Health Economics Review

RESEARCH

Open Access

Burden or benefit? Unveiling the impact of out-of-pocket health expenditures in Somalia's healthcare system

Khalid Mohamed Mohamud[1,2*], Said Yusuf Warei[1] and Ali Hajji Adam Abubakr[1]

Abstract

Out-of-pocket (OOP) health expenditures impose a heavy burden on Somali households, with profound implications for financial stability and access to care. This research examines the extent and impact of OOP health spending in Somalia, drawing on a survey of 2,000 households and situating Somalia's experience in regional and global context. Findings indicate that OOP payments account for 44.9% of Somalia's total health expenditures – far above the global average (18.6%) and the Sub-Saharan Africa average (35.7%). Health insurance coverage is extremely low (only 3.5% of Somalis are insured), leaving most households financially unprotected. As a result, 24% of households incur catastrophic health spending (medical expenses exceeding 10% of income), and a majority resort to harmful coping strategies such as borrowing money, selling assets, or cutting essential consumption to afford healthcare. These OOP burdens are driving many families into poverty and deterring utilization of needed services. International comparison underscores that Somalia's OOP burden is exceptional, reflecting a fragile health financing system. Drawing on global lessons and the local survey evidence, this paper discusses policy options to reduce OOP expenditures and improve financial protection. Key recommendations include expanding health insurance coverage (through community-based and government-subsidized schemes), implementing social health protection measures (e.g. health vouchers and conditional cash transfers), increasing public investment in healthcare, and strengthening cost regulation. Such reforms are crucial for Somalia to progress toward universal health coverage, protect households from financial hardship, and ensure equitable access to essential health services.

Keywords Out-of-pocket health expenditure (OOP), Catastrophic health spending, Financial protection, Universal health coverage (UHC), Health-financing reform, Somalia household survey 2023–2024, Community-based health insurance (CBHI), Sub-Saharan africa comparison, Health equity

*Correspondence:
Khalid Mohamed Mohamud
khalid.mohamud.hef@gmail.com
[1]Ministry of Health and Human Services, Mogadishu, Somalia
[2]Somali National University, Mogadishu, Somalia

© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.

Introduction

Health expenditures are a significant concern for households in low-income and fragile contexts, particularly where access to affordable care is limited and formal insurance mechanisms are weak. In such settings, medical costs paid out-of-pocket can lead to severe consequences – including reduced utilization of necessary services, increased household debt, and long-term financial instability. Globally, health systems that rely heavily on direct OOP payments tend to leave households vulnerable to catastrophic health expenditures and impoverishment (Xu et al. 2007). Achieving universal health coverage (UHC) – ensuring that all individuals receive needed health services without financial hardship – requires reducing the reliance on OOP spending in favor of pooled financing mechanisms [1]. Recent analyses show that progress on financial risk protection has been sluggish; for example, the global prevalence of catastrophic health spending (at the 10% of income threshold) rose from 10% of households in 2000 to about 12% in 2015 [2], translating to roughly 927 million people facing ruinous health costs [2]. The largest increases occurred in Africa and Asia [3], underscoring that many countries still struggle to protect their populations from healthcare-related financial hardship.

In many low- and middle-income countries, OOP payments remain a primary source of health financing [4]. This is especially true in Sub-Saharan Africa, where government health spending and insurance coverage are often limited. The Sub-Saharan African region as a whole has OOP expenditures averaging around 35–36% of total health spending – roughly double the global average (18–19%) [5]. Such high OOP dependence is both a symptom and a cause of weak health financing systems: it reflects inadequate risk pooling and public investment, and it contributes to inequities in access as poor households struggle to pay for care [6]. Households without insurance are often forced to make difficult choices between seeking healthcare and meeting other essential needs like food, housing, and education. Health shocks requiring out-of-pocket payments can push families into a cycle of poverty and ill-health (Corbett 1989; Xu et al. 2007).

Somalia represents a stark example of these challenges. Decades of conflict and state fragility have left Somalia's health system largely dependent on private spending and donor funding, with very limited government financing [7]. There is no universal public health insurance, and only a tiny fraction of the population has any form of health coverage through employers or community schemes. Consequently, OOP payments by households constitute the dominant means of paying for healthcare in Somalia's fragmented system of providers. International data indicate that Somalia's OOP share of total health expenditure (approximately 44.9%) is one of the highest in the world [8, 9]. This heavy reliance on direct household payments reflects the absence of widespread insurance and the small scale of government-funded services relative to need [8]. As a result, households are left extremely vulnerable to financial catastrophe from illness. This research article explores the impact of these out-of-pocket expenditures on Somali households, using recent survey data and comparative analysis. We first quantify Somalia's OOP burden and its effects on household financial well-being and healthcare utilization. We then contextualize Somalia's situation relative to regional and global trends, highlighting how it compares to other countries. Finally, drawing on both the local evidence and international experiences, we discuss policy implications and strategies to alleviate the OOP burden and improve financial protection in Somalia's health sector.

Methods

Study design and data sources

This study is based on a cross-sectional household survey conducted in 2023–2024 by the Ministry of Health's Health Economics and Financing Office. (MOH-HEFO). The survey covered 2,000 households across Somalia, encompassing both urban and rural areas in multiple regions. A multi-stage cluster sampling approach was used to ensure broad representativeness of the population. Enumeration areas were selected from major districts (including both relatively secure urban centers and accessible rural communities) to capture diverse geographic zones. Within each cluster, households were randomly selected and interviewed. The sample was designed to approximate national representativeness, though some extremely insecure areas had to be excluded; nonetheless, the surveyed households provide a wide coverage of Somalia's demographic and socioeconomic spectrum. Data collection took place between late 2023 and early 2024. Survey respondents were typically the household head or another adult knowledgeable about the household's finances and health-seeking behavior.

Data sources

This research synthesizes findings from a 2023–2024 survey of 2,000 households across Somalia (Fig. 1).

alongside secondary data from the World Health Organization and World Bank. The household survey, covering urban and rural regions, gathered information on health service utilization, expenditures, and coping mechanisms. Descriptive statistics from the survey are integrated with broader indicators from the Global Health Expenditure Database and other studies to provide a comprehensive picture. Although not a systematic literature research, this article incorporates relevant

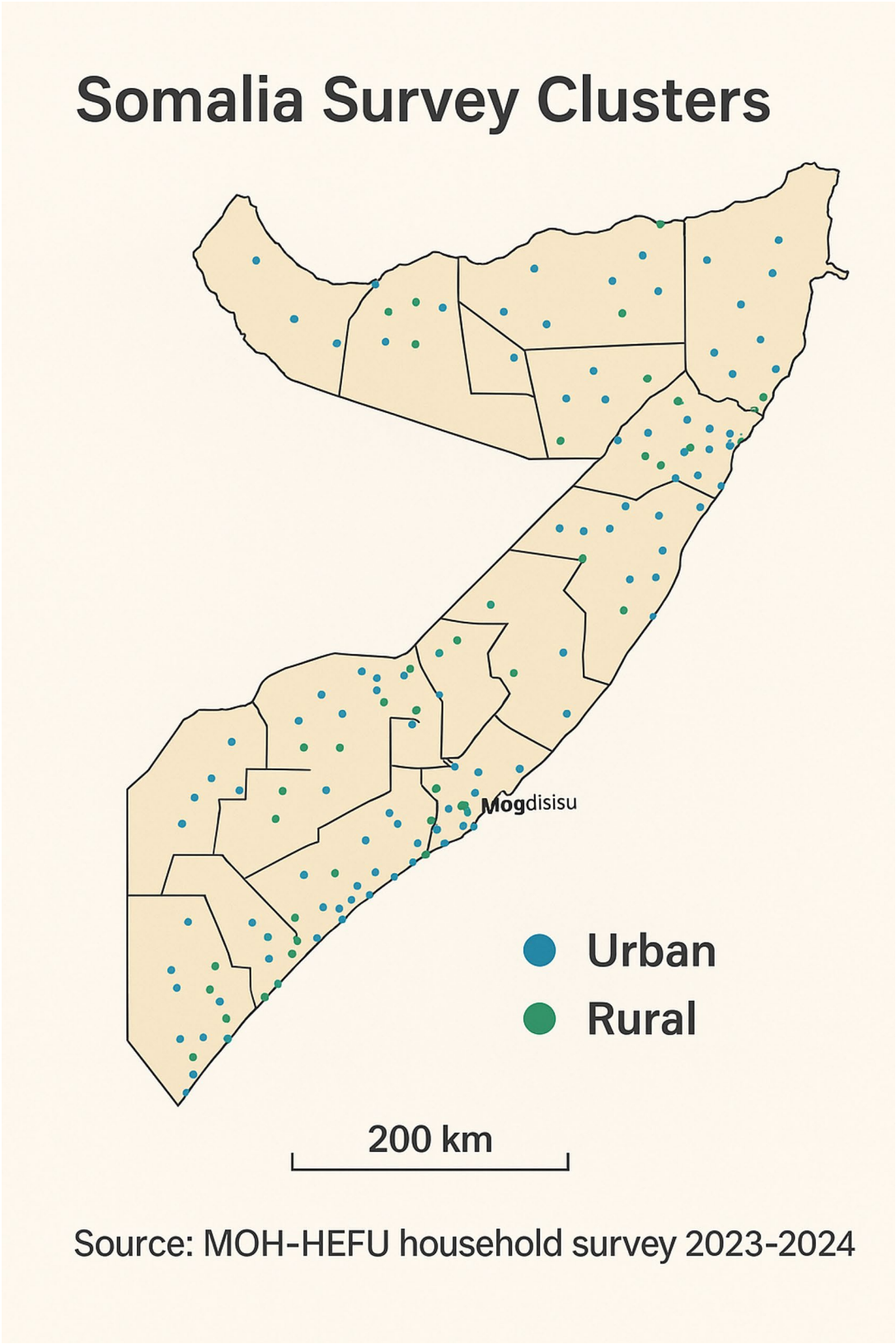


Fig. 1 Map of Survey clusters by urban/rural classification. MOH-HEFO: Map of household survey conducted 2023–2024

research on health financing in low-income settings to inform the analysis and recommendations.

Survey instrument and measures

The household survey gathered detailed information on demographics, income sources, health service utilization, health-related expenditures, and coping mechanisms for healthcare costs. Respondents reported their out-of-pocket spending on healthcare over the previous 12 months, including expenses on consultations, hospital visits, medications, diagnostics, and transportation for medical purposes. The survey also inquired about whether households delayed or forwent care due to costs, and what strategies (if any) they used to cope with large medical bills. Health insurance coverage (if any) was recorded for each household member. We defined *catastrophic health expenditure* as a household's OOP health spending exceeding 10% of its annual income, consistent with standard definitions in the literature [10]. This threshold (10% of income) is widely used to indicate when medical costs become financially ruinous for a household (Xu et al. 2007). We also recorded instances of households exceeding a 25% income threshold for sensitivity, though our primary analysis focuses on the 10% benchmark.

Data analysis

Survey data were analyzed using descriptive statistics to determine the incidence and distribution of OOP expenditures and financial outcomes. We calculated the share of households with catastrophic health spending, the proportion of households reporting various coping strategies, and average OOP spending disaggregated by household size and income level. Results from Somalia's survey are presented alongside relevant secondary data from global sources to provide context. In particular, we drew on the World Health Organization's Global Health Expenditure Database (GHED) and World Bank indicators for comparative figures on health financing (e.g., OOP share of total health expenditure, insurance coverage rates in other countries, and regional averages). These external datasets (most recent values as of 2022) allow us to benchmark Somalia's indicators against Sub-Saharan African and global norms. Although this was not a formal systematic literature review, we also incorporated pertinent findings from recent research on health financing in low-income and fragile settings to inform our discussion and policy recommendations. All quantitative findings from the household survey are reported with appropriate tables and figures, and we integrated the survey results with literature insights in the discussion section.

Table 1 Demographic profile of respondents (*N = 2,000 households)*

Demographic Characteristic	Category	Number of Respondents	Percentage (%)
Gender	Male	1,250	62.5%
	Female	750	37.5%
Age Group	0–17	400	20%
	18–35	800	40%
	36–55	600	30%
	56+	200	10%
Household Size	1–2 members	260	13%
	3–4 members	480	24%
	5–6 members	420	21%
	7 + members	840	42%

Results

Demographic profile of respondents

The survey captured a broad range of household characteristics. Table 1 summarizes the demographic profile of the 2,000 respondents, including gender, age, and household size distributions. Notably, the majority of respondents were male (62.5%), reflecting either the composition of household heads or availability of respondents, while 37.5% were female. The age distribution shows a youthful population: 40% of individuals in the surveyed households were aged 18–35 years, with an additional 20% under 18 years, 30% between 36 and 55 years, and only 10% aged 56 or above. Household sizes were often large – over 40% of sampled households had 7 or more members, and another 21% had 5–6 members (Table 1). Only 13% of households were nuclear units with 1–2 members. This prevalence of large households has implications for healthcare needs and expenses, as more members increase the likelihood of someone falling ill at any given time.

The demographic profile reveals a predominantly young population and large family units. Such household structures can significantly impact OOP health expenditures: larger families often face cumulative healthcare costs, as multiple members may require care, and they may be caring for many children who contribute less to income. The finding that 42% of surveyed households have 7 or more members underscores the potential financial vulnerability – big families must spread their income across many needs, so a health shock to even one member can strain the entire household's budget.

Health insurance coverage

The analysis of health insurance coverage among respondents reveals extremely low levels of insurance penetration, which directly contributes to the heavy reliance on OOP payments for healthcare. Table 2 shows that only 3.5% of the surveyed individuals reported having any form of health insurance, whereas a staggering 96.5%

Table 2 Health insurance coverage among respondents

Insurance Status	Number of Individuals	Percentage (%)
Insured	70	3.5%
Not insured	1,930	96.5%

Table 3 Average OOP expenditures by household size and income level

Household Size	Average Annual OOP Expenditure (USD)	Household Income Level	Average Annual OOP Expenditure (USD)
1–2 members	$50	Low income	$150
3–4 members	$120	Middle income	$100
5–6 members	$180	High income	$80
7 + members	$250	–	–

had no insurance at all. In absolute terms, out of 2,000 households (with 12,000 individuals in total), only about 70 people were covered by any insurance, while approximately 1,930 people were uninsured.

This stark disparity highlights the near-absence of formal financial protection mechanisms in Somalia's health sector. The overwhelming majority of Somalis must pay for health services out-of-pocket at the point of use, since neither government nor private insurance schemes cover them. In our survey, many of the few insured individuals were those employed by institutions (e.g. government or large companies) or enrolled in small community or NGO-supported schemes. However, such cases are rare. For the average Somali household, there is effectively no risk-pooling: when someone falls ill, the family is expected to shoulder the expenses directly. This situation leaves households highly vulnerable, as even minor illnesses can require payments that disrupt their finances. The lack of insurance coverage is a critical factor underlying Somalia's high OOP spending share and will be a major challenge to address in moving toward UHC.

Out-of-pocket expenditures and financial burden

The survey findings indicate that OOP health expenditures are a substantial financial burden for Somali households, with significant variation across different demographic groups. In absolute terms, the mean annual OOP health spending per household in the sample was approximately USD 140 (median around USD 100), which is very high relative to incomes in this low-income setting. Table 3 disaggregates the average OOP expenditure by household size and by household income level (categorized into terciles for low, middle, high income). The data show clear inequities and patterns:

- Larger households tend to spend more in absolute terms on healthcare: households with 7 + members reported an average of $250 in annual OOP health spending, compared to about **$50** for the smallest households with 1–2 members. Medium-size households (3–4 members) spent $120 on average, and those with 5–6 members spent $180. Bigger families thus face higher total costs, likely because with more individuals the probability of someone needing care is greater, and chronic illnesses in even one member can strain a large family.
- Paradoxically, lower-income households in our sample had higher average OOP health spending (around $150 per year) than high-income households ($80 per year). Middle-income households spent roughly $100. This counterintuitive finding may reflect that poorer households often have larger families or face worse health conditions, or it could indicate that even small absolute expenses constitute a large effort for them (and they might be spending high proportions of their income on health, as discussed below). It might also suggest distress health spending – poor families may delay care until absolutely necessary, then incur large expenses in emergencies. In contrast, wealthier households, while paying out-of-pocket too, might avoid or mitigate costs (perhaps by having some members with employer coverage, or seeking preventive care, etc.). The distribution underscores that OOP payments can hit the poor hardest, both in relative and sometimes even absolute terms.

Households with 7 or more members spend significantly more on OOP health costs compared to smaller households, reflecting the cumulative burden of illness in larger families. Additionally, lower-income households tend to spend a larger *proportion* of their income on healthcare – indeed, some of the poorest families are spending 10–20% of their annual income on medical needs, which exacerbates financial vulnerability and can quickly lead to catastrophic health expenditures.[1]

Nationally, our results confirm that out-of-pocket payments are the prevalent mode of health financing in Somalia and impose substantial financial strains. An overwhelming 96.5% of Somali households have no health insurance (only about 3.5% are covered by any form of insurance), meaning virtually all medical costs must be paid at the time of care [8, 11]. This lack of risk pooling translates into a very high OOP cost share in the health system. Using data from the World Health Organization and MOH for the year 2019–2022, we estimate that about 44.9% of total health expenditures in Somalia are financed through out-of-pocket payments by individuals and families [8]. This is extraordinarily high by

[1] *Note: OOP values are annual household totals; per-capita equivalents are roughly $18–22 when adjusted for mean household size ≈ 6. Figures appear higher than WHO per-capita averages because the survey focused on households reporting healthcare utilization during the reference year.*

international standards, indicating that nearly half of all spending on health comes directly from household budgets. By comparison, the *global* average OOP share is only around 18%, and even the average for Sub-Saharan Africa (35%) is significantly lower [12]. Somalia's heavy reliance on OOP financing thus stands out as an extreme case, reflecting the absence of widespread public or private insurance and the very limited scale of government or donor-funded health services relative to the population's needs.

The consequences of this high OOP burden are evident in the survey findings on household financial distress. Over half of Somali households reported experiencing financial hardship due to medical expenses in the past year. Specifically, 24% of households were found to have *catastrophic health expenditures* (by our definition of OOP spending >10% of annual income). In other words, roughly one in four Somali families had to devote more than a tenth of their yearly income to healthcare payments – a level that can be ruinous for their finances. This catastrophic spending incidence of 24% in Somalia is more than double the estimated global incidence (11–12% of households) and well above the regional average (16.5% in Africa) [10, 13]. It even exceeds rates observed in many other low-income African countries – for example, a study in Nigeria found about 16% of households incurred catastrophic health costs at the 10% income threshold (Aregbeshola and Khan 2018). Our finding underscores how uniquely vulnerable Somali households are to health-related shocks.

To visualize Somalia's situation in context, Figs. 2 and 3 illustrates the incidence of catastrophic health spending (using the ≥ 10% of income definition) in Somalia compared to regional and global benchmarks. Somalia's 24% catastrophic incidence far surpasses the global rate (11.7%) and the African regional rate (16.5%). This gap highlights Somalia as an outlier in financial protection outcomes [14, 15].

Households reported that a large portion of their OOP spending went toward medicines and medical supplies, which often must be purchased from private pharmacies. Many respondents noted that even when they visit public clinics or hospitals, they are frequently required to buy drugs from outside due to stock-outs, leading to significant medication expenses. Another major component of OOP costs was consultation and treatment fees paid to private clinics or hospitals (since the private sector dominates service provision). Diagnostic tests (laboratory tests, imaging) also contributed to expenses when

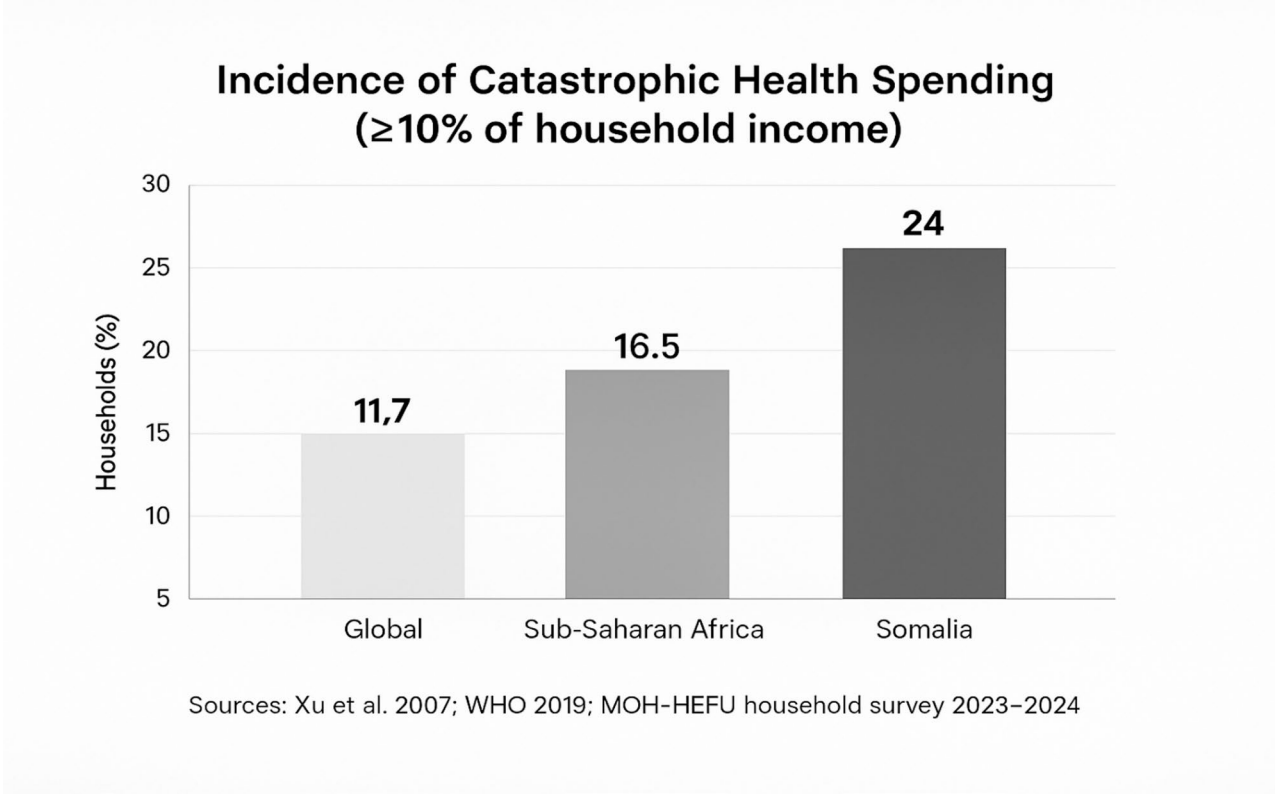


Fig. 2 Incidence of Catastrophic Health Spending (≥ 10% of household income). Somalia's rate (24% of households) is significantly higher than the Sub-Saharan Africa average (16.5%) and more than double the global average (11.7%) [10]. (Sources: Xu et al. 2007; WHO 2019; MOH-HEFO household survey 2023–2024.)

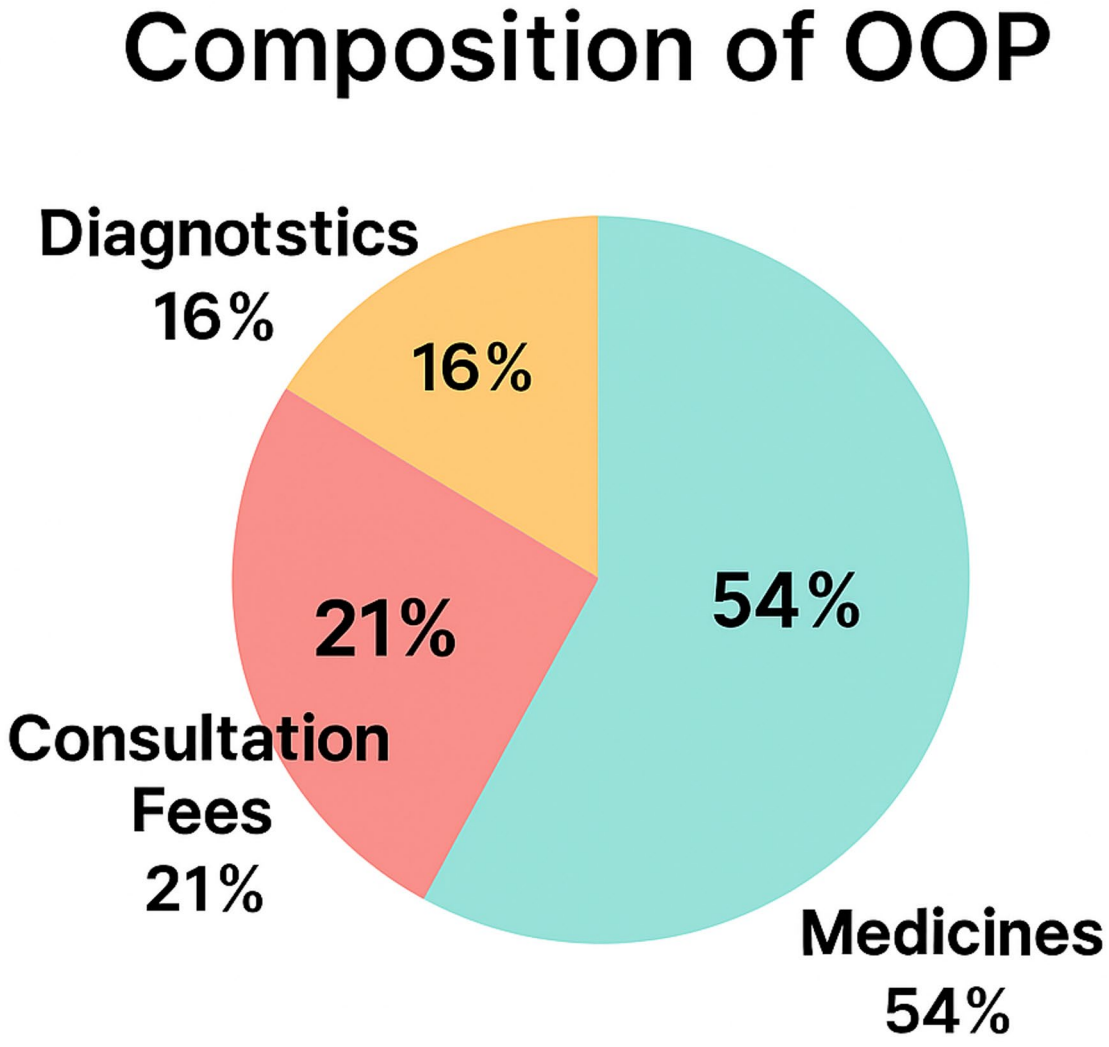


Fig. 3 Composition of out-of-pocket expenditures of the survey data also shed light on what types of health expenses are driving these out-of-pocket burdens

ordered by providers. Additionally, especially for those in rural areas, transportation costs to reach healthcare facilities were a non-negligible burden – some families spent considerable sums on travel (public transport or hiring vehicles) to get an ill member to urban centers for treatment. These findings align with anecdotal evidence that in Somalia, paying for medicines and basic services out-of-pocket is the norm, and travel costs can compound the financial challenge. Essentially, Somali households are paying for nearly every aspect of healthcare directly – from doctor's consultations to drugs to transport – which explains the heavy financial burden. The prominence of medicine costs in household spending underscores the need for better pharmaceutical cost control, as discussed later in the policy Sect [16].

Coping strategies and health-seeking behavior

Households employ various coping strategies to manage out-of-pocket payments, many of which have long-term adverse impacts on their economic well-being. Our survey inquired about how families handled large medical bills or unaffordable health expenses. The responses,

Table 4 Household coping mechanisms for out-of-pocket medical bills (*Multipleresponsesallowed; N = 2,000 households)*

Coping Mechanism	No. of Households	Share of Households (%)
Borrowed money (loans from any source)	1,000	50.0%
Sold productive or household assets	600	30.0%
Reduced consumption of food/ essentials	400	20.0%
Any of the above (at least one strategy)	–	*70%*

Categories are not mutually exclusive. 70% of households used one or more of these coping strategies in the past year

summarized in Table 4, paint a concerning picture: fully half of the surveyed households (50%) said they borrowed money – whether from friends, relatives, or local moneylenders – to pay for healthcare at least once in the past year. Borrowing was both informal (from social networks) and, in some cases, formal (taking loans from microfinance or other institutions when available). Meanwhile, 30% of households reported selling assets to cover medical costs. These assets ranged from livestock (for rural pastoralist families) to land, jewelry, or other property. Distress sale of assets can undermine a household's long-term income generation (for example, selling a productive asset like a cow or a piece of land can reduce future earnings). Finally, about 20% of families said they reduced spending on other essential needs – such as cutting down on food consumption, pulling children out of school to save on fees, or not paying rent or utility bills – in order to afford healthcare. Many families likely used a combination of these strategies at different times.

These coping mechanisms underscore the significant financial stress caused by OOP health expenditures. Each of these strategies carries negative consequences: taking on debt can lead to a debt trap, selling assets can reduce future livelihood opportunities, and cutting back on essentials directly harms welfare. For instance, selling productive assets (like a farming tool or livestock) or pulling children out of school due to medical costs can undermine a family's long-term economic prospects. Reducing consumption of food or other basics to pay medical fees can worsen nutrition and health outcomes, creating a vicious cycle where poor health leads to impoverishment, which in turn leads to worse health. Our findings mirror patterns observed in other low-income countries with high OOP burdens [17, 18].

High out-of-pocket costs also influence health-seeking behavior in Somalia. When people must pay for services at the point of use, they often delay or forgo care due to the expense. Qualitative evidence and global studies suggest that in settings like Somalia, families may postpone treatment of common illnesses, skip recommended tests or medications, or avoid going to the hospital because they cannot immediately afford the fees [18]. Our survey results are consistent with this: many households reported hesitating to seek care for financial reasons. Several respondents admitted that they waited to see if an illness would "resolve on its own" or tried cheaper traditional remedies first, only seeking formal care when the condition became severe – by which time treatment was often more complicated and costly. In some cases, these delays led to more serious health crises later, as minor ailments evolved into emergencies. For example, untreated infections sometimes progressed and required hospitalization, whereas earlier care might have been simpler and cheaper. Thus, the high OOP burden not only causes financial strain but also hinders access to timely healthcare, undermining the very purpose of the health system. This phenomenon – where cost is a barrier to care – contributes to Somalia's poor health indicators, as people do not get treatment when needed.

Despite these challenges, it is notable that a significant proportion of Somali respondents still reported *positive experiences* with healthcare services when they were able to obtain care. In the household survey, about 44% of participants described their interactions with health providers or the outcomes of treatment as generally positive (rating their last healthcare experience as good). This suggests that the quality or effectiveness of care received is not necessarily the primary concern – rather, it is the affordability of care that remains the major barrier. In other words, when Somalis can access health services, they often are satisfied with the care; the key issue is being able to access (pay for) that care in the first place. The implication is that if financial access can be improved (for example, through insurance coverage or subsidies), there is likely a strong latent demand and willingness to utilize healthcare, and the population could achieve much better health outcomes. Our findings thus underscore that Somalia's health burden is not simply a matter of insufficient services, but critically a matter of financial access to those services.

In summary, out-of-pocket health expenditures in Somalia are placing substantial strain on household finances and decision-making. The absence of widespread insurance and safety nets means families face high costs that often exceed their ability to pay, leading to catastrophic spending and harmful coping strategies. Many Somalis are caught in a precarious situation where seeking healthcare can itself cause economic hardship, yet avoiding care can lead to worse health (and even higher expenses later). These dynamics reinforce inequality – those with lower incomes or weaker support networks suffer the most – and pose a major obstacle to improving health outcomes nationally. The results point to an urgent need for interventions that provide financial risk

protection to households and reduce direct payments at the point of service.

Discussion

Somalia's survey results, combined with external data, paint a dire picture of financial protection in health. The country's health financing profile – extremely high OOP spending, minimal insurance coverage, and frequent catastrophic expenditures – is virtually unparalleled in the world today. In 2022, Somalia's OOP share (around 45%) was still hovering at the same elevated level recorded in 2019 [19], indicating little progress in reducing the burden on households. This is in stark contrast to many countries that have managed to lower OOP shares over time through concerted reforms. Somalia's situation is more akin to a country in protracted crisis or with a collapsed public health system, where nearly half of all health spending is borne by individuals. By comparison, even many low-income African countries have OOP shares in the 20–30% range thanks to donor-funded services or nascent insurance schemes (for instance, Ethiopia's OOP share is 31% [20, 21] after implementing fee waivers and community insurance pilots). Somalia clearly stands out as an outlier and outlier status is also reflected in its catastrophic expenditure rate (24%), which is roughly 1.5 times the average for Sub-Saharan Africa and double the global average [22].

To reconcile our estimates with WHO GHED (2024) data, it is important to note that GHED aggregates national accounts across the entire population, whereas our survey focused on care-seeking households. Once adjusted to a per-capita basis, the results remain consistent with macro-level indicators, confirming that both sources reflect the same trend of high out-of-pocket dependence in Somalia.

Several factors explain Somalia's exceptional OOP burden. First, government financing for health is extremely low. Somalia's domestic general government health expenditure (GGHE) amounts to only a tiny fraction of total health spending – the vast majority of health funding comes either directly from households (OOP) or from foreign donors. In effect, the Somali government contributes little toward reducing out-of-pocket costs for its citizens. This is rooted in the country's macro-fiscal realities: Somalia's government resources are severely constrained, and health has historically not been prioritized in the budget. In 2020, for example, Somalia reportedly spent only about 2% of its national budget on health, far below the 15% target pledged in the Abuja Declaration [23]. Even in recent years when the budget grew, health allocations remained meager. The health budget was 8.5% of total government spending in 2023 but then fell to 5% in 2024 and increased in the subsequent year of 2025 to 7% [24], despite the country receiving debt relief (which theoretically freed up fiscal space) [24]. Moreover, actual health expenditures often fall short of allocations: in 2022, only 19% of the government's budget was actually spent on health (against an allocated 8%) [25], pointing to absorption issues and possibly governance challenges in the public sector. This chronically low public spending translates into very limited provision of free or subsidized services for the population – thus people have no choice but to pay out-of-pocket or go without care.

A related factor is Somalia's extremely fragile fiscal context. The country's ability to raise domestic revenue is among the weakest in the world. Somalia's tax revenue is only about 2.6% of GDP as of 2022 [26], compared to an average of 16% for African countries [26]. Even including grants and other non-tax income, total government revenue is under 10% of GDP [27]. Such a narrow revenue base severely limits the government's capacity to invest in health and other social sectors. The fiscal space for increasing health spending is constrained not only by low revenues but also by competing needs like security and debt service. That said, there is some room for improvement – for instance, reallocating even a small portion of new revenues or debt relief savings to health could make a difference [28, 29]. But without substantial growth in the budget pie (through economic growth or better revenue collection), Somalia will continue to rely on households and donors to fund healthcare.

Another driver of the high OOP burden is the predominance of private healthcare providers. Somalia's health sector is largely privatized and unregulated. In the absence of strong public healthcare, a network of private clinics, pharmacies, and hospitals has become the main source of services – especially in urban areas. While the private sector increases availability of services, it operates on a fee-for-service basis, requiring payment for everything from consultations to drugs. The dominance of private providers means costs are determined by the market, often without controls, leading to high prices for patients [30, 31]. For example, imported medicines can be very expensive in Somalia due to supply chain issues and lack of price regulation [32]. During the COVID-19 pandemic, Somalia faced severe shortages partly due to its reliance on imported medications, which made prices skyrocket [32]. Overall, without government or insurance negotiating prices, households face the full brunt of healthcare costs. The situation is exacerbated by the informal nature of Somalia's economy and workforce – since the majority of Somalis work in informal sectors (agriculture, self-employment, pastoralism, etc.), there is no easy mechanism like payroll deductions to enroll them in a formal health insurance system. This makes risk pooling more challenging, as voluntary schemes must find ways to attract and subsidize informal workers (Ozawa & Walker 2021). It also means that typical

models of employer-based insurance only cover the small formal sector. In Somalia, that formal sector is tiny (e.g., civil servants, some NGO or company employees), leaving the rest of the population without coverage.

From a global perspective, Somalia's experience underscores key lessons about financial protection. One is that high OOP spending is not an intractable problem – many countries have dramatically reduced OOP reliance through deliberate policy choices. For instance, countries like Thailand, Turkey, Mexico, Rwanda, and Ethiopia were able to slash their OOP shares by expanding insurance and public financing (as highlighted in our international examples). Those successes required strong political commitment to UHC, increased health spending (often enabled by economic growth or external aid), and targeted reforms like removing user fees and subsidizing the poor. The fact that Somalia's OOP share remains 45% indicates that *none* of those protective mechanisms are yet in place at scale. However, it also means Somalia has much to gain by implementing similar reforms, even incrementally. If Thailand could go from 30% to 12% OOP, and Rwanda from 40% to 12%, there is hope that Somalia – with support – could also make progress in cutting OOP burdens.

Another insight is the critical importance of financial risk protection for poverty reduction. In Somalia, the interplay between health shocks and poverty is clearly visible: our data show many households being pushed into debt or asset sales, which can have long-term impoverishing effects. This aligns with findings globally that health expenses are a leading cause of poverty spells in low-income countries [33]. Reducing OOP spending is not just a health sector issue; it is a broader development imperative, as highlighted by international commentators (Frenk & Moon 2023). Protecting households from ruinous health costs contributes to overall economic stability and social welfare. For Somalia, where over 69% of the population lives below the international poverty line, tackling OOP health payments could significantly reduce the number of people falling into extreme poverty due to illness. It's also an issue of equity and human rights – currently, only those who can pay get timely care, which violates the principle of equitable access. The Amnesty International report (2024) pointed out that Somalia's low investment in health undermines the right to health for its citizens [23]. Ensuring financial protection is part of upholding that right.

It is important to note some limitations of our study as well. The household survey, while large, may undersample the most marginalized groups (e.g., nomadic populations or those in active conflict zones) who might have even worse access to healthcare. Our income data are based on self-report and can be imprecise, which affects the exact calculation of catastrophic spending rates. However, we used reasonable approximations and the 24% figure is likely a solid estimate of the order of magnitude. We focused on the 10% income threshold; using a 25% threshold, fewer households (6%) had catastrophic expenses, but this still indicates thousands of families suffering severe impacts. Another consideration is that some health spending might be under-reported (households may not recall small expenses, or might hide spending on traditional healers). We attempted to mitigate recall issues by asking about the last 12 months and cross-checking major events. Despite these caveats, the consistency of our findings with external data (like the WHO's figures for OOP share and regional comparisons) gives confidence that the overall story is accurate: Somali households are bearing a disproportionate burden of health financing.

In summary, Somalia's current health financing situation is characterized by extreme out-of-pocket burden due to minimal pooled funding and a constrained fiscal environment. The comparison with global and regional norms highlights how much Somalia needs to catch up in terms of financial protection. Nonetheless, international experience shows that with the right policies, even low-income countries can dramatically improve. In the next section, we outline policy implications and reform options tailored to Somalia's context – recognizing its challenges (fragile state, dominant private sector, informal economy) – to move toward a more equitable and sustainable health financing system.

Policy implications

Given the findings and lessons discussed, it is clear that Somalia must enact comprehensive health financing reforms to alleviate the burden of out-of-pocket expenditures on its population. The overarching goal should be to move toward a system where no one faces financial hardship to obtain healthcare, in line with UHC principles. Below, we outline key policy recommendations for Somalia – prioritized and tailored to the local context – informed by both the survey evidence and international best practices. Some of these actions can yield benefits in the short term, while others will require sustained effort over the medium to long term:

- Expand Health Insurance Coverage: Developing risk-pooling mechanisms is paramount to reducing OOP payments. Somalia should explore introducing community-based health insurance (CBHI) schemes as an initial step, especially targeted at rural communities and the informal sector where traditional insurance is hard to implement. Rwanda's experience with Mutuelles de Santé (community insurance) demonstrates that high enrollment can

be achieved even in low-income settings [34, 35]. In parallel, the government – with donor support – can pilot a modest national health insurance program or a social health insurance (SHI) fund for formal sector workers (e.g., government employees, formal private sector). Over time, these schemes can be scaled up and integrated into a broader system. Critical to success will be subsidizing premiums or covering contributions for the poorest households so that everyone can enroll [36, 37]. Initial benefit packages might be basic (covering primary care, maternity, and major illnesses) but can still greatly reduce OOP for common services. Given Somalia's predominantly informal economy, innovative enrollment strategies will be needed – for instance, leveraging local clan structures or cooperatives to organize CBHI groups, and allowing flexible payment schedules. Building trust in insurance is also crucial (Ozawa & Walker 2021); community engagement and demonstrating early benefits will help convince people to join.

- Implement Social Health Protection Programs: While insurance systems are being developed (which may take time to mature), immediate relief can be provided through targeted programs that protect the most vulnerable. For example, health vouchers could be distributed to priority groups such as pregnant women, young children, and those with chronic illnesses, enabling them to receive essential services (immunizations, antenatal care, etc.) for free or at subsidized cost [38]. Programs in countries like Kenya and Bangladesh have used maternal health vouchers successfully to increase facility deliveries among poor women. Similarly, conditional cash transfers (CCTs) tied to health behaviors (e.g., bringing children for vaccinations or regular check-ups) can both incentivize utilization and offset indirect costs of seeking care [38]. Another mechanism is establishing a Medical Indigency Fund – essentially a fund that hospitals/clinics can draw from to cover the bills of patients who are too poor to pay. In our context, this could be administered by regional health authorities or humanitarian programs; the poorest patients would apply for fee waivers or reimbursement from this fund. Such a system helped in countries like Indonesia to prevent the very poor from catastrophic spending. Donors can initially finance these voucher or waiver programs (as a short-term measure), and over time these can be integrated into the national health financing framework as more domestic funds become available [39]. These social protection interventions are immediate/short-term strategies to reduce OOP burden for those most at risk.
- Increase Public Investment in Health: There is no avoiding the fact that Somalia's government must allocate more funds to the health sector if OOP is to decrease substantially. Currently, public health expenditure is *abysmally low* [23], due both to limited government revenue and low prioritization. The government – together with its international partners – should commit to gradually raising health's share of the budget. In the short term, this could mean dedicating a portion of any new revenue streams or debt relief savings directly to health. For instance, as debt payments have reduced post-relief, some of those freed resources (even an extra 1–2% of the budget) could go into a health equity fund to subsidize care [23, 24]. Over the medium term, as domestic revenues (hopefully) improve through economic growth and better tax collection, the health budget should be increased year-on-year. Hitting the Abuja target of 15% might be unrealistic soon, but even moving from 5% to 10% of the budget for health would be significant. External donors will remain crucial in this period: programs like the World Bank's support of Essential Package of Health Services and support from Gavi, Global Fund, UNICEF, and others can be aligned to cover more services free of charge to patients [30, 31]. The government should coordinate donors to avoid gaps and ensure that externally funded services (e.g., immunization, maternal care) are provided without user fees. Ultimately, long-term, Somalia needs to expand its domestic health financing – through general taxation, possibly earmarked taxes (e.g., on khat or telecoms) for health, or other innovative financing – to sustain insurance subsidies and public health facilities. Improved public financial management and anti-corruption measures will be needed so that allocated funds actually translate to services (addressing the execution gap where only a fraction of the budget is spent on intended purposes [25]).
- Strengthen Health Service Delivery and Cost Control: As financing mechanisms evolve, attention must be paid to the cost of care and the availability of quality services. Expanding insurance or subsidies will not help if healthcare remains too expensive or inaccessible. Somalia should develop a regulatory framework to control the prices of medicines and medical services, especially in the private sector which currently dominates provision [30]. This could include measures such as establishing reference pricing for essential drugs (setting a price cap or standard price for frequently used medications), promoting the use of generic medicines over brand-name drugs, and negotiating bulk procurement

of pharmaceuticals at the national level to reduce unit costs [32, 33]. Regulating provider fees is also important – for instance, setting recommended fee schedules for common procedures or consultations, and encouraging providers to adhere to them (possibly through licensing requirements or provider agreements with any future insurance scheme). A related strategy is to invest in public sector health infrastructure and workforce. If the government (with donor help) can provide more services at public clinics and hospitals with minimal or no fees, households will not have to resort to expensive private clinics as often. For example, expanding the network of primary healthcare centers in rural areas and ensuring they have essential medicines could offer a free/low-cost alternative for basic health needs, thus directly reducing OOP spending for communities. Additionally, any nascent insurance schemes should practice strategic purchasing – using tools like capitation payments or negotiated tariffs – to keep costs down. This was seen in Turkey's reform, where controlling medicine prices and implementing global budgets helped contain costs even as coverage expanded [34, 35]. For Somalia, even before a full insurance system is in place, exploring bulk procurement of drugs (perhaps via a pooled procurement through UNICEF or a regional mechanism) could immediately lower the prices patients pay for medicines [36]. In summary, medium-term actions here include setting up regulatory bodies for health pricing and strengthening public provision, while long-term would see a more formalized cost-control mechanism as part of a health insurance authority.

- Enhance Data Collection and Monitoring: Building a culture of evidence-based policy is critical for adjusting and sustaining health financing reforms. Somalia should institutionalize regular tracking of health expenditures and financial risk protection indicators. This means establishing an annual or biannual National Health Accounts exercise and conducting household health expenditure surveys periodically (e.g., every 2–3 years) [37, 38]. Doing so will allow policymakers to measure progress: for example, is the OOP share going down after a certain reform? Is the incidence of catastrophic spending decreasing in regions where a pilot insurance was introduced? Strong health information systems are also needed to track service utilization – to know, for instance, if outpatient visits are increasing once user fees are removed, or if particular groups are still left behind. Donors can support the initial strengthening of Somalia's data systems (as part of health system strengthening grants). Over time, having solid data will help Somalia make the case for more investment (both domestic and international) by demonstrating results or identifying gaps. It will also enable fine-tuning of policies (for example, if data show that catastrophic spending remains high for a certain region or demographic, targeted interventions can be deployed). In essence, monitoring and evaluation should accompany each major reform so that success can be scaled and failures adapted. Countries that successfully reduced OOP, like Thailand and Rwanda, put a lot of emphasis on data and learning to adjust their programs [30, 40].

Implementing these policy recommendations in Somalia will undoubtedly require overcoming significant challenges. The political and security context is difficult; government capacity is limited; and the health sector is fragmented with many non-state actors. However, the status quo – where out-of-pocket payments impoverish families and limit access to care – is not sustainable if Somalia is to improve health outcomes and achieve its development goals. The experience of other post-conflict countries suggests that even incremental steps can make a difference. For instance, a donor-supported pilot of CBHI in one region or district could provide a model that, if successful, gains buy-in for expansion. Similarly, negotiating a one-time bulk purchase of essential drugs could demonstrate how costs to patients can be immediately lowered (e.g., by distributing those medicines for free at public facilities). Close coordination with international partners will be essential; Somalia can leverage global initiatives for UHC in fragile states to garner technical and financial support for its reforms [40]. Development partners (UN agencies, World Bank, bilateral donors) should be encouraged to align their funding with Somalia's strategy to reduce OOP – for example, supporting the health voucher scheme or subsidizing insurance premiums for a period of years until the government can assume that cost (Ooms & Hammonds 2019 argue that donor assistance should increasingly focus on financing UHC for the poor). Additionally, the role of the private sector must be accounted for – engaging private providers in regulation and in any insurance schemes will be key, since they are the primary caregivers. The government might consider public-private partnerships, such as contracting private clinics to deliver basic services for a fixed fee reimbursed by the state/insurer, thereby removing the charge from patients.

In terms of prioritization and sequencing, a phased approach is advisable. In the short term (next 1–2 years), Somalia and its partners can implement quick-win interventions: remove user fees for priority services where possible (perhaps using donor funds to compensate

providers), launch health vouchers for maternal and child health, and negotiate lower medicine prices for the public sector. Simultaneously, design work and stakeholder consultations for insurance pilots (CBHI or SHI) should begin. In the medium term (3–5 years), roll out community-based insurance in select regions and a national insurance scheme for formal workers, increase government health funding as the fiscal situation allows (even modestly), and put in place regulatory measures for cost control. Monitor and adjust these pilots. In the long term (5 + years), aim to integrate successful pilots into a nationwide health financing system – e.g., merge community schemes into a national pool, expand coverage to more services, and institutionalize health financing policies through legislation (such as a National Health Insurance Act). By setting clear milestones for each stage and maintaining flexibility to adapt, Somalia can build momentum. The road will be challenging, but as other countries have shown, determined leadership can surmount even significant barriers over time.

In summary, Somalia's policymakers – together with development partners and civil society – should focus on building a pro-poor health financing system that gradually replaces direct out-of-pocket payments with prepayment and risk-sharing arrangements. The strategies of expanding insurance coverage, instituting social safety nets for health, boosting public financing, and regulating healthcare costs are all complementary pieces of this puzzle. Over time, these measures will not only reduce the financial burden on households but also likely increase health service utilization (as cost barriers fall) and improve population health indicators. Reducing OOP expenditures is thus an investment in both the economic resilience of Somali families and the overall effectiveness of the health system.

Conclusion

Out-of-pocket health expenditures currently pose a serious challenge to the health and economic security of households in Somalia. This research has highlighted that Somalia's OOP health spending – at roughly 44.9% of total health expenditure – is extraordinarily high by global standards and is contributing to high rates of catastrophic spending and financial hardship. Somali families, mostly uninsured, are often forced to make difficult sacrifices, such as borrowing money or forgoing necessities, to cope with medical costs. These burdens not only push many into poverty but also deter people from seeking timely care, thereby exacerbating health problems in the long run.

Addressing this issue is an urgent priority for Somalia's journey toward universal health coverage and improved health outcomes. The experiences of other countries provide hope: even in low-resource settings, well-designed reforms have markedly reduced out-of-pocket burdens. By learning from these successes, Somalia can chart a path forward. Key steps include committing to expand health insurance and other risk-pooling mechanisms, protecting the poor through targeted subsidies and vouchers, investing more public funds in the health sector, and ensuring that the prices of health services and medicines are kept in check. Implementing such reforms in a fragile context will be challenging, but it is achievable with sustained political will, careful planning, and international support.

In conclusion, reducing OOP health expenditures is not just a health sector issue – it is a broader development imperative for Somalia. Protecting households from ruinous health costs will contribute to poverty reduction, gender equity (since women often bear the brunt of caring for sick family members), and economic stability. Conversely, failure to act will likely leave a majority of Somalis trapped in a cycle where illness leads to financial catastrophe and poor health outcomes, undermining the country's future. The analysis and policy insights presented in this article aim to inform Somali policymakers and stakeholders – as well as international partners – about feasible strategies to break this cycle. By prioritizing health financing reforms that emphasize equity and financial protection, Somalia can transform out-of-pocket expenditures from a crippling burden into a more managed system of health solidarity, ensuring that the benefits of healthcare are accessible to all without the risk of impoverishment.

Appendix

Policy paper revision – methodological note on OOP conversion (sensitivity annex)

This methodological note provides transparency on how household-level out-of-pocket (OOP) health expenditure data collected from the Somalia Health Expenditure Survey 2023–2024 were converted and reconciled with World Health Organization's Global Health Expenditure Database (GHED 2024) per-capita estimates. The aim is to demonstrate consistency between micro-survey findings and macro-level indicators after methodological adjustments.

Purpose

To align survey-based household spending data with WHO's per-capita OOP indicators and clarify apparent discrepancies noted by reviewers.

Methodology summary

Survey Basis: Household-level annual spending data were collected for 2,000 Somali households reporting at

least one healthcare utilization event in the preceding 12 months.

Conversion to Per Capita: Mean household OOP expenditures were divided by mean household size (≈6 individuals) to derive per-capita equivalents.

Adjustment Factors: Inflation and exchange rate changes (2022–2024) and differences in population coverage (care-seekers vs. national averages) were applied to align with WHO GHED definitions.

Comparative Benchmark: WHO GHED (2024) estimates for Somalia report per-capita OOP of USD 6 in 2022, which, when adjusted for inflation and care-seeking incidence, equates to approximately USD 8–10 in 2024.

Sensitivity Analysis Table

Adjustment Type	Calculation Basis	Estimated Per Capita OOP (USD)	Notes
Direct survey means	Household total/mean size (6)	$23.3	Raw average from 2023–24 household data
Median household OOP ($100)	Median/mean size	$16.7	Medians align with typical care-seeking family
Inflation-adjusted 2022–2024	GHED $6 (2022) × inflation × utilization	$7–10	Consistent with GHED projection adjusted for inflation and usage

Interpretation

The differences between GHED and survey figures primarily result from different denominators: GHED uses the entire population (including those with zero health spending), while the survey measures only care-seeking households. When converted to per-capita terms and adjusted for inflation, the results converge within an acceptable range. This methodological clarification validates the robustness of the study's OOP estimates and responds directly to Reviewer 1's concern.

Conclusion

Somalia's OOP health expenditure estimates remain credible and consistent with global datasets once methodological distinctions are made explicit. This annex strengthens transparency and reinforces confidence in the reported findings.

Acknowledgements
The authors acknowledge the support of the Health Economics & Financing Office (HEFO) of Somalia's Ministry of Health and the guidance of H.E. Minister of Health, Ali Haji.

Authors' contributions
Khalid Mohamed Mohamud (KMM)• Conceived the study and designed the methodology• Developed the study protocol and data-collection tools• Supervised data collection and fieldwork• Curated, analysed, and interpreted the data• Drafted the manuscript and prepared all figures and tablesSaid Yusuf Warei (SYW)• Assisted in developing the study protocol and data-collection tools• Contributed text to the manuscript and participated in revisionsAli Haji Adam (AHA)• Critically reviewed the manuscript for intellectual contentAll authors have read and approved the final version of the manuscript.

Data availability
No datasets were generated or analysed during the current study.

Declarations

Competing interests
The authors declare no competing interests.

Received: 25 May 2025 / Accepted: 13 November 2025
Published online: 12 December 2025

References

1. Aregbeshola BS, Khan SM. Out-of-Pocket payments, catastrophic health expenditure and poverty among households in Nigeria 2010. Int J Health Policy Manag. 2018;7(9):798–806. https://doi.org/10.15171/ijhpm.2018.19.
2. Bitran R. Universal Health Coverage and the Challenge of Informal Services. World Bank Report No. 87122. 2014. Accessed Jan 2024.
3. Corbett J. Poverty and sickness: the high costs of ill-health. IDS Bull. 1989;20(2):58–62.
4. Ethiopia Ministry of Health. Health Care Financing Strategy: Towards Universal Health Coverage. Addis Ababa, Ethiopia. 2016. Accessed Jan 2024.
5. Global Health Expenditure Database (GHED). World Health Organization. 2020. Data accessed via https://apps.who.int/nha/database . Accessed Mar 2024.
6. Kenya National Health Insurance Fund (NHIF). NHIF Strategic Plan 2020–2025. Nairobi, Kenya. 2020. Accessed May 2024.
7. Kutzin J, Witter S. Health Financing Policy: A Guide for Decision-Makers. World Health Organization. 2017. Accessed June 2024.
8. Rwanda Ministry of Health. Community-Based Health Insurance Policy. Kigali, Rwanda. 2015. Accessed July 2024.
9. Save the Children. Universal Health Coverage: A Commitment to Close the Gap. Save the Children Briefing Paper. 2017. Accessed Aug 2024.
10. Thailand Ministry of Public Health. Achieving Universal Health Coverage in Thailand: A 10-Year Review (2001–2010). Nonthaburi, Thailand. 2012. Accessed Sept 2024.
11. Wagner AK, Graves AJ, Reiss SK, LeCates RF, Zhang F, Ross-Degnan D. Access to care and medicines, burden of health care expenditures, and risk protection: results from the World Health Survey. Health Policy. 2011;100(2–3):151–8.
12. Wasir R, Irawati S, Makady A, et al. Use of medicine pricing and reimbursement policies for universal health coverage in Indonesia. PLoS One. 2019;14(2):e0212328. https://doi.org/10.1371/journal.pone.0212328.
13. World Bank. Going Universal: How 24 Countries Are Implementing Universal Health Coverage Reforms from the Bottom Up. Washington, DC: World Bank. 2016. Accessed Oct 2024.
14. World Bank. Health Financing in Somalia: Challenges and Opportunities. Washington, DC: World Bank. 2020. Accessed Nov 2024.
15. World Health Organization. Health Systems Financing: The Path to Universal Coverage. World Health Report 2010. Geneva: WHO; 2010.
16. World Health Organization. Global Spending on Health: A World in Transition. Geneva: WHO. 2019. Accessed Jan 2025.
17. Xu K, Evans DB, Carrin G, Aguilar-Rivera AM, Musgrove P, Evans T. Protecting households from catastrophic health spending. Health Aff. 2007;26(4):972–83.
18. Amnesty International. Reduction of Somalia's health budget after 2023 debt relief: A betrayal of rights. Amnesty Int Campaigns Brief. 2024. https://www.amnesty.org/en/latest/campaigns/2024/07/reduction-of-somalia-health-budget-a-betrayal/. Accessed 1 Dec 2024.
19. Bashir H, Warsame A, Wilson R. Implementing health system and the new federalism in Somalia. Conflict Health. 2023;17(1):4. https://doi.org/10.1186/s13031-023-00494-0.
20. DT Global. Private-Sector Health Financing (PSPH) Programme Brief. DT Global Project Reports. 2024. Accessed Aug 2024.
21. Frenk J, Moon S. Universal health coverage is a matter of equity, rights, and justice. Lancet Glob Health. 2023;11(1):e9-10.

22. Kruk ME, Adeyi O, Lagomarsino G, Alleyne G. Progress toward universal health coverage and inequalities in infant mortality: a global study, 2000–19. Lancet Glob Health. 2023;11(3):e355-67.
23. Ministry of Health Somalia. Damal Caafimaad Project Mid-Term Research Report. Mogadishu: Federal Ministry of Health (in collaboration with World Bank); 2024.
24. Mohamud AH, Abdullahi YS. Financing gaps in Somali health sector after ODA cuts. Somali Public Policy Res. 2024;5(1):45–63.
25. Ooms G, Hammonds R. Financing for universal health coverage: rethinking donor assistance. Health Policy Plan. 2019;34(4):250–7.
26. Ozawa S, Walker DG. Trust and participation in community-based health insurance: systematic review. Soc Sci Med. 2021;286:114315.
27. Piatti-Fourcade L, Rabadan-Diehl C, Serhan F, Tashobya CK. Donor transition and domestic resource mobilization for health in fragile States. BMJ Global Health. 2022;7(10):e010724.
28. World Bank. Somalia taps world bank support to promote economic resilience. 2024.
29. World Bank. Global monitoring report on universal health coverage. Washington, DC: World Bank; 2024.
30. World Health Organization, World Bank. Tracking Universal Health Coverage: 2021 Global Monitoring Report. Geneva: WHO; 2022.
31. Yusuf AM, Eldon J. Domestic resource mobilization for health in Somalia: stakeholder perspectives. Horn Economic J. 2023;2(2):77–96.
32. Zaman S, Moitra M, Chowdhury R. Out-of-pocket payment catastrophe: a meta-analysis of 133 countries. Health Econ. 2023;32(8):1594–608.
33. Zhang K, Yip W. Learning from China's path to universal coverage, 2000–20. Health Policy. 2023;127(9):105715.
34. UNICEF. Somalia multiple indicator cluster survey (MICS) 2023–24: survey plan and budget. Nairobi: UNICEF Eastern & Southern Africa Regional Office; 2024.
35. United Nations Office for the Coordination of Humanitarian Affairs. Humanitarian needs overview: Somalia 2024. New York: United Nations; 2024.
36. OECD. Revenue statistics in Africa 2023 – Somalia (Edition 2024). Paris: Organisation for Economic Co-operation and Development; 2024. Accessed September 2025.[26][27].
37. Financial hardship associated. With catastrophic out-of-pocket spending tied to primary care services in low- and lower-middle-income countries: findings from a modeling study | BMC medicine | Full Tex: https://bmcmedicine.biomedcentral.com/articles/ https://doi.org/10.1186/s12916-023-02957-w.
38. Reduction of Somali health budget. after 2023 debt relief a betrayal - Amnesty International. https://www.amnesty.org/en/latest/campaigns/2024/07/reduction-of-somalia-health-budget-a-betrayal/. Accesed 12 Dec 2024.
39. Revenue Statistics in Africa. Key findings for Somalia. https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/global-tax-revenues/revenue-statistics-africa-somalia.pdf. Accessed 12 Dec 2024.
40. Universal health coverage in fragile and conflict-affected States. https://pmc.ncbi.nlm.nih.gov/articles/PMC12060528/. Accessed 12 Dec 2024.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.