce capacity, and governance influenced patterns of equitable access and population health outcomes. Attention was also given to contradictory or context-dependent evidence. Where an intervention appeared effective in one setting but less effective or exclusionary in another, differences in infrastructure, financing, institutional capacity, digital connectivity, population characteristics, and implementation support were considered. Where sufficiently detailed evidence was available, contextual differences across countries, subregions, population groups, health service areas, financing arrangements, and institutional settings were considered in the interpretation. These comparisons were used to identify shared patterns and context-specific variations without treating African health systems as homogeneous.

Population-level indicators such as service utilisation, coverage, morbidity, and mortality differentials were examined as reported indicators associated with health-system performance and broader social determinants of health, rather than as independently verified causal outcomes. Intersectionality was treated as a cross-cutting analytical consideration because poverty, gender, disability, age, migration status, and place of residence may interact to compound exclusion. Data organisation, coding, and comparative analysis were conducted manually using Microsoft Excel.

Because a single author conducted the analysis, inter-coder reliability statistics were not calculated. Coding consistency was supported through predefined analytical categories, repeated review of the coded material, and comparison of the emerging themes with the conceptual framework.

No meta-analysis, pooled effect estimation, inferential statistical testing, or sensitivity analysis was undertaken because the included sources were heterogeneous in study design, population, indicator definitions, geographical scales, and reporting periods. Consequently, the study did not calculate new p-values, confidence intervals, effect sizes, or causal estimates. Quantitative findings on expenditure, service coverage, utilisation, morbidity, mortality, and workforce distribution were presented descriptively and interpreted within the methodological, temporal, and geographical contexts of the original sources. The analysis therefore distinguished reported associations from causal relationships and avoided attributing changes in population health outcomes to particular interventions where the underlying evidence did not support causal inference.

Statistical controls and participant-level sampling procedures were not applicable because the study did not generate primary data or estimate intervention effects. This analytical approach supported a nuanced interpretation of how inclusive and exclusionary health-system conditions are associated with patterns of access, utilisation, and population wellbeing.

3.7. Ethical Considerations

This study was based solely on secondary evidence and publicly available materials. No primary data were collected, and no human or animal participants were involved. Consequently, formal ethical approval was not required. No personally identifiable, confidential, or restricted information was accessed or analysed. All scholarly publications and publicly accessible materials were used in accordance with their stated access conditions. The study adhered to principles of responsible research conduct through accurate citation, transparent methodological reporting, and appropriate acknowledgement of all sources.

4. Results

This section presents findings from the thematic and comparative analysis of the eligible scholarly evidence included in the integrative synthesis. The results are organised into three subsections: structural barriers to inclusion in health systems, enablers of equitable health access, and implications for population health outcomes. The findings are presented as thematic patterns and contextual comparisons rather than pooled statistical effects. Tables 1 and 2 synthesise the principal barriers and enabling mechanisms, while Figure 2 illustrates the pathway linking health-system inclusion, equitable access, service utilisation, and population health outcomes.

4.1. Structural Barriers to Inclusion in Health Systems

The analysis identified persistent and interrelated structural barriers that constrain inclusive access to health services across African health systems. These barriers operate across financial, geographic, institutional, and socio-cultural dimensions, often reinforcing one another and disproportionately affecting vulnerable population groups. Although

the intensity and configuration of these barriers varied across countries and subregions, recurring patterns were identified across multiple African settings.

4.1.1. Financial Barriers

Financial barriers emerged as a major constraint to inclusion. High levels of out-of-pocket expenditure remain common, particularly in contexts where health-insurance coverage is limited or fragmented. Direct service costs, together with indirect costs such as transportation, accommodation, and income loss, discourage timely care-seeking and continuity of treatment. Households in the lowest income quintiles, informal-sector workers, and individuals managing chronic conditions were especially vulnerable to catastrophic health expenditure.

Evidence from Zambia indicated that healthcare utilisation remained sensitive to household costs even where public primary healthcare was nominally free. Comparative evidence from Malawi, Tanzania, and Uganda demonstrated the persistence of catastrophic out-of-pocket expenditure. At the same time, findings from Kenya showed that inpatient and outpatient costs continued to impose financial hardship on households during the transition toward universal health coverage [14].

Across the reviewed evidence, persistent financial pressures were associated with delayed care-seeking, reliance on informal or alternative sources of care, interrupted treatment, reduced utilisation of preventive services, and unequal exposure to avoidable health risks. Preventive services, including routine check-ups and early screening, were utilised less frequently by populations facing persistent cost pressures.

4.1.2. Geographic Barriers

Geographic exclusion emerged as a prominent barrier to equitable access, particularly among rural and remote populations. Uneven distribution of health facilities and skilled health personnel between urban and rural areas resulted in long travel distances and delays in accessing care. Weak transport infrastructure and poorly functioning referral systems further compounded these challenges, especially for emergency, maternal, and specialised services.

Evidence from Tanzania illustrated how limited emergency-care capacity, workforce constraints, and referral weaknesses could intensify delays in obtaining time-sensitive services. Comparable geographic barriers were reported in remote, sparsely populated, and infrastructure-constrained settings, where distance interacted with transportation costs and limited facility readiness to restrict effective access.

Geographic barriers were most pronounced in regions affected by conflict, environmental shocks, or fragile governance. In such settings, service disruptions and infrastructure damage intensified access constraints, leading to missed care opportunities and elevated health risks. The reviewed evidence associated rural residence, remoteness, conflict exposure, and weak referral connectivity with lower service utilisation and more limited access to emergency and specialised care.

4.1.3. Institutional Barriers

Institutional barriers were evident in fragmented service delivery, weak governance arrangements, and limited accountability mechanisms. Inadequate coordination across levels of care, shortages of essential medicines, and insufficient staffing at primary healthcare facilities reduced service quality and responsiveness. These constraints discouraged utilisation, particularly among populations already facing access challenges.

Broader assessments of African health systems identified inadequate financing, workforce shortages, limited infrastructure, weak coordination, and governance constraints as recurring institutional challenges. These weaknesses affected not only whether services were available, but also whether care was reliable, responsive, continuous, and of sufficient quality to maintain public trust.

Administrative complexity and limited information regarding service entitlements further restricted inclusion, especially for individuals with low health literacy. Inconsistent implementation of health policies across regions resulted in variable access to services within the same national health systems. Collectively, these institutional weaknesses reinforced existing social and geographic inequalities.

4.1.4. Socio-Cultural Barriers

Socio-cultural barriers intersected with financial and institutional constraints to reinforce exclusion. Gender norms shaping decision-making power, stigma associated with certain health conditions, discrimination against persons with disabilities, and language barriers significantly influenced health-seeking behaviour. Negative experiences within health facilities, including perceived disrespect or discrimination, reduced trust and discouraged continued engagement with formal health services.

Evidence concerning sexual and reproductive health services across African settings showed that stigma, mobility restrictions, unequal decision-making power, service disruption, and limited confidentiality could restrict access among

women, adolescents, and other vulnerable groups. These findings indicate that socio-cultural exclusion operates through both community-level norms and interactions within healthcare institutions.

Adolescents, migrants, ethnic minorities, and people with disabilities were among the groups most affected by socio-cultural exclusion. These findings underscore that barriers to inclusion are not solely economic or structural but are also embedded in social relations and service interactions. Table 1 summarises the key structural barriers identified and their implications for access and utilisation.

Table 1. Structural barriers to inclusion in African health systems and implications for access.

Barrier type	Key characteristics	Implications for access and utilisation	Illustrative evidence
Financial	Out-of-pocket payments, indirect costs, limited insurance coverage	Delayed care, catastrophic expenditure, treatment discontinuation, and low service uptake	Zambia; Malawi, Tanzania, and Uganda; Kenya [8,15,24]
Geographic	Rural–urban disparities, long travel distances, weak transport and referral systems	Delayed access, restricted emergency care, and limited access to specialised services	Rural and emergency-care constraints in Tanzania [25]
Institutional	Fragmented services, workforce shortages, weak governance, and limited accountability	Variable service quality, reduced responsiveness, and disrupted continuity of care.	Cross-country evidence on African health-system challenges [7]
Socio-cultural	Gender norms, stigma, discrimination, language barriers, and limited decision-making autonomy	Reduced trust, avoidance of formal services, and unequal utilisation	Sexual and reproductive health evidence across African settings [29]

Source: Author's synthesis based on the thematic and comparative analysis of the included scholarly publications.

4.2. Enablers of Equitable Health Access

Despite the persistence of structural barriers, the analysis identified several enabling factors that support improved inclusion and equitable access to health services. These enablers operate across policy, institutional, community, and technological domains. The evidence indicated that individual interventions were unlikely to eliminate access inequalities when implemented in isolation. More consistent improvements were reported where financial protection, primary healthcare, community-based delivery, institutional accountability, and appropriate technological support were combined.

Policy interventions aimed at reducing financial barriers emerged as prominent enablers of equitable access. Risk-pooling mechanisms, subsidised service packages, and fee exemptions for priority population groups were associated with increased utilisation of essential services. Where financing reforms were combined with strengthened primary healthcare, reductions in out-of-pocket expenditure and improved access among poorer households were evident. African evidence on universal health coverage further emphasised that financial protection must be accompanied by sufficient service availability, workforce capacity, and quality of care to produce equitable access.

Community-based approaches were also reported to support expanded access, particularly in underserved areas. The deployment of community health workers, mobile clinics, and outreach services improved service availability in remote and underserved areas. These approaches enhanced trust and cultural acceptability by embedding service delivery within communities and strengthening linkages between households and formal health systems. Community participation mechanisms further supported inclusion by aligning services with local priorities. Their effectiveness nevertheless depended on adequate training, remuneration, supervision, referral support, and integration into formal health-system structures.

Technological innovations emerged as complementary enablers, particularly in settings facing geographic and workforce constraints. Telemedicine, mobile health platforms, and digital health information systems expanded access to consultations, health information, and follow-up care. These tools supported continuity of care for chronic conditions and improved referral pathways, although their effectiveness depended on enabling conditions such as the availability of infrastructure, affordability, and user literacy. African digital health evidence further showed that technological interventions could reduce distance-related barriers but might reproduce existing inequalities where internet connectivity, electricity, device ownership, digital literacy, language accessibility, or data protection were inadequate.

Institutional reforms that strengthened governance and accountability were also associated with improved inclusion. Health systems that prioritised disaggregated data, equity-oriented monitoring, and transparent performance management were better positioned to identify access gaps and target interventions. Training initiatives promoting respectful, patient-centred, and culturally competent care further enhanced service acceptability and utilisation. These findings support the view that health-equity reforms require coordinated changes in financing, governance, service delivery, information systems, and workforce practice rather than isolated programme-level adjustments. Table 2 summarises the main enablers identified and their reported implications for access.

Table 2. Enablers of equitable access in African health systems.

Enabler type	Description	Reported implications for access	Conditions influencing implementation
Policy interventions	Financial protection, risk pooling, subsidies, and targeted fee exemptions	Reduced financial barriers and increased utilisation of essential services	Adequate public financing, service availability, and effective targeting
Community-based care	Community health workers, mobile clinics, outreach, and decentralised service delivery	Improved access, trust, and service availability in underserved areas	Training, remuneration, supervision, referral integration, and local participation
Digital health interventions	Telemedicine, mobile-health platforms, digital information systems, and remote follow-up	Expanded service reach, improved referral coordination, and strengthened continuity of care	Connectivity, electricity, affordability, digital literacy, accessibility, and data protection
Institutional reforms	Equity monitoring, accountability mechanisms, respectful care, and culturally responsive services	Improved responsiveness, service acceptability, and identification of access gaps	Political commitment, administrative capacity, reliable data, and workforce support

Source: Author's synthesis based on the thematic and comparative analysis of the included scholarly publications.

4.3. Implications for population health outcomes

The reviewed evidence indicated that the relationship between health-system inclusion and population health operated primarily through access, utilisation, quality, and continuity of care. Unequal access was consistently reported alongside differences in preventive-service uptake, treatment continuity, morbidity, and mortality across population groups. However, because the evidence was heterogeneous and largely derived from observational studies and review-based publications, these patterns were interpreted as reported associations rather than as independently established causal effects [15].

Populations facing persistent financial, geographic, institutional, or socio-cultural exclusion were reported to have lower uptake of preventive and primary care services, alongside higher levels of avoidable illness and complications. Financial costs were associated with delayed initial contact with services, geographic barriers with restricted referral access, institutional weaknesses with interrupted treatment continuity, and socio-cultural exclusion with reduced trust and willingness to use formal healthcare [16]. These barriers frequently overlapped and intensified disadvantage among populations experiencing multiple vulnerabilities.

Vulnerable groups, including women, children, older persons, people with disabilities, and rural populations, experienced disproportionate health burdens associated with delayed or foregone care [17,18]. These disparities were reflected in maternal and child health indicators, chronic-disease management, and outcomes related to preventable conditions. The evidence suggested that intersectional disadvantages—for example, the combined effects of poverty, rural residence, disability, gender, and limited decision-making power—were particularly important in explaining why improvements in national service coverage did not always yield equitable population health gains.

Conversely, contexts characterised by stronger enabling conditions were associated with more favourable patterns of service utilisation, continuity of care, and selected population health outcomes. Strengthened primary healthcare systems and financial-protection mechanisms were associated with increased utilisation of maternal health services, expanded immunisation coverage, and improved continuity of care for chronic conditions. Community-based and technology-supported interventions were associated with expanded service reach and improved responsiveness, particularly in underserved areas. More consistent improvements were reported where interventions addressed several access dimensions simultaneously and were supported by adequate workforce capacity, infrastructure, governance, and community engagement [19].

Inclusive health-system conditions were also associated with a greater capacity to maintain essential services during public-health shocks and respond to changing population needs. Conversely, persistent exclusion was associated with

weaker system performance and slower progress toward improved population health. Figure 2 synthesises these relationships by illustrating how structural barriers shape health-system inclusion or exclusion, equitable access, service utilisation, quality and continuity of care, and subsequent population health outcomes. Policy, institutional, community-based, and technological interventions are presented as mechanisms that modify the pathway at different stages.

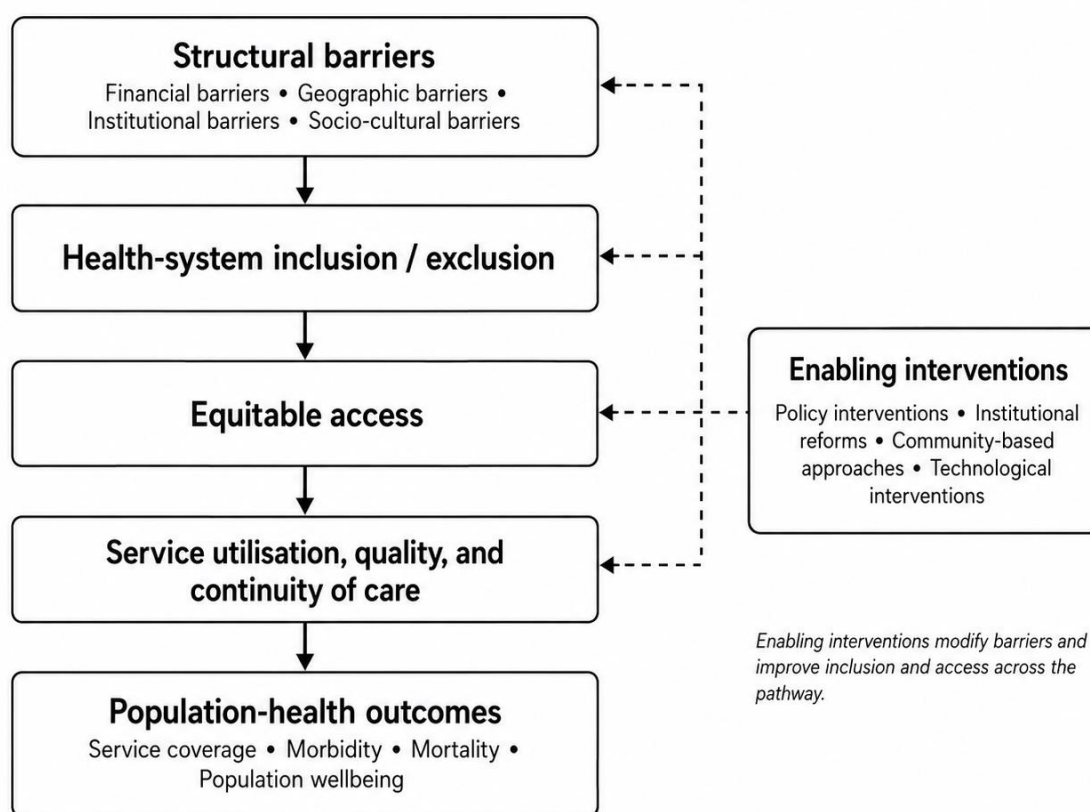


Figure 2. Synthesised pathway linking structural barriers, enabling interventions, equitable access, service utilisation, and population health outcomes in African health systems.

Overall, the thematic synthesis indicated that the financial, geographic, institutional, and socio-cultural dimensions of inclusion were interdependent and that coordinated interventions were more consistently associated with equitable access than isolated measures.

5. Discussion

This study examined how the financial, geographic, institutional, and socio-cultural dimensions of health-system inclusion are associated with equitable access and population health outcomes across African contexts. Rather than establishing causal effects, the synthesis identified recurring relationships across heterogeneous empirical studies and review-based scholarly evidence. The central interpretation is that a single barrier rarely produces unequal access; instead, financial constraints, spatial disadvantage, institutional weakness, and socio-cultural exclusion frequently interact and reinforce one another [20,21]. Correspondingly, isolated interventions are unlikely to generate sustained equity gains unless they are integrated across financing, service delivery, workforce development, governance, information systems, and community engagement [22]. These findings position inclusion and equity as central dimensions of health-system performance rather than supplementary policy objectives [23].

5.1. Interpretation of Findings in Relation to Existing Literature

The prominence of financial barriers identified in this study is consistent with a substantial body of evidence from low- and middle-income settings indicating that reliance on out-of-pocket payments remains a major obstacle to equitable access to healthcare. Previous studies have shown that both direct and indirect health care costs deter timely care-seeking, reduce treatment adherence, and expose households to catastrophic health expenditures [24]. The present

synthesis extends this interpretation by indicating that financial exclusion is not limited to user fees. Transportation costs, income loss, accommodation expenses, medicine shortages, and fragmented insurance arrangements may continue to restrict effective access even where services are formally subsidised or nominally free. This helps explain why coverage expansion does not automatically translate into equitable utilisation among poorer households, informal-sector workers, and people requiring continuous treatment.

Geographic barriers identified in the analysis align closely with earlier research documenting rural–urban disparities in health service availability and workforce distribution in Africa. Uneven placement of facilities and skilled health personnel, combined with weak transport and referral systems, has been shown to delay access to essential services, particularly for maternal, emergency, and specialised care [25]. The findings suggest that geographic exclusion should be understood as a health-system coordination problem rather than distance alone. The effect of remoteness becomes more severe when referral pathways are weak, transport is unaffordable, facilities lack essential personnel or medicines, and patients must travel repeatedly between levels of care. Decentralised delivery and strengthened primary health care may therefore reduce spatial inequities only when supported by functional referral networks, appropriate workforce deployment, and reliable supplies.

Institutional and socio-cultural barriers highlighted in the study further reflect patterns reported in the literature on health-system governance and service responsiveness [26]. Weak accountability mechanisms, fragmented service delivery, and limited institutional capacity have been associated with inconsistent quality of care and reduced trust in health services. In parallel, socio-cultural factors such as gender norms, stigma, discrimination, and language barriers shape health-seeking behaviour and provider–patient interactions. Importantly, the synthesis indicates that these dimensions are mutually reinforcing. Institutional practices may reproduce social exclusion when services are linguistically inaccessible, insensitive to disability, disrespectful, stigmatising, or unresponsive to unequal decision-making power [27]. Inclusion therefore depends not only on increasing resources but also on changing organisational routines, provider conduct, accountability structures, and community relationships.

Conversely, the enabling factors identified in the results resonate strongly with African and global evidence on health system reform and equity. Studies on universal health coverage and primary health care reforms consistently highlight the role of financial protection mechanisms, including risk pooling and subsidised services, in improving access among disadvantaged populations [28]. However, the reviewed evidence does not support a single universal intervention. Financial protection is more likely to improve equitable access when adequate services are physically available; community-based approaches require training, remuneration, supervision, and referral support; and digital health interventions depend on connectivity, affordability, accessibility, user literacy, and data protection [29]. The broader implication is that equity-oriented reform requires coordinated and context-sensitive combinations of interventions rather than isolated technical solutions [30].

5.2. Implications for Population Health

The implications for population health arise through the pathways linking access, utilisation, quality, and continuity of care. When individuals delay or forego preventive and primary care because of cost, distance, discrimination, or institutional failure, opportunities for early diagnosis, routine treatment, immunisation, maternal care, and chronic-disease management are reduced. Over time, these patterns may contribute to avoidable complications, unequal morbidity, premature mortality, and widening differences in wellbeing across social groups. Because the study synthesised heterogeneous observational studies and review-based scholarly evidence, these relationships should be interpreted as plausible, repeatedly reported pathways rather than as independently established causal effects.

From a population health perspective, the study reinforces the importance of examining not only average health outcomes but also their distribution across social groups. Improvements in national-level indicators may mask substantial disparities if access remains uneven. Coverage indicators are therefore insufficient when they do not show who is reached, who remains excluded, whether services are affordable and acceptable, and whether continuity and quality are maintained. Equity-sensitive monitoring should disaggregate access and outcomes by income, sex, age, disability, geographic location, migration status, and other locally relevant dimensions of vulnerability.

The study also highlights the relevance of intersectionality in shaping population health outcomes. Vulnerability is rarely experienced along a single dimension; rather, poverty, gender, disability, age, and geographic location often intersect to produce compounded disadvantage. Health systems that fail to recognise and address these intersecting vulnerabilities risk perpetuating exclusion even as overall service coverage expands. An equity-oriented population-health approach should therefore combine universal measures with proportionate and targeted support for groups facing multiple barriers. Such an approach avoids treating vulnerable populations as homogeneous. It recognises that

the same intervention may produce different effects depending on social position, local infrastructure, institutional responsiveness, and decision-making power.

5.3. Implications for Health-Systems Strengthening

The findings have broader implications for health-systems strengthening because inclusion cuts across all major system functions. In financing, equitable access requires expanded risk pooling, reduced reliance on out-of-pocket payments, and protection against both direct and indirect costs. In service delivery, it requires strong primary health care, reliable referral pathways, continuity across levels of care, and adequate availability of medicines and diagnostics. In the workforce, it requires equitable deployment, supportive supervision, culturally responsive practice, and respectful care. In governance, it requires participation, transparency, accountability, and responsiveness to marginalised populations. In health-information systems, it requires disaggregated data capable of revealing who remains underserved.

Financial protection mechanisms are central to this effort. Expanding risk pooling, reducing reliance on out-of-pocket payments, and ensuring affordable access to essential services are critical for mitigating financial exclusion. However, the findings also indicate that financial reforms alone are insufficient. Geographic accessibility, institutional responsiveness, and socio-cultural acceptability must be addressed concurrently to achieve meaningful inclusion. This underscores the importance of integrated health-system reforms that align financing, service delivery, governance, and workforce development.

The role of data and monitoring also emerges as a key consideration. Health systems that utilise disaggregated data and equity-sensitive indicators are better equipped to identify access gaps and track progress toward inclusion. Such data-driven approaches support targeted resource allocation and enhance accountability for equity outcomes. Monitoring systems should move beyond aggregate coverage to assess affordability, travel burden, waiting time, service acceptability, continuity, quality, and differential outcomes across population groups. Without these measures, reforms may improve national averages while leaving existing inequalities unchanged or less visible.

5.4. Policy Relevance and Practical Implications

The policy implications should be considered in relation to implementation feasibility. In highly resource-constrained settings, immediately achievable measures may include strengthening existing primary healthcare facilities, integrating and supporting community health workers, improving referral coordination, implementing targeted fee exemptions, expanding mobile outreach services, and training providers in respectful and disability-inclusive care. Although these interventions may require fewer new institutional structures than large-scale insurance reforms or digital transformation programmes, their effectiveness still depends on sustained financing, adequate supervision, reliable supplies, and local accountability.

First, policies aimed at expanding universal health coverage should prioritise not only increased service coverage but also the quality and equity of access. This requires benefit packages that reflect the needs of vulnerable populations and financial-protection mechanisms that effectively reach those most at risk of exclusion. Benefit packages should therefore be assessed against population-health needs, indirect household costs, service availability, and the ability of marginalised groups to navigate administrative requirements.

Second, the findings underscore the value of decentralised and community-based service-delivery models. Strengthening community health worker programmes, mobile clinics, and outreach services may help bridge geographic and socio-cultural gaps, particularly in underserved areas. These approaches require adequate financing, training, supervision, institutional support, and integration into broader health systems. Community-based delivery should not be treated as a low-cost substitute for formal services. Its effectiveness depends on fair remuneration, manageable workloads, reliable referral pathways, adequate supplies, and meaningful community participation in planning and evaluation.

Third, technological innovations present both opportunities and challenges for inclusion. Digital health tools may extend service reach, improve referral coordination, and support continuity of care, but they may also intensify existing inequalities when digital divides are not addressed. Policymakers and health institutions should therefore apply an explicit equity lens when implementing digital health strategies, with attention to affordability, accessibility, digital literacy, language, disability inclusion, privacy, and data governance. Low-bandwidth and basic-phone options may be more feasible than technology-intensive platforms in areas with unreliable electricity or internet connectivity. Digital interventions should also provide alternative access routes for people without devices, individuals with limited literacy, persons with disabilities, and those who lack confidence in remote care.

Finally, institutional reforms should strengthen governance, accountability, transparency, and community participation. Health systems that promote responsiveness and meaningful public engagement may be better

positioned to build trust and improve service utilisation. Training health workers in respectful, patient-centred, culturally responsive, and disability-inclusive care may further reduce socio-cultural barriers. Nevertheless, implementation may be constrained by limited fiscal space, workforce shortages, fragmented authority, weak procurement systems, political instability, donor dependence, inadequate data, and resistance to organisational change. Reform priorities should therefore be sequenced according to local capacity, supported by realistic financing and workforce plans, and evaluated using equity-sensitive indicators. These conditions are important for translating policy commitments into sustainable improvements in access and population health outcomes.

5.5. Study Limitations and Future Research

Several limitations should be acknowledged. The analysis was based on secondary scholarly evidence, which limited the depth of context-specific insights available for individual countries, programmes, and population groups. Variations in data availability, methodological quality, and reporting standards across African contexts also affected comparability. In addition, the study adopted a continent-wide analytical lens rather than focusing on a single country or intervention, which limited its ability to draw detailed conclusions about specific implementation processes.

The evidence base may also have been affected by publication bias, as studies reporting clear inequities or successful interventions were more likely to be published than those reporting null, mixed, or unsuccessful outcomes. The restriction to English-language publications may have reduced the representation of evidence from Francophone, Lusophone, and Arabic-speaking African contexts. Countries with stronger research institutions and health information systems may also have been disproportionately represented, while fragile, conflict-affected, and under-resourced settings may have remained comparatively underdocumented. Differences in indicator definitions, observation periods, sampling approaches, and reporting quality limited direct comparison across countries and publication types. Because the review was conducted by a single author, independent duplicate screening, inter-reviewer agreement, and formal inter-coder reliability assessment were not possible. A formal risk-of-bias instrument was not applied because the synthesis included heterogeneous empirical studies and review-based publications employing different methodological approaches. Although structured credibility assessment and cross-source comparison were used, interpretive judgement could not be eliminated.

The design did not permit causal attribution. Economic conditions, political stability, broader social policies, health-system capacity, and concurrent interventions may have influenced reported relationships between inclusion-focused reforms and population health outcomes. The findings should therefore be interpreted as an integrative account of recurring mechanisms and contextual patterns rather than as estimates of intervention effectiveness.

Future research should include in-depth country-level case studies examining the implementation and outcomes of equity-oriented health reforms. Comparative studies across countries and subregions could further clarify how policy and institutional arrangements shape inclusion and population health outcomes. Longitudinal and mixed-methods research is also needed to examine how access changes over time, how communities and providers experience reforms, and which implementation conditions enable interventions to reduce rather than reproduce inequities. Greater investment is particularly needed in research involving underrepresented countries, rural and fragile settings, people with disabilities, migrants, informal-settlement residents, and populations whose experiences are frequently absent from national evidence systems.

6. Conclusions

This study examined inclusion and equitable access within African health systems and assessed their implications for population health outcomes. The synthesis indicates that financial, geographic, institutional, and socio-cultural barriers frequently interact to restrict access, reduce service utilisation, and contribute to unequal health outcomes across population groups. Because the study was based on heterogeneous secondary scholarly evidence, these relationships should be interpreted as recurring patterns and plausible pathways rather than independently established causal effects.

The study contributes to African population health and health systems scholarship by conceptualising inclusion and equitable access as multidimensional attributes of health system performance. Its analytical framework connects social determinants and intersecting vulnerabilities with health-system inclusion, equitable access, service utilisation, quality and continuity of care, and population health outcomes. The framework may therefore support the assessment of equity-oriented reforms across different African contexts, provided that national and subregional differences are taken into account.

The findings further underscore that advancing population health in Africa requires more than expanding service coverage. Equitable improvement depends on whether essential services are affordable, geographically accessible,

institutionally responsive, socio-culturally acceptable, and sufficiently continuous and of adequate quality. Accordingly, financial protection should be implemented alongside strengthened primary healthcare, equitable workforce deployment, effective referral systems, community participation, respectful care, and disaggregated equity monitoring.

In resource-constrained settings, feasible priorities may include improving existing primary healthcare facilities, supporting community health workers, strengthening referral coordination, introducing targeted protection from direct and indirect costs, expanding mobile outreach, and improving disability-inclusive and culturally responsive care. Digital health interventions may complement these measures, but their equity effects depend on connectivity, affordability, accessibility, digital literacy, and appropriate data-governance safeguards.

Overall, inclusion and equitable access should remain central objectives of health policy and health-systems strengthening in Africa. Progress will require context-sensitive implementation, sustained institutional and political commitment, and evidence-informed monitoring that examines not only average service coverage but also the distribution of access, quality, and health outcomes across social groups. Such an approach is essential to ensuring that health-system reforms contribute to more equitable, resilient, and sustainable population health improvement across the continent.

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