

Time to fully account for cost in monitoring financial protection and universal health coverage in low- and middle-income settings

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Abstract

Financial protection is a core pillar of universal health coverage (UHC), yet current monitoring approaches in low- and middle-income countries (LMICs) largely focus on direct medical costs, neglecting direct transport costs and indirect time costs lost when seeking care. This commentary highlights the importance of fully accounting for these often-excluded costs, which disproportionately affect poorer and rural populations and can significantly hinder access to essential health services and lead to foregone care. We outline five priority areas for action, including improved measurement of transport and time costs through household surveys, methodological advancements in valuing time, increased investment in primary health care to reduce physical access barriers, adaptation of financing schemes and social protection programs to cover non-medical costs, and a multisectoral approach to address structural determinants. Fully integrating these dimensions into financial protection metrics and policies is critical for ensuring more equitable progress toward UHC in LMICs.

Keywords: financial protection; universal health coverage; health expenditure; transport costs; time costs; catastrophic and impoverishment

Key messages

- Universal health coverage (UHC) is a relevant policy goal globally, but requires routine monitoring of financial protection by fully accounting for both direct and indirect costs.
- This commentary underlines the need to broaden the focus on costs to include direct non-medical costs (e.g. transport) and indirect cost (time) when monitoring financial protection and investing in UHC.
- We propose adaptations to routine national household surveys, which in most countries do not fully account for all direct and indirect costs.
- We also highlight the need for multisectoral collaboration, social protection programs, investment in primary health care and innovating financing mechanisms to reduce cost burdens for UHC.

Introduction

Universal health coverage (UHC) is a common policy goal for many countries which aims at ensuring affordable access to

effective health care for all (WHO 2010). One dimension of UHC is financial protection (UHC indicator 3.8.2), which aims to ensure absence of financial hardship due to health care payments. The two common measures of financial protection for UHC are catastrophic expenditure and impoverishment (Wagstaff and van Doorslaer 2003, WHO 2010). Catastrophic expenditure occurs when healthcare payments exceed 10% of total household consumption expenditure, 40% of non-food expenditure or 40% of basic needs (food, utilities, housing) in Organization for Economic Co-operation and Development countries. Impoverishment occurs when total household health expenditure pushes households below the poverty line or further deepens poverty among those already poor, although the latter can sometime overstate the apparent financial burden.

However, financial protection measures only focus on direct medical costs (such as payments for consultation, medicines, and diagnostic tests) (Wagstaff and van Doorslaer 2003, WHO 2010), and do not account for other costs related to care seeking, such as transportation costs and indirect costs such as opportunity cost of productive time lost (Ruger 2012). Some out-of-pocket spending, however, may reflect household preferences, such as choosing brand-name over generic

medicines, rather than gaps in financial protection, and this distinction is important for interpreting out-of-pocket payment measures. Time costs do not result in a financial outlay but carry a cost in terms of income foregone (Hubens et al. 2021). This is particularly important for informal and daily-wage workers in low-and-middle-income countries (LMICs), for whom time spent accessing care directly reduces earnings and increase vulnerability. The exclusion of these costs from financial protection measures underestimates the true burden and obscures the full benefits and costs of UHC policies, particularly for vulnerable households.

A further challenge is that most current policy initiatives to enhance financial protection are focused on reducing direct medical expenditures through expanding prepayment mechanisms and removing user fees (WHO 2010). These initiatives are not typically designed to reduce the other costs related to care seeking which deter the poorest from accessing care and contribute to foregone care. While some countries, such as India, have introduced schemes to offset transport costs, such measures remain limited and remain under-utilized in most settings.

Available evidence

In LMICs, evidence shows that direct non-medical costs and indirect costs can indeed limit access to health care, sometimes even more than direct medical costs (Borghi et al. 2009, McIntyre et al. 2009). For instance, transport costs contribute to catastrophic expenditure and can represent a significant share of total health care expenditures (Borghi et al. 2006, Xu et al. 2007, Barasa et al. 2017). The opportunity cost of time spent accessing care, including travel and waiting times at facilities, can also affect care seeking (McIntyre et al. 2009) accounting for 9%–73% of total household health expenditure (Borghi et al. 2006).

A recent study in Tanzania offers additional insights on the importance of fully accounting for costs in financial protection measures (Binyaruka and Borghi 2022). The analysis drew on exit-interview data on direct and indirect costs from 1407 maternal and child health service users in 150 health facilities. Findings showed that most clients (71%) accessed care on foot, and incurred an average transport cost of 0.41 US dollar (USD). Average medical costs were 0.23 USD but only 18% of patients paid for health care, because clients for these services

should be exempted in Tanzania. Transport cost represented the largest share of the total cost of care seeking (64%) (Fig. 1). The total time spent accessing and receiving health care was 90 min on average (travel, waiting, and consultation), and was driven by waiting time (52%) and travel time (33.6%) (Fig. 1). The burden of time was significantly greater for the poorest patients and those living in rural areas, whilst the transport and medical costs were significantly greater for the least poor.

The way forward

Given the existing evidence to date, we highlight five areas of focus in LMICs that are relevant for researchers, practitioners and policy makers seeking to strengthen financial protection and advance UHC.

First, there is a pressing need for improved monitoring of transport and time costs by adding relevant questions or indicators to routine national household surveys (e.g. household budget survey and household income and expenditure survey). These data should complement—not replace—existing measures of direct medical expenditures, offering a more complete picture of household vulnerability. The current focus on direct medical costs (e.g. fees for consultations, medicines, and diagnostic tests), leaving aside other costs like transport cost, underestimates the true economic burden of accessing care faced by households. Consensus is also needed on the valuation of time to enhance comparability.

Second, while transport costs can be included in the numerator of catastrophic expenditure measures, time costs reduce available income and therefore affect consumption expenditure in the denominator. Measuring and valuing time is complex and context-specific, particularly in LMICs where many people are informal or daily-wage workers. Valuing time also uses various approaches including using minimum wage rates, reported income, or stated willingness-to-pay. We call for improved and innovative ideas or standardized approaches on how to measure and incorporate time costs in metrics for measuring financial protection (numerator and denominator). This will enable a more accurate and equitable assessment of household vulnerability to health-related financial hardship.

Third, further investment in primary health care (PHC) in line with the Alma Ata Declaration on PHC, followed by the

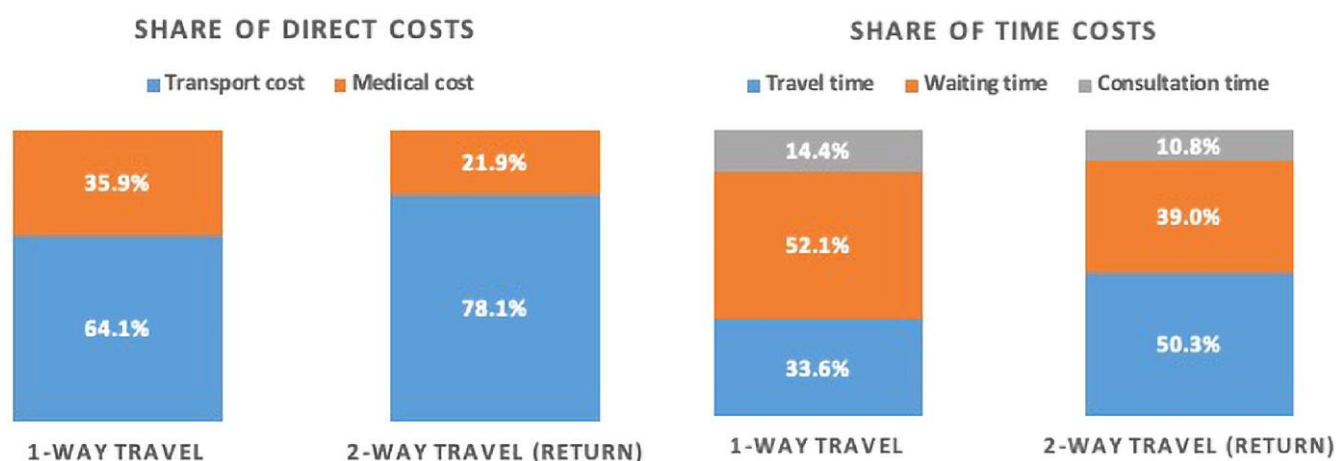


Figure 1. Overall share of direct and indirect costs.

Astana Declarations in 2018, and more recently with the Lancet Global Health commission on financing PHC (Hanson et al. 2022) would benefit UHC by reducing transportation and time costs barriers (WHO 2010). Strengthening PHC by constructing or renovating PHC facilities, expanding outreach services, and establishing maternity waiting homes can significantly reduce transportation and time burdens, especially for women, children and other vulnerable groups. PHC investment not only improve access or bring services closer to communities but also strengthen the resilience and responsiveness of health systems.

Fourth, there is a need to adapt and expand existing health financing mechanisms to cover transport and indirect costs more comprehensively. Where feasible and if budget allows, health insurance schemes could be revisited to consider the coverage of transport-related expenses. In addition, complementary financing schemes and social protection programs such as transport vouchers, conditional or unconditional cash transfers, or community-based transport support, may help to offset the travel costs and logistical barriers associated with seeking care (Lagarde et al. 2009).

Fifth, addressing transport and time costs requires coordinated multisectoral approach that acknowledges and acts upon the broader social determinants of health. Transportation infrastructure, road quality, and the availability of affordable public transit services are critical factors that influence the cost and feasibility of seeking care. Partnership between the health sector and other sectors—such as transport, planning, and social protection—are essential to design and implement cross-sectoral strategies that reduce these hidden costs and enhance financial protection for UHC. Addressing hidden costs should also consider household spending on unhealthy products such as tobacco, alcohol, and sugar, which affects both household welfare and system costs. Incorporating this into multisectoral strategies expands the agenda for research and policy action.

However, the feasibility of these policy responses will depend on fiscal space, and the degree to which there is political will at country level. Cross-sectoral collaboration, while beneficial, requires strong institutional coordination, governance structures, and sustained investment. Countries will need to weight the relative value of reducing demand-side access barriers versus investing directly in service delivery, and to make context-specific decisions that reflect their national health priorities.

Conclusion

This commentary underscores the urgent need to broaden financial protection metrics and policies in LMICs to include transport and time costs, which are often overlooked despite posing significant barriers to access care, especially for the poorest and most rural populations. We specifically highlight the need for inclusive data collection and standardized methods for capturing and valuing time costs, multisectoral approach, complementary investment in PHC, transportation and social protection systems to enhance UHC for the worse-off.

Author contributions

Conception or design of the work—P.B. Data collection—P.B. Data analysis and interpretation—P.B. and J.B. Drafting the article—P.B. Critical revision of the article—J.B. Final

approval of the version to be submitted—all named authors should approve the paper prior to submission—P.B. and J.B.

Reflexivity statement

The authors of this study include one male and one female and span multiple levels of seniority and geographical diversity. One author is the senior researcher in a research institute in Africa, while the other author is a professor in health economics in Europe.

Ethical approval

Ethical approval for this commentary is not required.

Conflict of interest

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Data availability

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