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REVIEW

Maternal and Newborn Health in Somalia: A Narrative Review of Health System Challenges and Public Health Priorities

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Abstract: Maternal and newborn health in Somalia remains a critical public health challenge within a fragile and conflict-affected health system. This review aims to examine the magnitude, determinants, and health system challenges affecting maternal and neonatal outcomes in Somalia, and to identify priority public health actions and research gaps. A narrative review methodology was employed, drawing on peer-reviewed literature from PubMed and Google Scholar, alongside grey literature including national surveys (SHDS 2020), policy documents, and reports from international organizations. Findings show that maternal mortality remains high (approximately 563 per 100,000 live births), with neonatal mortality at 36 per 1000 live births, and critically low service coverage, including only 32% skilled birth attendance and limited antenatal and postnatal care utilization. Key determinants include limited women's autonomy, financial constraints, low awareness of services, and strong sociocultural influences. Health system challenges include weak implementation of the Essential Package of Health Services (EPHS), shortages of skilled health workers, inadequate referral systems, and weak health information systems. Although progress has been observed through ongoing RMNCAH interventions and partner-supported programs, significant gaps remain in service quality, equity, and accessibility. Priority actions include strengthening antenatal care, scaling up emergency obstetric and newborn care, improving referral systems, enhancing community engagement, and strengthening health information systems. Future research should focus on evaluating intervention effectiveness, regional disparities, and quality of care, to support evidence-based policy and progress toward Sustainable Development Goals.

Keywords: fragile states, health systems strengthening, maternal mortality, neonatal mortality, RMNCAH, Somalia

Introduction

Maternal and newborn health remains a major public health challenge in Somalia, particularly in its fragile and conflict-affected context. Despite global progress in reducing maternal and neonatal mortality over the past two decades, Somalia continues to experience one of the highest burdens of preventable maternal and newborn deaths worldwide. According to international estimates, Somalia's maternal mortality ratio (MMR) was approximately 621 maternal deaths per 100,000 live births between 2000 and 2020, with neonatal mortality estimated at 36 deaths per 1000 live births and stillbirths at 28 per 1000 births.[1] More recent modelling suggests modest improvements, with the MMR declining to approximately 563 per 100,000 live births in 2023; however, mortality levels remain substantially higher than regional and global averages and far from the Sustainable Development Goal (SDG) target of fewer than 70 maternal deaths per 100,000 live births.[2] Globally, an estimated 287,000 women died from pregnancy-related causes in 2020, with sub-Saharan Africa accounting for approximately 70% of these deaths, highlighting the disproportionate burden in fragile and low-resource settings.[3] Evidence from low-income and fragile settings indicates that inadequate access to skilled birth attendance and early postnatal care significantly increases the risk of maternal and neonatal mortality.[4] Low coverage of essential

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maternal health services significantly contributes to this persistent burden. The Somalia Health and Demographic Survey (SHDS) 2020 reported that only 32% of births are attended by skilled health personnel, and 31% of women received antenatal care (ANC) from a skilled provider during their most recent pregnancy.[5] Furthermore, 89% of mothers did not receive a postnatal check within the first two days following childbirth, a critical period associated with high maternal and neonatal risk.[5] Gaps across the continuum of care from pregnancy through childbirth and the early postnatal period—are strongly associated with preventable complications and deaths.

Recent empirical studies have highlighted both inequities and sociocultural determinants that influence service utilization. A cross-sectional study published in *BMC Pregnancy and Childbirth* found that family influence, knowledge of midwife availability, and women's autonomy were significant determinants of ANC attendance and institutional delivery in Somalia.[6] Similarly, an analysis of the SHDS 2020 data demonstrated that only approximately 7% of pregnancies achieved the World Health Organization-recommended minimum of four ANC visits, placing Somalia among the lowest-performing countries globally in ANC utilization.[7] These findings suggest that supply-side constraints and demand-side barriers continue to undermine maternal health outcomes. Additionally, evidence shows that scaling up proven interventions such as antenatal care, skilled birth attendance, and emergency obstetric care can significantly reduce maternal and neonatal mortality in low-resource settings.[8] The broader health system context further exacerbates these challenges. National RMNCAH policy briefs emphasize that prolonged conflict, displacement, drought, flooding, and food insecurity have weakened health infrastructure and service delivery capacity.[9] The national RMNCAH strategy indicates that the essential package of health services (EPHS) reaches only approximately half of Somalia's regions, leaving other areas dependent on fragmented humanitarian support.[10] Consequently, health facilities frequently face shortages of skilled personnel, essential medicines, and emergency obstetric care capacity. Moreover, recent analyses classify Somalia among the "very high alert" countries for maternal, newborn, and under-five mortality.[11] The leading causes of neonatal mortality—birth asphyxia, prematurity, and sepsis—are largely preventable with timely intrapartum care, basic newborn resuscitation, infection prevention, and early postnatal follow-up.[12] However, owing to low institutional delivery rates and limited early postnatal care coverage, opportunities to prevent these deaths are frequently missed.[1] Health system fragility, including weak governance, workforce shortages, and disrupted service delivery, is a major determinant of poor maternal and newborn outcomes in conflict-affected settings.[13]

Despite these challenges, national and international efforts are ongoing to strengthen RMNCAH services. The World Health Organization (WHO) and partners continue to support emergency obstetric and newborn care, birth spacing interventions, and primary health care strengthening initiatives.[14] Multi-partner projects aimed at reinforcing referral systems and expanding service delivery have shown gradual improvements in maternal and child health indicators, although these gains remain fragile.[15] Maternal and newborn mortality in Somalia represents a critical and persistent public health problem, characterized by high mortality rates, low service utilization, and significant health system constraints. Despite existing studies, the evidence remains fragmented and often focuses on isolated aspects such as antenatal care or institutional delivery, without providing an integrated analysis of health system challenges and determinants. Furthermore, there is limited synthesis examining how structural health system weaknesses interact with sociocultural and economic barriers to influence maternal and newborn outcomes. This gap limits the ability to design comprehensive and context-specific interventions. Therefore, this review aims to provide a comprehensive synthesis of maternal and newborn health challenges in Somalia, integrating epidemiological trends, service coverage, determinants, and system-level constraints.

Methods and Materials

This study employed a narrative review design to synthesize evidence on maternal and newborn health in Somalia. A narrative review was selected due to the heterogeneity of available evidence, including national surveys, observational studies, policy documents, and program reports, which required integrative analysis rather than quantitative synthesis. A structured literature search was conducted between January and February 2026 using PubMed and Google Scholar. Search terms included combinations of keywords and Boolean operators such as: ("Somalia" AND "maternal mortality") OR ("neonatal mortality") OR ("antenatal care") OR ("skilled birth attendance") OR ("postnatal care") OR ("RMNCAH") OR ("health systems") OR ("EPHS") OR ("referral systems"). Grey literature was included to capture

nationally relevant data and policy guidance, including the Somalia Health and Demographic Survey (SHDS 2020), RMNCAH strategy documents, and reports from WHO, UNICEF, and other partners. Included documents comprised SHDS 2020, RMNCAH strategy/policy briefs, and WHO Somalia technical/program materials. Inclusion criteria were: (i) Somalia-specific focus; (ii) maternal/newborn outcomes, service coverage, determinants, or system performance; and (iii) accessible full text. Exclusion criteria included studies without Somalia-specific data or lacking relevance to maternal and newborn health.

Studies were screened based on title, abstract, and full text. Data were extracted thematically and organized into key domains: mortality burden, service coverage, sociocultural determinants, health system constraints, and priority interventions. Due to the narrative nature of the review, formal meta-analysis was not conducted. However, triangulation across multiple data sources was used to enhance validity. A formal risk-of-bias assessment was not performed, which represents a limitation of this approach. A total of 17 studies and reports were included after screening. Although additional databases such as Scopus and Web of Science could enhance coverage, the selected databases were considered sufficient for capturing Somalia-specific evidence.

Health System Challenges

Somalia's persistently high maternal and neonatal mortality is closely linked to systemic weaknesses within the national health system. Decades of conflict, political instability, recurrent droughts, flooding, food insecurity, and large-scale displacement have significantly disrupted health infrastructure and service delivery capacity.[5] These contextual fragilities have resulted in limited geographical coverage, inconsistent service quality, and heavy reliance on externally funded humanitarian interventions. Health system fragility in conflict-affected settings is widely associated with reduced service coverage, weakened infrastructure, and increased maternal and neonatal mortality.[16,17]

One of the central structural constraints is the limited implementation of the Essential Package of Health Services (EPHS). Although the EPHS was designed to provide standardized primary health care across the country, national strategy reports indicate that it effectively reaches only about half of Somalia's regions, leaving many rural and hard-to-reach areas underserved. In such settings, service provision is often fragmented, donor-dependent, and inconsistently integrated into national systems, which undermines continuity of care and long-term sustainability.

Human resource shortages further constrain maternal and newborn service delivery. The availability of skilled birth attendants, midwives, and emergency obstetric care providers remains critically low, particularly outside major urban centers. This shortage directly contributes to the low proportion of skilled birth attendance reported in national surveys.[5] Without adequately trained personnel, facilities are often unable to provide basic or comprehensive emergency obstetric and newborn care, including life-saving interventions such as management of postpartum hemorrhage, treatment of eclampsia, safe cesarean sections, newborn resuscitation, and infection management.

Frequent stock-outs of essential medicines, limited blood transfusion capacity, and weak referral systems compound these challenges. The national RMNCAH policy brief highlights supply chain disruptions and inadequate facility readiness as major barriers to quality maternal and newborn care. In many districts, referral pathways between primary health units and higher-level facilities remain poorly coordinated, with limited ambulance services and transportation barriers delaying timely access to emergency care. Such delays are particularly critical in obstetric emergencies, where survival often depends on rapid intervention. Strengthening primary health care systems is widely recognized as a cost-effective and sustainable approach to improving maternal and newborn health outcomes in low-resource settings.[18] Health information systems also face substantial limitations. While the SHDS 2020 provides nationally representative data, routine facility-based reporting systems remain incomplete and inconsistent, especially in insecure or remote areas.[5] Weak surveillance systems limit the systematic review of maternal and perinatal deaths, thereby reducing opportunities for data-driven quality improvement and accountability. Strengthening maternal and perinatal death surveillance and response mechanisms is essential to identify avoidable causes and inform corrective action.[19]

Financial barriers further exacerbate inequities in access. Although some services are subsidized, out-of-pocket expenditures remain common, particularly in private or NGO-supported facilities. In a context characterized by widespread poverty and food insecurity, cost-related barriers often deter women from seeking timely antenatal, delivery, or postnatal care Sociocultural factors, including limited decision-making autonomy among women and reliance on family

approval, also intersect with health system weaknesses to reduce utilization of institutional services.[6] Out-of-pocket health expenditures remain a significant barrier to accessing maternal health services in low-income settings, particularly among vulnerable populations.[20]

Despite these constraints, ongoing efforts by the Ministry of Health and international partners aim to strengthen RMNCAH services through investments in primary health care, emergency obstetric and newborn care, and referral system improvement.[10] Multi-partner initiatives, such as large-scale maternal health strengthening projects, have contributed to incremental improvements in service coverage; however, progress remains fragile and highly dependent on sustained political commitment and external funding.[15]

Addressing maternal and newborn mortality in Somalia therefore requires comprehensive health system strengthening, including expansion of EPHS coverage, investment in human resources for health, supply chain stabilization, improved referral coordination, strengthened health information systems, and enhanced financial protection mechanisms. Without systemic reform, reductions in maternal and neonatal mortality are unlikely to be sustained. Community-based interventions, including health education and male involvement, have demonstrated effectiveness in improving maternal health service utilization in similar contexts.[21]

Discussion

This narrative review highlights the persistent and preventable burden of maternal and neonatal mortality in Somalia within a fragile health system context. Despite modest improvements in recent years, maternal mortality remains substantially above global targets, reflecting structural weaknesses, inequitable service coverage, and limited access to quality obstetric and newborn care. The findings align with global evidence indicating that countries affected by conflict and fragility account for a disproportionate share of preventable maternal and neonatal deaths.[15] Compared to other conflict-affected settings in sub-Saharan Africa, Somalia demonstrates similar patterns of low service coverage and health system fragility, but with more pronounced gaps in data availability and service integration. Evidence remains limited regarding regional disparities, quality of care, and effectiveness of interventions. Future research should prioritize longitudinal studies, evaluation of RMNCAH programs, and improved data systems to support evidence-based decision-making.

Globally, significant progress has been made in reducing maternal mortality since 2000; however, progress has slowed in fragile and conflict-affected settings.[3] The World Health Organization (WHO) reports that nearly 95% of maternal deaths occur in low- and lower-middle-income countries, with sub-Saharan Africa bearing the greatest burden.[3] Somalia exemplifies this pattern, where systemic fragility, workforce shortages, and supply chain disruptions constrain the delivery of essential maternal health services. Similar patterns have been observed in other conflict-affected countries, where weakened institutions and disrupted referral systems undermine timely emergency obstetric care. A key finding from this review is the low coverage of antenatal care, skilled birth attendance, and early postnatal care. Global evidence demonstrates that quality antenatal care, intrapartum monitoring, skilled birth attendance, and timely postnatal follow-up are among the most effective interventions for reducing maternal and neonatal mortality. The WHO's recommendations on antenatal care emphasize a minimum of eight contacts to improve maternal and newborn outcomes, highlighting early risk detection, counselling, and continuity of care.[22] In contexts such as Somalia, where even four visits remain uncommon, scaling up ANC coverage represents a critical opportunity for impact.

The review also underscores the importance of health system strengthening. The Lancet Global Health Commission on High-Quality Health Systems emphasizes that mortality reductions depend not only on service availability but also on service quality. Poor-quality care—including delayed recognition of complications, inadequate infection prevention, and weak referral coordination—contributes significantly to preventable deaths. In fragile systems, investments in workforce training, supply chain resilience, referral networks, and accountability mechanisms are essential for improving both access and quality. Strengthening primary health care systems, improving service quality, and ensuring equitable access are essential strategies for reducing maternal and neonatal mortality in fragile contexts.[23]

In other hand, community-level and sociocultural determinants further influence maternal health outcomes. Women's autonomy, decision-making power, and financial barriers shape care-seeking behavior, consistent with broader global evidence linking gender inequality to adverse maternal outcomes.[24] Interventions that promote male involvement,

community education, and women's empowerment have demonstrated effectiveness in improving service uptake in similar low-resource settings. Finally, addressing maternal and newborn mortality in Somalia requires sustained financing and integration of humanitarian and development approaches. The transition from fragmented, donor-driven programs toward nationally coordinated primary health care systems is essential for long-term sustainability. While substantial challenges persist, it is important to acknowledge recent progress and ongoing interventions. Multi-partner initiatives, including primary health care strengthening and maternal health programs, have contributed to gradual improvements in service delivery and awareness. Community-based interventions and increased engagement by international organizations have supported expansion of maternal health services in some regions. However, these gains remain uneven and fragile, highlighting the need for sustained investment and system-wide strengthening. The WHO's framework for primary health care strengthening emphasizes integrated service delivery, equity, and resilience as foundational components for improving maternal and newborn survival.[25]

This review has several limitations. As a narrative review, it does not include a formal systematic search or meta-analysis, which may introduce selection bias. The reliance on secondary data and limited availability of Somalia-specific studies may also affect comprehensiveness. Variability in data quality across sources may influence interpretation.

Priority Public Health Actions

In light of the existing evidence, the following priority public health actions are recommended:

Strengthening Antenatal Care

Expanding access to quality antenatal care is critical. Emphasis should be placed on early first-trimester registration, screening for maternal complications, birth preparedness counselling, and linkage to skilled delivery services.

Scaling Up Emergency Obstetric and Newborn Care

Basic and comprehensive emergency obstetric and newborn care services must be scaled up at both the primary and referral levels. Functional referral systems, adequate blood supply, essential medicines, and trained personnel are essential components.

Community Engagement and Sociocultural Interventions

Community-based health education should promote the recognition of danger signs during pregnancy, optimal birth spacing, male involvement, and women's decision-making autonomy. Addressing financial and transportation barriers is also crucial.

Strengthening Health Information Systems

Improved facility reporting, maternal and perinatal death surveillance, and regular household surveys are necessary to generate reliable data to monitor progress and guide targeted interventions.

Conclusion

Somalia continues to face a high burden of maternal and neonatal mortality, with maternal mortality estimated at approximately 563 per 100,000 live births and neonatal mortality at 36 per 1000 live births. These outcomes are driven by low service coverage, including limited antenatal care, low skilled birth attendance, and inadequate postnatal care, as well as systemic health system weaknesses. This review demonstrates that both structural health system constraints and sociocultural factors contribute to poor maternal and newborn outcomes. Addressing these challenges requires strengthening primary health care, expanding access to quality maternal services, improving referral systems, and enhancing health information systems. Future research should focus on evaluating intervention effectiveness, addressing regional inequalities, and improving quality of care. Achieving the Sustainable Development Goal target of reducing maternal mortality to less than 70 per 100,000 live births will require sustained investment, coordinated policy action, and context-specific RMNCAH strategies. Significant research gaps remain in evaluating intervention effectiveness, regional disparities, and quality of maternal and newborn care in Somalia.

Abbreviations

ANC, Antenatal Care; EmONC, Emergency Obstetric and Newborn Care; EPHS, Essential Package of Health Services; HIS, Health Information System; MMR, Maternal Mortality Ratio; RMNCAH, Reproductive, Maternal, Newborn, Child and Adolescent Health; SDG, Sustainable Development Goal; SHDS, Somalia Health and Demographic Survey; SBA, Skilled Birth Attendant; UHC, Universal Health Coverage.

Data Sharing Statement

This review is based on published and publicly available data from the PubMed database.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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The authors declare that they have no competing interest.

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