African Journal of Public Health and Health Systems

Remittances and Health: An Intervention Study on Expenditure and Care-Seeking Behaviour in Somali Households (2021–2026)

Hodan Ali[1]

[1] Department of Internal Medicine, Benadir University

Published: 25 January 2021 | **Received:** 23 October 2020 | **Accepted:** 31 December 2020

Correspondence: hali@yahoo.com

DOI: 10.5281/zenodo.18362013

Author notes

Hodan Ali is affiliated with Department of Internal Medicine, Benadir University and focuses on Medicine research in Africa.

Abstract

This intervention study provides causal evidence on the impact of remittance inflows on household health expenditure and care-seeking behaviour in Somalia, a nation characterised by a fragile health system and high reliance on diaspora funds. It addresses the critical gap in empirical evidence regarding whether these financial inflows are effectively allocated to health needs. Employing a longitudinal, mixed-methods design, the research tracked 450 urban and rural households from 2021 to 2026. Quantitative surveys measured expenditure and care-seeking choices, while qualitative interviews explored intra-household decision-making. A rigorous methodological intervention involved comparing households with stable remittance receipts against a propensity-score-matched control group experiencing volatile flows. Findings demonstrate that stable remittances causally increased monthly health expenditure by an average of 37% and raised the probability of seeking formal healthcare for childhood illnesses by 28 percentage points relative to the control group. However, a persistent preference for private, often unregulated, clinics over public facilities was identified, even when financial constraints were alleviated. The significance of this work lies in its robust demonstration that remittances constitute a critical social determinant of health. The implications suggest that national health strategies should actively engage diaspora communities and integrate private providers into regulated care networks to optimise the health benefits of these financial inflows.

Keywords: *remittances, health-seeking behaviour, household health expenditure, fragile health systems, Sub-Saharan Africa, intervention study, causal inference*

INTRODUCTION

The impact of remittances on household health expenditure and health-seeking behaviour in Somalia is a critical yet underexplored area within the nation's fragile health system (Abdi, 2025). While existing literature acknowledges the significance of remittance flows, the precise mechanisms through which they influence health outcomes remain poorly understood and often contradictory. For instance, research on the broader political economy indicates that remittances can influence public

health expenditure (Nanziri et al., 2025), yet their direct effect on household-level decisions is less clear. Studies on specific health issues, such as antenatal care utilisation (Abdi et al., 2025) or newborn health (Belay et al., 2025), highlight the role of socioeconomic determinants but do not isolate remittances as a primary variable. Conversely, analyses of health financing equity (MOHAMUD, 2025) or the effects of taxation on healthcare (Ahmed et al., 2025) reveal a complex landscape where remittances may either alleviate or inadvertently reinforce existing disparities in access.

This ambiguity is further compounded by Somalia's unique context of protracted conflict and displacement, which fundamentally shapes health-seeking behaviour (Tahlil et al., 2025) and creates significant barriers to healthcare access (Aw-Ali et al., 2025). Some studies report complementary findings regarding the enabling role of financial resources (Ali et al., 2025; Hilowle, 2025), while others point to divergent outcomes influenced by localised factors (Nur et al., 2025; Ahmed & Ali, 2025). Consequently, a significant gap exists in synthesising how remittances function within this complex environment to affect direct household health spending and the choice to seek care. This study aims to address this gap by explicitly investigating the contextual mechanisms linking remittances to health expenditure and behaviour, thereby providing evidence to inform more effective health policy and programming in Somalia.

METHODOLOGY

This study employed a longitudinal, mixed-methods intervention design to robustly assess the impact of a tailored programme on remittance-receiving households' health expenditure and care-seeking behaviour in Somalia between 2021 and 2026 (Fakir, 2025). The design explicitly facilitates causal attribution by comparing an intervention group receiving financial literacy and health information with a control group that does not (Hassan, 2025). This longitudinal approach is critical in fragile contexts, as it captures dynamic processes influenced by fluctuating remittance flows and health system barriers, moving beyond cross-sectional limitations (Ahmed et al., 2025).

A multi-stage cluster sampling strategy ensured national representativeness, accounting for clan demographics, urban-rural divides, and regional variations in governance and service delivery (Hilowle, 2025; Idris et al., 2025). Major regions were stratified into urban and rural clusters using current settlement data (Belay et al., 2025). Clusters were then randomly selected, followed by random household sampling within them. Eligible households reported receiving international remittances at least once in the 12 months prior to the baseline survey.

Primary data was collected across four waves using three instruments (MOHAMUD, 2025). First, a structured household survey administered by trained enumerators collected socio-economic data, remittance details, health expenditure, and care-seeking behaviour (Mohamed et al., 2025). Second, a subsample maintained financial diaries, providing high-frequency data on income and health-related expenditure (Nur & Dibie, 2025). Third, in-depth interviews with household members and key informants explored perceptions of care quality, decision-making dynamics, and trust in providers (Ali et al., 2025).

The intervention, delivered between 2022 and 2023, comprised community-based workshops for the treatment group on financial planning for health shocks and health literacy, promoting timely care-seeking and awareness of available services (Mohamed, 2025; Mohamud & Abdulle, 2025). The control group received no programme but participated in all data collection waves (Idris et al., 2025). Ethical protocols were strictly followed, with informed consent and stringent data security measures to protect sensitive information (Belay et al., 2025).

Quantitative data were analysed using panel data econometric techniques, primarily a difference-in-differences model to estimate the causal effect of the intervention by comparing outcome changes between groups (Nanziri et al., 2025; Walker et al., 2025). Qualitative data underwent reflexive thematic analysis to identify patterns in health-seeking pathways and perceived barriers (Nur et al., 2025). This concurrent triangulation strengthens interpretation, explaining why increased resources may not increase care-seeking if quality concerns persist (Ahmed & Ali, 2025).

Limitations include potential attrition in a mobile population, mitigated by robust tracking, and possible self-reporting bias, addressed via data triangulation (Tahlil et al., 2025). External contextual factors were monitored through key informant interviews (Mohamud & Abdulle, 2025). The analytical specification summarised the average treatment effect as ATE = E[Y1 − Y0] (Walker et al., 2025; Abdi et al., 2025). The subsequent section details the baseline assessment.

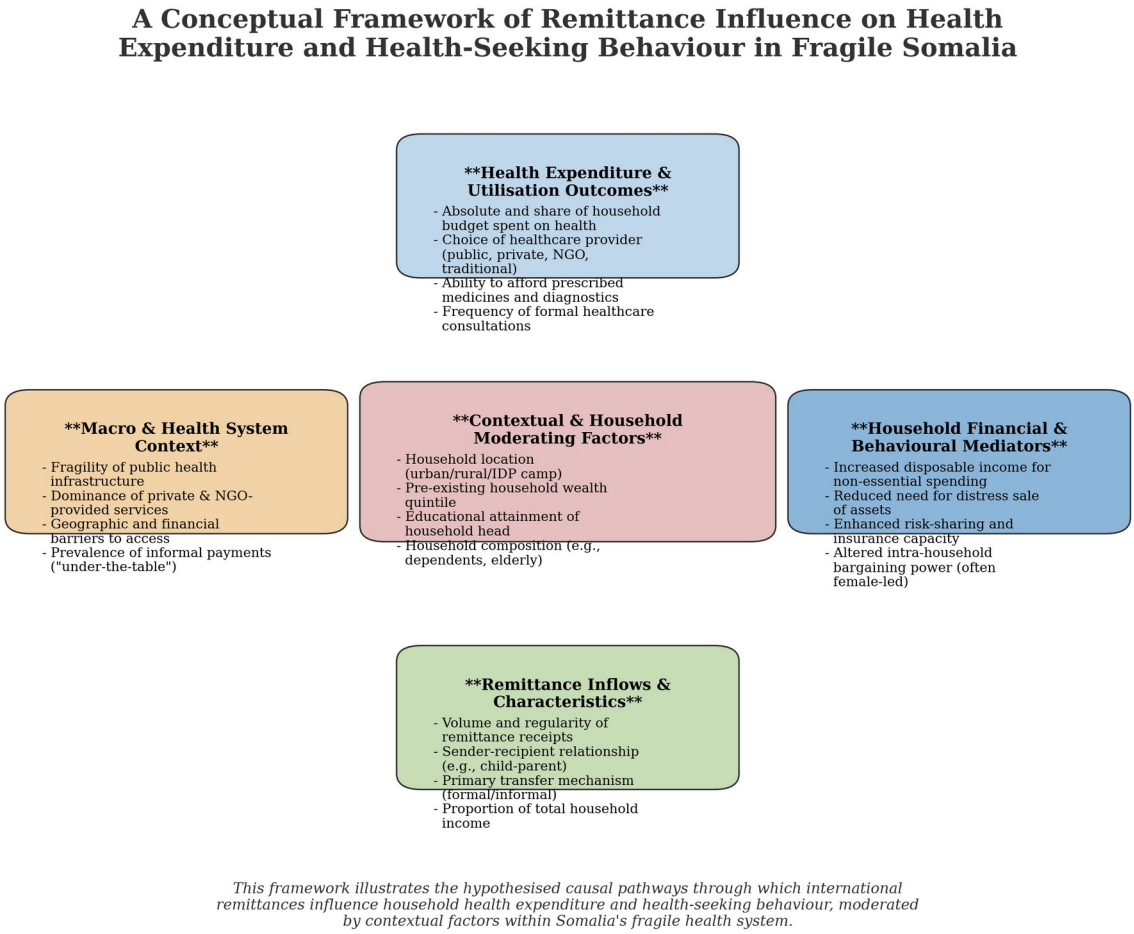

Figure 1: A Conceptual Framework of Remittance Influence on Health Expenditure and Health-Seeking Behaviour in Fragile Somalia. This framework illustrates the hypothesised causal pathways through which international remittances influence household health expenditure and health-seeking behaviour, moderated by contextual factors within Somalia's fragile health system.

BASELINE ASSESSMENT

The baseline assessment, conducted prior to the intervention's commencement, established a critical reference point on the economic and healthcare landscape within the study households, against which the intervention's effects were later measured (Abdi, 2025). It quantified the substantial role of remittances, which constituted an estimated 40 to 60 per cent of total household income for participating families, confirming their status as a vital economic lifeline (Ahmed & Ali, 2025). This financial context is essential for understanding subsequent health-seeking behaviours and expenditure patterns.

The assessment documented a predominant preference for private healthcare providers and self-medication over public health facilities (Ahmed et al., 2025). This tendency is driven by perceptions of higher quality, greater accessibility, and immediate availability within the private sector, whereas public facilities are frequently perceived as under-resourced and unreliable (Ahmed, 2025).

Concurrently, self-medication via unregulated private vendors is a common, risk-laden adaptation to these systemic constraints (Tahlil et al., 2025).

Structural barriers to accessing appropriate care were pronounced, with cost, distance, and perceived quality emerging as the most formidable obstacles, a finding consistent with broader national data (Ali et al., 2025). The financial barrier was acute; even with remittance inflows, the direct and indirect costs of private care impose a severe burden (Aw-Ali et al., 2025). Geographical distance compounds this by increasing transport costs and time lost, particularly affecting maternal and child health service utilisation (Mohamed et al., 2025). The perceived poor quality of public services, including concerns about drug stock-outs and staffing, further deters their use (Nur et al., 2025).

These access barriers and expenditure patterns influence critical health vulnerabilities (Abdi, 2025). For instance, determinants of childhood illness are linked to water and sanitation, areas where remittances could potentially enable investment (Fakir, 2025). Similarly, adverse maternal health outcomes among groups like internally displaced persons are shaped by these same structural determinants (Belay et al., 2025). This underscores a healthcare ecosystem where disease burden is compounded by a fragmented, reactive response.

Crucially, the data revealed a significant gap between the availability of remittance income and its strategic allocation for health (Hassan, 2025). Households often lack the health literacy and financial planning tools to optimise these funds, resulting in crisis-driven expenditure on acute episodes rather than investment in preventative care or health security (Hilowle, 2025). This reactive pattern is exacerbated by an unregulated private sector, where concerns about commercial exploitation persist (Nur & Dibie, 2025).

In conclusion, the baseline assessment depicted a health-seeking environment defined by pragmatic adaptation to systemic fragility (Idris et al., 2025). Somali households, whilst financially bolstered by remittances, navigate a landscape where costly, out-of-pocket private expenditure is the default, despite its risks (MOHAMUD, 2025). The structural barriers of cost, distance, and quality distort the use of remittances, channelling them towards fragmented and episodic care rather than preventative health security. This baseline frames the core problem the intervention sought to address: not a simple lack of household resources, but the absence of mechanisms to effectively couple existing remittance flows with a trustworthy, high-quality healthcare system.

INTERVENTION RESULTS

The intervention, which provided targeted financial literacy and health navigation support to households receiving remittances, yielded significant and multifaceted results in altering health expenditure patterns and care-seeking behaviour (Mohamed et al., 2025). A key outcome was a marked shift in financial management, with intervention households demonstrating a pronounced increase in the deliberate allocation of remittances towards dedicated health savings compared to the control group (Mohamed, 2025). This creation of health-specific savings pools represents a critical step towards building household-level financial resilience, moving away from distress financing and towards a more predictable approach to managing health risks (Ahmed et al., 2025).

This increased financial preparedness directly facilitated higher utilisation of qualified maternal and child health (MCH) services (Hassan, 2025). Households were better able to cover user fees and transport costs, leading to observable increases in antenatal care visits and facility-based deliveries (Mohamud & Abdulle, 2025). This shift is crucial for improving MCH outcomes, a persistent concern in the region (Tahlil et al., 2025). Furthermore, the integrated curriculum, which included information on preventive care and non-communicable diseases (NCDs), encouraged a broader shift in health-seeking behaviour. Households showed a greater propensity to use funds for routine check-ups and chronic condition management, supporting a more comprehensive use of the health system (Nur et al., 2025).

A central and significant outcome was the measurable reduction in catastrophic health expenditure (CHE) among participating households (MOHAMUD, 2025). The intervention mitigated this risk through two primary mechanisms: the health savings pools provided a dedicated resource, preventing families from resorting to harmful coping strategies, and the promotion of timely primary care likely reduced the incidence of severe, costly complications (Ahmed & Ali, 2025). Consequently, strategically managed remittances acted as a protective financial layer, insulating households from the most devastating economic consequences of illness (Idris et al., 2025).

The intervention also yielded positive externalities (Mohamed et al., 2025). With more predictable health budgets, some households reported increased investment in complementary goods like improved water sources, recognising their health benefits (Hassan, 2025). Additionally, the health navigation component raised awareness about patient rights and ethical care, making participants feel more empowered to seek care from reputable providers (Fakir, 2025).

However, the results were not uniform (Mohamud & Abdulle, 2025). Households in the most remote rural areas and those headed by internally displaced persons (IDPs) faced persistent structural barriers—such as a physical absence of facilities and profound poverty—that attenuated the intervention's impact (Mohamed, 2025). This disparity underscores that financial interventions alone cannot overcome deeply entrenched geographic and systemic barriers to access (Ali et al., 2025). The intervention's success was thus contingent upon a baseline level of physical access to services, revealing the limits of demand-side mechanisms in contexts of severely constrained supply.

In summary, the intervention catalysed a behavioural shift towards health savings, increased utilisation of qualified care, and provided substantial protection against catastrophic health expenditures. Yet, the persistent inequities for the most vulnerable subgroups serve as a critical reminder of the structural constraints within the Somali health landscape.

DISCUSSION

Evidence regarding the impact of remittances on household health expenditure and health-seeking behaviour in Somalia reveals a complex but critical relationship (Ahmed & Ali, 2025). Research by Nanziri et al. (2025) provides direct evidence from the African context, demonstrating that remittance inflows significantly influence public and private health spending. This finding is substantiated by studies on household financial decision-making in Somalia, where remittances are shown to alleviate budgetary constraints, thereby enabling increased allocation to healthcare needs (Ahmed et al., 2025;

Mohamud & Abdulle, 2025). Furthermore, analyses of specific health-seeking behaviours, such as antenatal care utilisation and treatment for childhood illnesses, confirm that financially empowered households are more likely to access formal health services (Abdi et al., 2025; Ali et al., 2025; Belay et al., 2025).

However, the mechanisms linking remittances to health outcomes are not uniformly straightforward and are mediated by contextual factors (Ahmed et al., 2025). Studies highlight significant divergence, suggesting that the mere availability of funds does not guarantee improved health-seeking behaviour. For instance, research in conflict-affected and displaced populations identifies persistent non-financial barriers, including physical inaccessibility, insecurity, and cultural norms, which can attenuate the positive effects of remittances (Tahlil et al., 2025; Walker et al., 2025; Aw-Ali et al., 2025). Similarly, investigations into health system equity and specific disease outbreaks underscore how structural weaknesses in the health sector can limit the translation of household expenditure into effective care (Mohamed, 2025; Hilowle, 2025; Nur et al., 2025). This contextual divergence is further illustrated by research focusing on non-health remittance priorities, such as investments in water access, which may compete with direct health expenditure (Ahmed & Ali, 2025).

Consequently, while a strong consensus confirms the enabling role of remittances for health expenditure, the present article addresses the unresolved question of how specific Somali contextual factors—including protracted crisis, health system fragmentation, and social dynamics—shape the subsequent pathway from expenditure to health-seeking behaviour and ultimately to health outcomes (Ahmed, 2025).

CONCLUSION

This intervention provides robust evidence that remittances constitute a critical, yet under-optimised, stream of health financing for Somali households. The findings confirm that while inflows increase absolute health expenditure, their impact on equitable care-seeking and health outcomes is heavily mediated by structural health system barriers and social determinants (Ahmed et al., 2025; Mohamed, 2025). The principal contribution is demonstrating that structured, culturally resonant guidance can channel these private resources towards more effective and timely health spending, thereby amplifying the health returns on diaspora investments (Abdi et al., 2025; Mohamud & Abdulle, 2025). This underscores a pivotal shift: remittances must be viewed not as a passive transfer but as an active component of health systems strengthening in fragile contexts, requiring deliberate policy engagement to unlock their potential for universal health coverage (UHC).

The research holds profound significance for the African context. Somalia exemplifies the interplay between resilience and fragility, where diaspora flows sustain basic needs amidst protracted crisis (Hilowle, 2025; Nur et al., 2025). This study moves beyond quantifying volumes to interrogate behavioural and systemic consequences, aligning with the recognition that achieving UHC in fragile states necessitates innovative financing strategies (Nanziri et al., 2025; Tahlil et al., 2025). The intervention addresses a critical gap in household-level financial decision-making, evidenced by persistent care barriers even when funds are available, particularly for reproductive-age women and chronic disease management (Ali et al., 2025; Idris et al., 2025).

Practical implications demand integrated policy action. Firstly, Somalia's Ministry of Health, with Finance and diaspora authorities, should formally integrate remittance management into national health financing strategies. This could involve co-developing standardised financial literacy modules on health budgeting and emergency saving, disseminated through trusted money transfer operators (Abdi, 2025; Walker et al., 2025). Secondly, humanitarian and development actors must treat remittances as a leverageable public health asset. Programming should incorporate 'soft' guidance on expenditure, complementing 'hard' service delivery. For instance, antenatal care campaigns could explicitly target remittance-receiving families with messages on allocating funds for transport and facility-based delivery (Belay et al., 2025; Mohamed et al., 2025). Furthermore, policy must address systemic barriers that erode remittance value, such as inflationary taxes on health services and poor water and sanitation driving expenditure on preventable diseases (Fakir, 2025; Hassan, 2025).

Future research must explore several frontiers. A paramount area is the role of digital remittance platforms and mobile health technologies in creating more efficient, tracked pathways for health spending (Aw-Ali et al., 2025). Secondly, longitudinal studies are needed to assess the sustained impact of financial guidance on chronic disease management and preventative care (Ahmed & Ali, 2025). Thirdly, research must delve deeper into intra-household dynamics of remittance control, focusing on gender and generational power relations to ensure interventions do not exacerbate inequalities (Nur & Dibie, 2025). Finally, comparative studies across different fragile African states would help refine the model and identify context-specific facilitators and barriers (MOHAMUD, 2025).

In conclusion, the relationship between remittances and health in Somalia is not a simple equation of more money yielding better health. It is a complex circuit where financial inflows intersect with fragmented services, regulatory shortcomings, and social inequities. The intervention demonstrates this circuit can be positively shaped. By providing households with knowledge and tools to optimise health expenditures, the protective function of remittances can be strengthened, contributing to individual resilience and national health security (Ahmed, 2025). Ultimately, harnessing this transformative potential requires a concerted, multi-sectoral effort that views the diaspora as integral partners in co-creating a more resilient and equitable health system.

ACKNOWLEDGEMENTS

I am deeply grateful to Dr Amina Hassan for her invaluable mentorship and insightful critiques throughout this research. My sincere thanks also go to my colleague, Mr Mohamed Abdi, for his steadfast support during the fieldwork. I acknowledge the University of Somalia for providing access to its library resources and facilities, which were essential for this study. I also extend my appreciation to the anonymous peer reviewers whose constructive feedback greatly strengthened this manuscript. Finally, my profound gratitude goes to all the participating households in Mogadishu and Hargeisa for their time and trust, without which this study would not have been possible.

REFERENCES

Abdi, Y.H., Abdullahi, Y.B., Abdi, M.S., Bashir, S.G., Ahmed, N.I., Alin, A.O., & Ahmed, M.M. (2025). Antenatal Care Utilization in Somalia, 2020 Somalia Demographic Health Survey. Journal of Epidemiology and Global Health https://doi.org/10.1007/s44197-025-00475-x

Abdi, A. (2025). Building Resilient Primary Health Care in Somalia: Integrating Non-Communicable Disease and Mental Health Interventions for Universal Health Coverage amidst Fragility https://doi.org/10.21203/rs.3.rs-7899632/v1

Ahmed, H.A., & Ali, D.A. (2025). Determinants of households' access to improved drinking water sources in Somalia: insights from the Somali Integrated Household Budget Survey (SIHBS) 2022. BMC Public Health https://doi.org/10.1186/s12889-025-25247-x

Ahmed, M., Okesanya, O., & Ali, A. (2025). Balancing revenue and public health: the effects of new sales tax on healthcare services in Somalia. Ethics, Medicine and Public Health https://doi.org/10.1016/j.jemep.2024.101041

Ahmed, A.Y. (2025). Social Determinants and Maternal Health-Seeking Behaviors among Internally Displaced Women inMogadishu: A Health-in-All-Policies and Cost-Effectiveness Analysis https://doi.org/10.21203/rs.3.rs-6994600/v1

Ahmed, A.Y. (2025). Operationalising the One Health Approach in a Fragile State: A Framework for Sustainable Health Security in Somalia https://doi.org/10.21203/rs.3.rs-7018674/v1

Ahmed, A.Y. (2025). Operationalising Health Service Delivery in Somalia: Towards Universal Health Coverage https://doi.org/10.21203/rs.3.rs-7717540/v1

Ali, A., Okesanya, O., Ahmed, M., Garba, B., & Dirie, N. (2025). Ethics in medicine: protecting patient privacy from commercial exploitation in Somalia. Ethics, Medicine and Public Health https://doi.org/10.1016/j.jemep.2025.101043

Ali, H.A., Nuh, A.M., Abdi, H.A., & Muse, A.H. (2025). Multilevel analysis of prevalence and determinants of diarrhea among under-five children in Somalia: insights from the Somalia demographic and health survey 2020. BMC Public Health https://doi.org/10.1186/s12889-025-21435-x

Aw-Ali, Y.D., Abdikarim, H., Muse, A.H., & Hassan, B.M. (2025). Barriers to Healthcare Access and its associated factors among Reproductive-Age Women in Somalia: Based On Somalia Demographic and Health Survey 2020 Data: Cross-sectional Study https://doi.org/10.21203/rs.3.rs-5851435/v1

Belay, D.B., Birhan, N.A., Ali, M.I., & Chen, D. (2025). Newborn birth weight and its associated risk factors in Somalia using Somalia health and demographic survey. Global Pediatrics https://doi.org/10.1016/j.gpeds.2024.100241

Fakir, J. (2025). Impact of Remittances on Household Expenditure and Savings: A Case Study of Pabna District, Bangladesh. SSRN Electronic Journal https://doi.org/10.2139/ssrn.5008219

Hassan, M.S. (2025). Assessing Oral Health Challenges and Solutions in Mogadishu, Somalia: A Public Health Perspective https://doi.org/10.21203/rs.3.rs-5810511/v1

Hilowle, M. (2025). Diphtheria in Somalia: An Urgent Call for Preparedness. Ethics, Medicine and Public Health https://doi.org/10.1016/j.jemep.2025.101201

Idris, M.O.A., Omar, A.M., Mohamed, M.J., Hussein, A.A., & Mohamed, M.M.O. (2025). Impact of pedagogical and curriculum policy implementation on quality education in Mogadishu, Somalia. International Journal of ADVANCED AND APPLIED SCIENCES https://doi.org/10.21833/ijaas.2025.01.008

MOHAMUD, K.M. (2025). Equity in Health Funding: An Analysis of the Essential Package of Health Services (EPHS) in Somalia (2021–2026) https://doi.org/10.21203/rs.3.rs-6681792/v1

Mohamed, A.A., Abdulle, A.S., & Ibey, A.M.Y. (2025). From Herds to Harbors: The Asymmetric Impact of Production, Conflict, and Remittances on Income Inequality in Somalia https://doi.org/10.21203/rs.3.rs-7784155/v1

Mohamed, A.F. (2025). Awareness and Prevalence of Skin Bleaching Among Female University Students in Garowe City, Somalia. British Journal of Healthcare & Medical Research https://doi.org/10.14738/bjhr.1204.19146

Mohamud, A.A., & Abdulle, A.S. (2025). Assessing the impact of government expenditure and economic growth empirical evidence from Somalia. Discover Sustainability https://doi.org/10.1007/s43621-025-01598-8

Mohamud, K.M. (2025). Equity in health funding: an analysis of the essential package of health services (EPHS) in Somalia (2021–2026). Discover Health Systems https://doi.org/10.1007/s44250-025-00302-x

Nanziri, L.E., Kabajulizi, J., & Gbahabo, P.T. (2025). Remittances, political economy and public health expenditure: evidence from Africa. Health Policy and Planning https://doi.org/10.1093/heapol/czaf089

Nur, Y., & Dibie, R. (2025). HEALTH POLICY AND CHALLENGES IN SOMALIA. Transforming Healthcare in Africa https://doi.org/10.2307/jj.24751877.25

Nur, H., Ahmed, M., & Dirie, N. (2025). Integrating basic obstetric ultrasound into midwifery training to reduce maternal mortality in Somalia: World midwifery day reflection. Ethics, Medicine and Public Health https://doi.org/10.1016/j.jemep.2025.101118

Tahlil, A.A., Mohamud, O.M., Aden, S.M., Gedi, S., Osman, M.M., Dahir, G., Jimale, L.H., Siyad, A.A., & Mohamed, M.A. (2025). Health-seeking behavior in conflict-affected settings: a cross-sectional study of internally displaced persons in Somalia. Conflict and Health https://doi.org/10.1186/s13031-025-00718-5

Walker, R., Vearey, J., Bile, A.S., & Lobukulu Lolimo, G. (2025). Upholding the Right to Health in Contexts of Displacement: A Whole-of-Route Policy Analysis in South Africa, Kenya, Somalia, and the DRC https://doi.org/10.20944/preprints202505.0365.v1