

The hidden costs of universal health coverage: solutions from the fight against catastrophic healthcare expenditure in Thailand

Arnav Mahajan , Wuttipong Tirakotai, Patcharapim Masayaanon

To cite: Mahajan A, Tirakotai W, Masayaanon P. The hidden costs of universal health coverage: solutions from the fight against catastrophic healthcare expenditure in Thailand. *BMJ Global Health* 2023;**8**:e011932. doi:10.1136/bmjgh-2023-011932

Handling editor Seye Abimbola

Received 2 February 2023
Accepted 23 April 2023

INTRODUCTION

Gaudin *et al* have presented a thought-provoking paper on the importance of incorporating cost data in healthcare policy decision-making.¹ Their approach of relying on local cost teams to inform recommendations for universal health coverage (UHC) is novel and commendable. However, the paper also highlights a critical concern that has been long overlooked—the indirect costs of healthcare.¹ These costs, which include transportation, lost wages and caregiver expenses, are often overlooked but can have a significant impact on the financial burden faced by patients and their families.

Historically, low-income and middle-income countries (LMICs) have adopted some interventions aimed at tackling aspects of these indirect costs.² A literature search investigating all of the potential solutions was done and demonstrated many unique strategies, but we recognise how these interventions fall short in a few key aspects, namely: attrition of volunteers, scalability of solutions, measurement of impact and most importantly the sustainability of the interventions. Furthermore, these interventions are often not implemented synergistically and are developed in isolation to address a single aspect of hidden costs, rather than addressing multiple.

What is lacking is a comprehensive understanding of the unaccounted-for financial reimbursement factors in a UHC system, and how these may be applied synergistically. The failure to reimburse for these indirect costs, which we refer to as hidden costs, is not only a financial burden, but also an impediment to healthcare access. In this commentary, we aim to share our experiences of these hidden costs and offer recommendations for national and international bodies striving to develop comprehensive UHC systems. We seek to comment specifically on areas regarding

SUMMARY BOX

- ⇒ Financial reimbursement factors that are not accounted for in a universal health coverage (UHC) system remain poorly understood and represent a burdensome hidden cost. Traditional paradigms of UHCs extending only to diagnosis and treatment are insufficient; we must consider the infrastructure that extends beyond the clinic walls in order to develop comprehensive systems of care. Literature search demonstrated that extant solutions in the literature to combat these factors fall short in addressing a few key aspects, namely: attrition, scalability, measurement of impact and sustainability.
- ⇒ Our study aims to demonstrate a successful example of synergistic implementation of solutions deployed at an institutional level to combat these hidden costs. We have done so by development of teams that coordinate housing, collective organisations with foundations that provide food and transportation, and building of teams to promote cross-institutional volunteer leaders that may coordinate such initiatives. We uniquely define how each one of our solutions can assist in developing comprehensive solutions by targeting the biggest setbacks currently demonstrated in the literature.
- ⇒ We comment on both our institutional changes, and indeed wider policy-level changes that can be implemented into countries developing UHC packages. The rapid digitisation of healthcare information and the use of community healthcare funds are viable, implementable solutions that we recommend for use.

impact measurement, retention, scalability and sustainability.

Thailand's UHC system is considered one of the most robust in the world, with improved access to healthcare for the population since its implementation in 2002. According to the WHO, Thailand ranks 25th in the world for its UHC Service Coverage Index, leading among any South-East Asian nation, and an



© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Department of Neurosurgery,
Neurological Institute of
Thailand, Bangkok, Thailand

Correspondence to

Dr Arnav Mahajan;
arnavmahajan99@outlook.com

impressive 99.61% of the population is registered at health units and eligible for coverage.^{3 4}

But beneath this veneer of excellence lies a dark reality: the hidden costs of universal coverage that still drive a significant proportion into catastrophic health-care expenditure—a term used to describe the financial ruin caused by high healthcare costs. To prevent large portions of their populations from falling into financial ruin, every nation aiming to achieve UHC by 2030 will have to learn how to mitigate this unfortunate reality.⁵

The failure to address the hidden costs—including lack of reimbursement for travel, caregiver accommodation and food—has a tangible impact on human health and well-being, particularly in LMICs. Those living in rural areas, who often must travel long distances for care, are particularly affected by these indirect costs.⁶ In Thailand, patients’ have not been neglected, as each of the country’s 13 health service regions has at least one tertiary care centre to ensure some access; however, we have not directly met the patients’ needs to guarantee comprehensive coverage. Despite best efforts, this can be especially burdensome for those with chronic illnesses or specialised needs, who may require frequent hospital visits. The reality of a fragmented public healthcare system, siloed by specialty, region, and access to diagnostics and therapeutics, exacerbates the problem by requiring patients

to hop from hospital to hospital without regard for the indirect costs incurred. These costs can quickly accumulate, placing an undue financial burden on families that are already vulnerable.

HOW WE HAVE TACKLED IT

Table 1

Assistance for accommodation

The National Institute of Neurology in Thailand has developed a framework in which pain points of hidden costs are tackled in a comprehensive way. The stewards of this model are ‘Social Welfare Teams’ which are unfunded, volunteer-led projects that have a multidimensional role to play in securing patients access to all available care at the hospital. Most relevant to this context, they are essential in coordinating with various groups and organisations that can provide emergency housing to caregivers of patients attending the hospital. Currently, we have secured through several institutionally developed networks, emergency housing that is able to host families at an extremely low cost and occasionally free-of-cost depending on need. Other leading public hospitals in the area have also independently built housing for caregivers to eliminate this burden for their patient populations. While both are beneficial solutions, considering

Table 1 A table demonstrating the hidden costs within the UHC system, our institutional solutions, their measured impact and the synergistic targets combatted with our solutions

Current gap	Our intervention	Impact	Synergistic targets
Lack of access to emergency housing for caregivers of patients attending the hospital	Developed a volunteer-led ‘Social Welfare Teams’ framework to provide emergency housing through coordination with various groups and organisations. Patients pay as low as 500 baht to house a family in our apartment complex associated with the hospital. Free housing also provided in nearby very low-income village communities within metropolitan areas	Programme extended to three neighbouring hospitals.	Scalability
		Volunteers participate in rewarding debriefing sessions after completing their work, which has been cited as the main reason for continued support.	Retention
		Other public hospitals in the region have followed suit of our ‘bottom-up’ approach and purchased accommodation.	Impact measurement
Hidden costs of food and travel in UHC systems	Partnered with ‘Puttika’ foundation offering food coupons and funding to support patients travelling to the hospital. Patients with greater need receive free food with coupons, while those with slightly higher capacity to pay are offered food at 10 baht. Patients who do not require support may offer coupons to others.	Successful implementation of programme since 2019.	Sustainability
		Support provided to patients and families accessing care. 35 communities supported during the pandemic have been retained.	Retention
		Coupons are given without asking by physicians to avoid embarrassing patients with greater financial need.	Impact measurement
Complex hospital processes unfamiliar to disadvantaged patients on how to best access resources	Created a comprehensive volunteer programme with volunteers who work closely with patients and families, including retirees and teenagers.	37 cohorts of around 60 volunteers each have rotated monthly, with an estimated total of 2500 volunteers over 4 years.	Retention
		Programme expanded to numerous 2 other hospitals. Model developed for adaptation by multiple institutions as ‘top-down’ approach by Thai Health Promotion Foundation	Scalability
		Feedback questionnaires show a lasting change in attitudes of teenage volunteers, cultivating a more caring and empathetic society.	Impact measurement

the national burden that accommodation imposes, these are not effective long-term solutions given the demand of human, financial and social resources needed to support these projects unfunded by the healthcare scheme. We have scaled this solution to other public hospitals in the region and have retained volunteers by integrating debriefing sessions.

Foundations for food and travel cost

Food and travel costs are a unique burden imposed on LMICs given the number of the population, both rural and urban, that lie below the poverty line. To support this, our institution has partnered with “มูลนิธิพุทธรักษา ปันกันอิม” (‘Puttika Foundation—Pan Kan Im’) to offer food coupons to patients and their families entering our hospital. We have developed an institutional link and scaled the purview of the foundation to develop a similar concept using volunteer groups in two other hospitals. We have been successfully developing this programme since 2019 and have retained 35 different communities. Our strategy is sustainable as the patients with the greatest need are offered the greatest supports, and it leverages cultural and religious attitudes within Thailand to direct

funds from higher-income earners to those more in need. Scaling from these benefits, we have worked with the foundation to collect extra funds towards support patients travelling from distance to reach our hospital. It has been well demonstrated that travel cost and travel time are limiting factors for people seeking care in UHC systems.⁷ As existing structures do not account for this, our adaptive model has recognised the needs of patients and offers them a solution where existing systems fall short (figure 1).

Volunteers for caregivers and patients

As our hospital tackles the challenge of meeting the unmet needs of patients and families through a range of unfunded programmes, a major investment in human capital is necessary. We understand that we are not alone in facing this challenge and have taken a proactive approach by creating a comprehensive volunteer programme. The programme leverages teams of approximately 60 volunteers who work closely with patients and families to streamline their experience and optimise every interaction. Our novel approach has yielded 2500 volunteers over the past 4 years and has developed a scalable



Figure 1 This image provides information about the Puttika Foundation and how it operates in accordance with the Buddhist principle of merit. When a member of the public "donates" a meal to a food bank, it enables the organization to provide a free meal to someone in need. The organization accomplishes its goals through hospital food vendors and goes on to describe its structure, invite interested parties to join, and provide access codes to comprehensive publications on the subject. Infographic distributed to food merchants about Puttika Foundation in Thai with an adjacent translation.

<p>‘Pan Kan Im’ (Sharing Food to get Full)</p>	<p>‘Pan Kan Im’ is a new way to do good merit by integrating our method into your everyday life. You do not have to go to temples or offer merit with monks anymore. This is a new way to help people that can be done easily according to your own money and opportunity. It is done by restaurants acting as a bridge by connecting donors and receivers under our slogan: fulfil your mind as the donor, to fulfil the stomach of the receiver.</p>
<p>For any restaurants that are interested to join the project, the long term benefits to the population are:</p>	<p>Aims of the project Aim: Long term benefit to the population</p>
<ol style="list-style-type: none"> 1. To implement the sharing method through a coupon application system 2. To advertise for people to be informed of the sharing opportunity in the restaurant 3. Inviting the other restaurants in the nearby, and distant, areas to participate in the sharing method. 	
<p>Method of sharing:</p>	
<ol style="list-style-type: none"> 1. Give food to get full: You give any amount of money for food and beverage to the restaurant and sign the coupon that you have given to the restaurant 2. Donating fulfillment: Tear the signed coupons for food and beverage 3. Receiving fulfillment: Write a thank you message onto a gratitude wall 	
<p>Tools to share:</p>	
<ol style="list-style-type: none"> 1. Coupon 2. Gratitude board 	<p>Download the instructions of ‘Pan Kan Im’ here.</p>

BMJ Glob Health: first published as 10.1136/bmjgh-2023-011932 on 5 June 2023. Downloaded from http://gh.bmj.com/ on March 2, 2024 by guest. Protected by copyright.

framework which was replicated by two hospitals facing comparable obstacles. Through the training and development of volunteer leaders, we are working towards cross-institutional coverage and are working towards a model that will be supported by the Thai Health Promotion Foundation for a ‘top-down’ approach. Although there are concerns with the efficacy of ‘top-down’ approaches, we believe our synergistic implementation will allow for seamless integration of our solution at the highest level. By approaching through the lens of patient-centricity, we have developed a model that can be adapted across different institutions. Uniquely, we have measured our impact by examining feedback forms filled by parents of teenage volunteers that have stated there has been a lasting change in attitudes of their children that has extended to support their own family, friends and wider community through altruistic action. By drawing on these valuable experiences, we strongly encourage policy-makers and healthcare leaders around the world to learn from these solutions such that we can help ensure that no citizen is left without access to the care they need.

HOW WE HOPE IT WILL BE TACKLED IN THE FUTURE

Although we have developed initiatives trying to help alleviate these hidden costs, these are only band-aid solutions that do not address the root cause of the problem: a lack of reimbursement for additional expenses in the UCS system. In this section, we hope to provide actionable solutions that may be implemented and accepted with wide support.

Leveraging digitisation in centralised health applications

Another hidden cost, though not financial, is the cost of waiting time. 44.49% of patients who did not apply for UHC benefits after visiting a hospital cited long waiting times as the reason.⁴ In response, the National Health Security Office (NHSO) has implemented various digital protocols, including the development of a digital health wallet and an NHSO application, which have increased coverage, reduced hospital congestion and enabled beneficiaries to check their benefits online and request transfers to different regions and units of care. This platform could be expanded to include requesting travel reimbursement by describing a journey prior to a hospital visit the day before. By extending this platform to include the ability to request travel reimbursement and detail a journey prior to a hospital visit, it would be easier for patients to receive the necessary care without incurring additional expenses. We believe that variants of this proposed concept may be prioritised, implemented and its benefits communicated owing to the rapid digitisation that has occurred during the COVID-19 pandemic, even if these platforms are not necessarily prevalent at the national level.⁸

Rethinking community healthcare funds to be more prorural

To further reduce the hidden costs of universal coverage programmes, it is essential to evaluate the

role of community healthcare funds and the distribution of funding for specialised care and chronic illness. Participation of stakeholders is crucial to this process because it enables local administrative organisations to have a say in how local funds are allocated and used. In Thailand, the majority of these funds are distributed unequally, with the highest concentration in the two largest metropolitan areas—a stark contrast to the country’s prorural orientation.⁴ By expanding the reach of these organisations to more rural areas, it would ensure that everyone has access to the care they need, regardless of where they live. Resources are pooled locally through Ministries of Internal Affairs, Social Development and Human Security, and Health. We recommend an integrated approach to community funding that links within existing government bodies that may have a deeper understanding of specific rural communities and can offer comprehensive financial solutions to mitigate hidden costs.

CONCLUSION

While UHC systems have been successful in providing coverage for diagnosis and treatments, they have an opportunity to evolve past their current paradigm. All infrastructure is healthcare infrastructure, and the burden placed on citizens of a nation with one of the most robust UCS systems is an injustice that is occurring due to a lack of coverage for many various externalities that are truly representative of an average patient journey seeking care in this country.⁹ We urge our local governments to consider our circumstances and recognise the importance of reimbursement. In the absence of this, we propose a number of local strategies that may be implemented at the national and international levels. In addition, we hope that this will serve as a call to action for many nations contemplating the adoption of a UHC system, demonstrating the importance of putting patient journeys and experiences at the centre of healthcare coverage as opposed to the traditional paradigm of diagnosis and treatment. A key factor in the public health transformation that has indeed set the standard for comprehensive medical coverage has been a ‘catalyst’—the ability to seize the window of opportunity, as described in a policy briefing from the NHSO.¹⁰ We hope that this paper acts as that very catalyst to urge readers to consider the patient journey and experiences when thinking about UHC packages. The traditional paradigm of diagnosis and treatment is not enough. We must also consider the infrastructure that surrounds the clinic walls, and ensure that patients are able to access the care they need without incurring catastrophic expenditures on healthcare.

Contributors AM and WT wrote the draft version of the manuscript. WT and PM helped refine the draft and shape the conceptual framework design. All authors have read and approved of the final version of the manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data is available upon request.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iD

Arnav Mahajan <http://orcid.org/0000-0002-8303-6636>

REFERENCES

- Gaudin S, Raza W, Skordis J, *et al*. Using costing to facilitate policy making towards universal health coverage: findings and recommendations from country-level experiences. *BMJ Glob Health* 2023;8:e010735.
- Mahajan A. Improving access to global cancer services. *Lancet* 2023;401:1338–9.
- World Health Organization. UHC service coverage index. Available: <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/4834> [Accessed 27 Jan 2023].
- National Health Security Office. National health security office annual report fiscal year 2021. 2022. Available: https://eng.nhso.go.th/assets/portals/1/files/nhso_report_fiscal_year_2022_-_Copy.pdf [Accessed 27 Jan 2023].
- United Nations. Taking action for universal health coverage. Available: <https://www.uhc2030.org/> [Accessed 27 Jan 2023].
- Kornelsen J, Khowaja AR, Av-Gay G, *et al*. The rural tax: comprehensive out-of-pocket costs associated with patient travel in British Columbia. *BMC Health Serv Res* 2021;21:854.
- Rocque GB, Williams CP, Miller HD, *et al*. Impact of travel time on health care costs and resource use by phase of care for older patients with cancer. *J Clin Oncol* 2019;37:1935–45.
- Baltussen R, Mwalim O, Blanchet K, *et al*. Decision-making processes for essential packages of health services: experience from six countries. *BMJ Glob Health* 2023;8:e010704.
- Jain B, Bajaj SS, Stanford FC. All infrastructure is health infrastructure. *Am J Public Health* 2022;112:24–6.
- National Health Security Office, London School of Hygiene & Tropical Medicine, International Health Policy Program. 'Good health at low cost' 25 years on. What makes an effective health system? 2020. Available: <http://www.moph.go.th/ops/thp/index> [Accessed 27 Jan 2023].