Hayat *et al.*
Cost Effectiveness and Resource Allocation (2025) 23:39
https://doi.org/10.1186/s12962-025-00634-8

Cost Effectiveness and Resource Allocation

RESEARCH

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Strategic analysis of financing communicable diseases in Afghanistan

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Abstract

Background Afghanistan as a low-income country suffers from the heavy burden of Communicable Diseases (CDs) and their significant economic consequences. Therefore, this research is aimed to strategically analyze the financing system of CDs management in Afghanistan and provide effective solutions.

Methods We conducted the qualitative research using interpretative phenomenological analysis (IPA). An interview guide was used to conduct the semi- structured interviews with 49 experts from the Afghanistan health system. We used the framework analysis method to analyze the results.

Results In this research, we found 12 strengths, 16 weaknesses, 9 opportunities, 21 threats, and 47 solutions. The main strength was diverse international funding sources for CDs control. The weakest points were the lack of a health insurance system, limited government budget allocation for health, high out-of-pocket expenditure (OOPE), fragmented donor's funds, poor managerial capacity, and donor-dependent health system. The main opportunity was the commitment and interest of donors to eradicate CDs. Lack of political commitment, cut of donors' aids, brain drain, low health literacy of people, and lack of drinkable water and sewage systems were the main threats. Increasing the government budget allocation, establishing health insurance system, implementing employees' retention strategies, integrating all CDs funds, strategic purchasing, strengthening public–private partnership (PPP), implementing appropriate user fees, and raising public awareness about CDs were the most important solutions.

Conclusion The financing system of CDs management should be strengthened in such a way that it collects scattered financial resources, aggregates and transparently manages them. Then, they should be used to provide CDs control services that will reduce the CDs burden, improve people's health and protect from financial risks.

Keywords Communicable diseases, Health financing, Strategic analysis, Health system

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Introduction

Communicable diseases (CDs) are disorders caused by the transmission of microbes—such as bacteria, viruses, fungi, or parasites—or prions, originating from another person, an animal, or the surroundings [1].

Afghanistan is a low-income country located in South-Central Asia, with an area of 652,230 square kilometers [2] and a total population of 42 million [3]. In 2023, its Gross Domestic Product (GDP) was estimated at US$14 billion [4]. In 2021, OOPE accounted for 77.3% of total health spending [5], while external health expenditure was 19.4% [6] and domestic general government health

expenditure stood at 3.3% [7]. During the same year, the per capita health expenditure was approximately US$21.30 [8]. The country health system consists of two main packages, the Basic Package of Health Services (BPHS) and the Essential Package of Hospital Services (EPHS). These packages provide free health services, funded by international donors, with a strong emphasis on the prevention and control of communicable diseases, particularly through the BPHS [9].

Afghanistan faces a significant burden of CDs, accounting for more than 60 percent of outpatient visits [10]. The age-standardized Disability-Adjusted Life Years (DALY) attributed to various causes are as follows: 20.8% from CDs, 11.4% from neonatal, maternal, and nutritional diseases, 38% from non-communicable diseases (NCDs), and 26% from injuries [11].

Among the most challenging conditions affecting the health system are acute respiratory infections (ARIs), malaria, tuberculosis (TB), COVID-19, measles, viral hepatitis, pneumonia, and acute watery diarrhea (AWD). As of November 2024, a total of 1,14 million ARI cases were reported [12]. By September 2024, there were also cumulative reports of 55,192 malaria cases, 10,353 COVID-19 cases, 50,136 measles cases, 2,147 dengue fever cases, 999 cases of Crimean Congo hemorrhagic fever (CCHF), and 135,493 cases of AWD [13]. In 2021, it was estimated that there were 76,000 TB cases, which resulted in approximately 12,000 deaths [14]. Furthermore, over 100,000 individuals suffered from viral hepatitis in 2024 [15].

In terms of health expenditure, approximately US$981 million (29.9%) of the total health budget was allocated to infectious and parasitic diseases in 2021. Other expenditures included US$906 million (27.6%) for reproductive health, US$206.7 million (6.3%) for nutritional deficiencies, US$459 million (14.0%) for NCDs, US$197 million (6.0%) for injuries, and US$532 million (16.2%) for unspecified diseases [16]. These contributions underscore the substantial financial burden of CDs.

International donors primarily fund the control and prevention of certain CDs. Various organizations, such as the Bill & Melinda Gates Foundation, the Government of Canada, Rotary International, the United States Agency for International Development (USAID), the US Centers for Disease Control and Prevention, Kreditanstalt für Wiederaufbau (KfW), the Japan International Cooperation Agency (JICA), the Global Fund, and the Global Alliance for Vaccines and Immunization (GAVI), provide resources for diseases like polio, malaria, TB, HIV, and vaccination initiatives [17].

In 2023, the Global Fund, allocated about $20.36 million for HIV, US$54.29 million for malaria, and US$46.74 million for tuberculosis [18]. The GAVI has also played a pivotal role in strengthening Afghanistan's immunization and CDs control efforts, with a total disbursements reaching US$209.7 million as of January 2023 [19]. In 2024, JICA committed ¥1.032 million (approximately US$6.9 million) to support CDs response in Afghan referral hospitals [20].

However, many prevalent diseases in the country, such as brucellosis, typhoid fever, viral hepatitis, leishmaniosis, AWD, and rabies, are either underfunded or lacking donor support. The allocation of funds often does not correspond with the prevalence and impact of these diseases; for example, despite its low prevalence, HIV/AIDS receives notable funding in Afghanistan [21]. Conversely, serious and prevalent zoonotic diseases like rabies, anthrax, and CCHF and brucellosis do not receive enough financial support [22].

Evidence suggests that typhoid fever are among the most commonly diagnosed and treated conditions in private clinics, which are not addressed by government or donors [23]. Moreover, the financial assistance provided is frequently short-term and inconsistent, leading to interruptions in health services. Additionally, many CDs management programs operate in a vertical manner, resulting in unequal distribution of aid that fails to align with the actual prevalence and significance of the diseases. Consequently, some disease control programs receive inadequate support, while others may receive excess funding.

Following the change in government in 2021, aid from international donors has significantly decreased, as evidenced in Table 1. This trend raises concerns and highlights the need for an independent and sustainable financial system in the health sector. Furthermore, the departure of many experts after the government transition has created a gap in the management capacity of the health system, particularly in financing.

Financing is the backbone of a health system, particularly in the management of CDs. In Afghanistan, the burden of CDs remains substantial, contributing to high morbidity and mortality rates, adversely affecting public health, and imposing significant healthcare expenditures. Sustainable and adequate financing is therefore critical not only for building and maintaining healthcare infrastructure, but also for delivering essential services and

Table 1 The amount of aid for Afghanistan's health in three consecutive years from 2022 to 2024 [24, 25, 26]

Years	Current requirement US$	Funding US$	Coverage %
2022	378,000,000	240,531,432	63.6
2023	412,654,818	198,791,297	48.2
2024	367.002.781	90.574.668	24.7

ensuring equitable access to prevention and treatment, especially among vulnerable populations.

Moreover, investing in CD management has broader socio-economic benefits, as healthier populations lead to improved productivity, reduced long-term healthcare costs, and greater social stability. In response, several vertical funding projects have been implemented in Afghanistan, targeting specific diseases such as tuberculosis, malaria, immunization efforts, HIV/AIDS. While these initiatives have achieved important disease-specific outcomes, their fragmented approach has often resulted in inefficiencies and missed opportunities for integration.

To overcome these challenges, an integrated financing mechanism is essential—one that pools resources, strengthens coordination, and ultimately enhances the overall effectiveness and productivity of communicable disease control efforts across the country.

Effective financing involves the collection and pooling of adequate funds, as well as the timely procurement of necessary services. This is essential for the health system's ability to respond swiftly to disease outbreaks and epidemics. A sustainable financial system enables effective management of resource allocation, infrastructure development, and health workforce training.

Thus, our research aimed to analyze the current financial system for CDs in Afghanistan. We sought to identify its strengths, weaknesses, opportunities, and threats, ultimately providing appropriate solutions to establish a sustainable financial framework for their control.

Method

A qualitative research design using Interpretative Phenomenological Analysis (IPA) was employed for this study. IPA is an empirical method that focuses on how individuals make sense of their experiences and provides a detailed examination of personal lived experiences [27].

This approach was particularly well-suited for examining the complex and context-specific nature of health financing within the fragile and donor-dependent setting of Afghanistan. Given that the financing of CDs control is intricately influenced by political, cultural, economic and systemic factors, IPA provided an appropriate method for exploring the lived experiences of health experts engaged in navigating these multifaceted challenges. IPA allowed for a nuanced understanding of how participants interpret and respond to the structural constraints and policy dynamics that shape decision-making in such a volatile environment. In this research, semi-structured interviews were conducted to gain a comprehensive and deep understanding of the existed situation of the strengths, weaknesses, opportunities and threats (SWOT) of Afghanistan's financing system for the management of CDs. We employed the World Health Organization's six-building block framework for health system [28] as our framework analysis method, focusing exclusively on the findings related to financing in this paper. This qualitative approach was well-suited to explore such a complex and contextual issue within Afghanistan. The research team developed an interview guide that addressed the strengths, weaknesses, opportunities, and threats of the CDs management financing system, along with potential solutions. This guide was shared with participants prior to the interviews.

Interviews were conducted either at the participants' workplaces or via WhatsApp, with an average duration of 15.2 min (ranging from 12 to 41 min). The interviews were conducted in local languages and subsequently translated into English. To ensure accuracy, all interviews were audio-recorded. A pilot interview was conducted with 10 participants between February 27, 2024, and April 16, 2024, to refine the interview questions and enhance the researcher's skills in interacting with participants.

Overall, 49 in-depth interviews were completed from February 27, 2024, to September 21, 2024. Researchers employed purposive and snowball sampling techniques to achieve maximum variation among experts, including policymakers; managers and staff from the Ministry of Public Health (MOPH), non-governmental organizations (NGOs) hospitals, and health centers; and service providers for CDs. Data were collected through individual interviews, including only public health experts who had at least 3 years of work experience in Afghanistan's health sector and had consented to participate in the study. Interviews continued until information saturation was reached, meaning no new insights were being obtained.

As detailed in Table 2, the majority of interviewees were male (95.9%), possessed master's degrees (28.5%), were aged between 30–40 years (34.7%), and had 15–20 years of experience (28.5%). Many participants identified as policymakers (20.4%) or service providers (20.4%).

A framework analysis method was used to interpret the findings of this study. This method consists of seven stages: transcription, familiarization with the interviews, coding, developing a working analytical framework, applying the analytical framework, data charting in the framework matrix, and data interpretation [29]. The predefined themes for this research focused on the financing of the health system, which included three subthemes: fundraising, pooling, and purchasing. All recorded interviews were transcribed verbatim, and the interview text was reviewed multiple times to generate initial codes. Similar codes were then grouped into subthemes and subsequently organized into broader themes. Ultimately, the narrative was constructed to align with the research

Table 2 Demographic characteristics of the research participants (n = 49)

Variable	Frequency	Percent	Variable	Frequency	Percent
Age			Work experience		
Less than 40	17	34.7	Less than 5 years	6	12.2
41–50 years	16	32.6	5–10 years	11	22.5
51–60 years	14	28.6	10–15 years	6	12.2
More than 60 years	2	4.1	15–20 years	14	28.7
			20–30 years	6	12.2
			30–40 years	6	12.2
Sex					
Male	47	95.9			
Female	2	4.1			
Level of education			Job category		
Ph.D	4	8.1	Policy maker	10	20.4
Master	14	28.5	Service provider	10	20.4
MD	19	38.8	Manager	10	20.4
Specialist	10	20.4	NGO officer	7	16.3
BSC	1	2.1	Lecturer	10	20.4
Nurse	1	2.1	Parliamentarian	1	2.1

objectives, and all quotes are referenced with a 'p' in the results section.

To enhance the validity of the research, the research team employed maximum variation sampling, conducted a pilot interview, and invested sufficient time in discussions with experts. The team also explored the issue from diverse perspectives, continuously compared the gathered data, and clearly communicated the study's nature and objectives to the interviewees.

Ethical approval for the research was obtained from the Tehran University of Medical Sciences (code IR.TUMS.SPH.REC.1400.262), and the participant's consent was obtained verbally to participate in the interview and audio recording. Participation in the study was entirely voluntary, and interviewees had the right to withdraw at any time. Furthermore, all collected data were kept confidential, and the researchers' personal perspectives were not involved in the phases of data collection, analysis, or reporting.

Results

The financing of health system has three subthemes of fundraising, pooling and purchasing. In this section we presented the views of experts about each subtheme (Table 3).

Fundraising

The main fundraising methods for CDs management in Afghanistan include international aid, OOPE, and general revenues. Regrettably, there is no insurance system in this country except for some private insurance whose activities are very limited and insignificant. The domestic charity funds are negligible.

The main strength is diverse sources of funding for CDs control programs from international donors. A public health expert said: "*Donors including, The Global Fund, USAID, World Bank, European Commission,* etc. *providing financial support to health system, especially CDs management and NGOs are running the health system all over the country. If these donors cut their aid, the health system will soon collapse*" (p.9). Moreover, a World Health Organization (WHO) officer added, *"most donors allocate their main aids to control CDs, such as polio, TB, malaria and AIDS. While they are not interested in other CDs"* (p.1). The existence of the revenue generation strategy is another strength point of the health financing system. A previous director of policy and plan directorate of MOPH said: *"The revenue generation strategy including user fees, the tax on tobacco or sugar-sweetened beverage and other harmful goods is now applicable after law amendment"* (p.37). Other strength points are existence of some domestic charity foundations, the existence of the health financing policy and strategy within the MOPH and the generation of annual health account (AHA).

The weaknesses are limited government budget allocation for health and lack of government monitoring of donors. A senior public health expert explained, *"The government budget allocation for health is very low, because there is no political will towards health due to other priorities and economic stagnation"* (p.30). Non-alignment of donors' programs with government policies

Table 3 Subthemes and codes for situation of financing of the CDs management system in Afghanistan

	Fundraising	Pooling fundraising	Purchasing
Strengths	1. Diverse funding sources for CDs control 2. Allocation of main part of donations for CDs control 3. Existence of revenue generation strategy 4. Generation of AHA and 5. Existence of the Health Financing Policy and strategy and 6. Existence of some domestic charity foundations	1. Conducting a Health Insurance Feasibility Study in Afghanistan 2. Existence of some private health insurances 3. Existence of NHA	1. Existence of the transparent service procurement system 2. Early PPPs program in health sector 3. Reduction of unnecessary expenses after the government change
Weaknesses	1. Limited government budget allocation for health 2. Non-alignment of donors' programs with government policies 3. Donor-dependent health system 4. Short-term and intermittent budgeting of CD control programs by donors and 5. Failure to address the root causes of health financing problems by governments and donors	1. Lack of health insurance system 2. Lack of donation pool for certain CDs 3. Poor management capacity 4. Fragmented donor's funds and 5. Underfunded BPHS and EPHS	1. High OOPE 2. Health free services 3. Lack of proper regulation of private sector 4. Collusion between public and private sector 5. Consumption of off-budget by institutions according to their wishes, and 6. Lack of antimicrobial stewardship programs
Opportunity	1. Commitment and interest of donors 2. Potential for religious donations (zakat and other charities) 3. Increasing and the right collection of taxes by the new government and 4. Centralized financing system	1. Security 2. High OOP share and 3. Political will	1. Importing health related goods with low customs tariff compared to other countries 2. For free primary health services according to law
Threats	1. Lack of accountabilities 2. Lack of political commitment 3. Cut of donors' funds 4. Corruption 5. Changes in the priorities of donors 6. Donors fatigue 7. Decreasing interest of donors 9. Donors' unnecessary expenses and 10. Scattered activities of domestic charity foundations	1. Lack of people trust in health insurance 2. Corruption 3. Freezing the financial resources of the country 4. Returning of donated budget back to donors account and 5. Competing health and development priorities	1. Brain drain (economists) 2. The Low health literacy of people 3. Corruption 4. Long bureaucracy 5. People's lack of trust in the country's health system 6. Lack of drinkable water and sewage system all over the country and 7. Rising global costs of the health goods
Solutions	1. Increasing the government budget allocation 2. Aligning donors' programs with government policies 3. Addressing the root causes of health financing challenges 4. Strengthening partnerships with international donors for long-term and predictable funding 5. Identifying and engaging strong donors for sustainable financing of CDs management 6. Allocating corrective tax to the health sector 7. Encourage local communities to engage in fundraising activities 8. Using the taxes from the private health sector to support the public health sector 9. Fighting corruption and inefficiency 10. Renting out of the public health sector properties 11. Encouraging donors to reduce unnecessary expenses 12. Promoting the culture of philanthropic activities: 13. Establishing a social department within the MOPH and 14. Initiating crowdfunding endeavors through online networks	1. Establishing health insurance system 2. Integrating all CDs funds 3. Increasing public trust and awareness about health insurance importance 4. Creating long-term financial plans for sustainable management of CDs 5. Ensuring alignment of donor priorities with national health goals 6. Strengthening monitoring and auditing systems to ensure optimal use of available funds 7. Providing sufficient funds to deal with health crises 8. Ensure equality and financial harmony across all provinces in health spending and 9. Hiring health economists in key positions 10. Integrating the off budget with on budget	1. Strategic purchasing 2. Raising the people awareness about CDs, 3. Strengthening PPP 4. Implementing employees' retention strategies 5. Implementing appropriate user fees 6. Strengthening preventive measures (investing in WASH) to reduce overall costs 7. Purchasing services by the government 8. Training of health economists 9. Introduction of health bonds 10. Promoting health financing research 11. Improving transparency 12. Exemption from customs tariffs on medical goods 13. Regulation of private sector and elimination of induction demand 14. Semi-centralization of health financing 15. Implementing cost-effective approaches during outbreaks 16. Creating a database of health sector needs 17. Utilization of generic medicines 18. Bulk purchasing 19. Leveraging technology to streamline purchasing processes 20. Collaborating with regional and international partners for joint procurement 21. Aligning purchasing power with health system performance and effectiveness 22. Reduction of administrative bureaucracy and 23. Expanding the patient referral system

is another weak point. A WHO officer explained, *"This causes donors to implement programs* ad hoc *and not act strategically. Another problem is that many donors implement vertical programs, which shows the government's weakness especially in policy making*" (p.8).

Short-term and intermittent budgeting of CDs control programs by donors which may cause interruptions in these programs, donor-dependent health system, and failure to address the root causes of health financing challenges by governments and donors are other weak points.

The major opportunity is the commitment and interest of donors, as SDGs target 3.3 calls to eradicate CDs worldwide. Another opportunity is the potential for religious donations. A policymaker from the Centers for Disease Control and Prevention (CDC) directorate noted, *"Since the Afghan society is religious and adheres to religious rituals, there is more opportunity to establish a charity and zakat funds"* (p.39). Increasing taxes by the new government causes augmentation of general revenues. A policy maker at the directorate of the CDC spoke optimistically, *"The new government is trying to increase tax collection. As we witnessed in the previous regime, those in power did not pay their business taxes to the government. But now the new government collects the taxes even from street vendors"* (p.36). In addition, a manager at Kabul University of Medical Sciences (KUMS) said, *"the weekly aid packages of* US$*40 million of the united-nations (UN) are very effective for strengthening the national budget"* (p.24). A centralized financing system may also be an opportunity. When a former policymaker in the MOPH was asked about the pros and cons of decentralization and centralization of the health system in relation to the issue of financing, he replied, *"In the centralized system, the resources are less consumed; there is less nepotism and less corruption. In contrast, in decentralized system there is more corruption; more nepotism and more consumption of resources. Hence, in my opinion the centralized system in current fragile government should be accounted as an opportunity"* (p.37).

The main threat is a lack of accountability and political will. A university lecturer said, *"Since the government does not implement the projects, there is consequently no accountability from the government. The low allocation of GDP share for health shows the lack of political will"* (p.4). A head of a private hospital replied, *"There may be the risk of reduction or even termination of donors' funds due to political changes at the national and the global levels. Changes in the donors' priorities are another threat, for example, the outbreaks of epidemics or pandemics*" (p.22). A United Nations Children's Fund (UNICEF) officer announced, *"The donors may reduce their interest in Afghanistan due to other emergencies such as the wars in Ukraine, Palestine and Syria"* (p.34). Corruption, donors' fatigue, shortage of some medicines or medical equipment globally and raising of their prices are other threats. The corruption can be observed in all financing processes, from fundraising to purchasing.

The proposed solutions are increasing the government budget allocation; aligning donors' programs with government policies; addressing the root causes of health financing challenges by health councils across the country in the community level; strengthening partnerships with international donors for long-term and predictable funding; identifying and engaging strong donors for sustainable financing of CDs management; allocating corrective tax to the health sector; encouraging local communities to engage in fundraising activities; using the taxes from the private health sector to support the public health sector; fighting corruption and inefficiency; renting out of the public health sector properties; encouraging donors to reduce unnecessary expenses; institutionalizing the culture of philanthropic activities; establishing a social department within the MOPH to organize the domestic charities foundations; and initiating crowdfunding endeavors through online networks to generate financial support for CDs management.

Financial resource pooling

Pooling refers to the collection and management of prepaid financial resources on behalf of part or all of the population. In contrast, out-of-pocket payments are non-prepaid and uncollected funds, which undermine the objectives of Universal Health Coverage (UHC) [29].

The strength points are a health insurance feasibility study in Afghanistan and existence of some private health insurance. A head of a university teaching hospital said, *"a Health Insurance Feasibility study provides a glimmer of hope for establishing a sustainable financing system in Afghanistan"* (p.10). A policymaker in the MOPH replied, *"There are some private health insurances in Afghanistan. The main customers of this type of insurance are Diplomats of embassies, international and domestic non-profit organizations and wealthy individuals. The demand for private health insurance is increasing, which could pave the way to attract more customers from middle and low-income people in the future"* (p.31). The existence of NHA 2021 is another strength point.

The main weakness is lack of donation pool for certain CDs that are prevalent in Afghanistan A CDC officer of a district Hospital (DH) stated, *"Donors don't interest to pool funds in certain diseases e.g. brucellosis, CCHF, rabies, typhoid fever, AWD,* etc*. that are very prevalent in Afghanistan. Instead, they spend millions of dollars on polio eradication. It is worth considering that endemic diseases and diseases without epidemic potential are not important to them"* (p.23). An NGO officer in Kabul

commented, *"There is no integrated financial pool for all the aid, including the government's share, and spends it strategically and with a plan. Many donors use their donations as they wish and do not report to the government, which means they spend their donations without coordinating with the government"* (p.1). Underfunded BPHS and EPHS, and poor management of the officials of MOPH in obtaining effective donated resources are other weak points.

The opportunity is a high OOP share (77%). A WHO officer stated, *"High OOPE can serve as a stimulant for reforming health financing systems e.g. developing the health insurance system"* (p.44). Security and political will are other opportunities.

The main threats are corruption and lack of public trust on government health insurance. A WHO officer mentioned, *"Since Afghanistan is a war-torn country and due to instability, people do not have the desire or confidence to participate in health insurance. In addition, most people (about 80 percent) are not government employees, and many administrative and technical challenges make it difficult to launch health insurance immediately"* (p.1). A public health expert enunciated, *"Due to a low managerial capacity, some of allocated funds are not consumed and then return to the donors' accounts"* (p.11). Freezing the financial resources of the country after regime change by the US and competing health and development priorities are other threats.

The proposed solutions are integrating all CDs funds and developing a health insurance system. A public health expert replied, "*The government should create a financial pool from international aids, GDP share, zakat and other charities and donations of people. This requires strong governance/leadership, to consolidate fragmented funds through responsible stewardship, capacity building, good planning and policy-making"* (p.1). In addition, she commented that *"developing health insurance is crucial. The government should use the coercive power and collect insurance premiums from its employees and make an initial nucleation for health insurance, starting from a small population and gradually collecting insurance money from the larger populations of the country in the next stages"* (p.1). A former policymaker in the MOPH added: *"Since the people are not familiar with the insurance culture, they should be informed about the importance of health insurance and its culture should be institutionalized"* (p. 37).

Other solutions are creating long-term financial plans for sustainable management of CDs; ensuring alignment of donor priorities with national health goals; strengthening monitoring and auditing systems to ensure optimal use of available funds; providing sufficient funds to deal with health crises; ensuring equality and financial harmony across all provinces in health; spending hiring health economists in key positions and integrating the off-budget with on-budget.

Purchasing health services

Purchasing involves allocation of collected funds to healthcare providers to offer health services for specific groups or the overall population [30].

The strength is the existence of the transparent service procurement system of MOPH. A manager in MOPH stated, *"The most valuable achievement of current government, especially the MOPH is the transparency in procurement process"* (p.42). The initiation of the PPP program in the health sector is another strength point. A former public health provincial office director said: *"The first step was taken about 6 years ago when the Wazir Mohammad Akbar Khan and Sheikh Zayed hospitals handed over to an Emirati-Indian private company to provide high-quality health services and prevent patients from going abroad for treatment"* (p.3). Reduction of unnecessary expenses after the government change is another strength point.

Weaknesses are secondary and tertiary health free services except in Kabul, high OOP, lack of a proper regulation system for the private sector, and lack of antimicrobial stewardship programs. A policymaker in CDC replied that *"for free health services is the main cause of low-quality health services delivery, because people flock to free services and check their health without any problems. This increases the workload of health staff and on the other hand, it lowers the quality of services. This issue causes people's trust in the health sector to decrease and they turn to the private sector, which increase OOPE"* (p.35). A former university chancellor added that *"the private sector is primarily responsible for high OOPE due to collusion between the public and private sectors. the doctors who work in the public sector have private clinics at the same time. When patients go to a public health center, they are referred to private clinics"* (p.5). A WHO officer commented, about the lack of government monitoring of donors, *"Because significant amounts of aid are off-budgeted and spent by NGOs as their wish, the government has no oversight over them"* (p.37).

The opportunity is importing health products with low customs tariffs compared to neighboring countries. A manager in the MOPH clarified, *"Although, on the one hand, this issue causes the prices of medicines and medical equipment to decrease in the market and may be affordable for people, on the other hand, it causes the stagnation of domestic medical production"* (p.42).

Brain drain and low health literacy of people are common threats. A manager in the MOPH said, *"After government change, some of the employees who had experience*

in procurement left the country" (p. 42). The deputy of a private hospital in Kabul said about the low health literacy of people, *"Due to the low level of people's knowledge when they get infectious diseases, they go directly to the pharmacy instead of the doctor. Then the pharmacists prescribe them new generation antibiotics which are not effective in most cases and they have to go to the doctor which leads to unnecessary costs and high OOPE"* (p.47). A pediatrician added, *"as a result of people's lack of trust in the country's health system when they get sick, they go to different doctors and even go abroad to treat diseases that can be treated in the country."* (p.26). The lack of drinking water and sewage systems, which causes a high prevalence of CDs and, consequently, a high economic burden.; long bureaucracy and donors' unnecessary expenses, including luxury cars, high staff salaries and expensive accommodations are other threats.

The proposed solution is strategic purchasing. A WHO officer said, "Strategic purchasing *is an approach that enhances the effectiveness of healthcare expenditures*, increases equity in access to health care and improves the quality of health services delivery. *In this approach, the government must pay for the services patients receive, and then the patients must pay the government for each service they receive."* (p.1). A CDs professor in KUMS proposed the introduction of health bonds mechanism. He explained *that "a Health Bond system incentivizes individuals who can effectively enhance health results in response to emerging challenges"* (p.29). Strengthening PPP by strict regulation of private sector and involvement of it in CDs control and prevention is another strategy. A former university chancellor stated that *"the private sector should be regulated and strictly supervised to avoid unnecessary profiteering and induction demand"* (p.5). A pediatrician replied, *"the private sector should be encouraged and* promise for them incentives *to create super-specialized hospitals so that patients do not go abroad and as a result, millions of dollars of the country's capital is preserved annually. Patients who can be treated inside the country should not be allowed to travel abroad for treatment by creating effective mechanisms, or the people's trust in the country's health sector should be increased"* (p.26).

Other solutions are implementing employee retention strategies; semi-centralization of the health system in procurement; implementing appropriate user fees; raising the public awareness about breaking CDs transmission chain; strengthening preventive services mainly investing in water, sanitation and hygiene (WASH) to reduce overall costs; collecting donations efficiently and using them by the government for purchasing; providing training for health economists; promoting the health financing research; improving transparency in fund utilization; exemption from customs tariffs on medical goods; expanding the patient referral system to reduce unnecessary expenses; implementing cost-effective approaches during outbreaks; creating a database of health sector needs; utilization of generic medicines to reduce high OOPE; bulk purchasing essential medicines to lower costs; collaborating with regional and international partners for joint procurement; leveraging technology to streamline purchasing processes and reduce waste; align purchasing power with health system performance and effectiveness and reduction of administrative bureaucracy.

Discussion

The purpose of this study was to identify the strengths, weaknesses, opportunities, and threats associated with the financing system for the management of CDs in Afghanistan and to propose effective solutions.

The main strength was a diverse range of international funding sources dedicated to controlling CDs. The government has a responsibility to effectively leverage these international funds as an opportunity to develop a sustainable financing health system. Bangladesh has successfully utilized the World Bank funds to establish robust electronic procurement system, which was highly cost-effective [30]. However, while Bangladesh capitalized on World Bank funding to establish a digital procurement system, Afghanistan's fragmented donor pool and political instability have hindered similar innovations.

Conversely, weaknesses including limited government budget allocation, high OOPE, the absence of a comprehensive health insurance program, an unintegrated donor pool, and an overreliance on external donors.

The Afghan government's insufficient funding is largely due to a heavy reliance on international grants and administrative challenges, such as striving to establish a stable governmental framework. This focus has often neglected critical sectors, particularly health.

This situation is not unique. Several low-income or fragile countries have shown that inadequate government funding for health contributes to health system inefficiency. For instance, African governments are not meeting their commitments to prioritize public investment in healthcare, which is leading to significant disparities in access to healthcare services. On April 27, 2001, the African Union adopted the Abuja Declaration, committing its member governments to allocate a minimum of 15% of their national budgets to enhance healthcare [31].

High OOPE remains a significant challenge confronting the health system, primarily due to the absence of a comprehensive health insurance framework. Additional factors contributing to high OOPE include the costs of pharmaceuticals [32], the tendency for individuals to seek

healthcare abroad (p.3, 26), and a general lack of trust in the public health system (p.26).

Importantly, studies have demonstrated that increased government funding is more effective in reducing OOPE compared to voluntary health insurance schemes. A research study in India indicates that raising per capita government health expenditure (GHE) can decrease the proportion of OOPE relative to total health expenditure (OOPHE), ultimately enhancing the health and well-being of the population [32].

Most experts advocate for the establishment of a health insurance system as a means to decrease OOPE and promote a sustainable health financing model.

The first health insurance scheme in Afghanistan was initiated in the 1970s, providing limited coverage for government employees; however, this program was discontinued following the revolution in 1978. Subsequently, a pilot community-based health insurance program was implemented in 2005 and 2006 [33]. The lack of political will and commitment, stemming from both the previous and current fragile and unstable political environments, has presented significant obstacles to the implementation and strengthening of health insurance initiatives.

By introducing a comprehensive health insurance system modeled on successful examples from Rwanda [34], Thailand [35] and Ghana [36], Afghanistan could reduce OOPE substantially.

Our study findings emphasize the role of public–private partnerships (PPP) in strengthening health system financing. This approach is particularly pertinent in addressing the financial limitations of health systems in developing countries [36]. Evidence from this partnership in Ethiopia suggests that involving both domestic and foreign investors in establishing specialized healthcare facilities can enhance system efficiency and quality [37]. While, this approach remains underutilized in Afghanistan.

While high OOPE is often viewed as a weakness in the context of health financing, it can also represent an opportunity for reform. Elevated OOPE can serve to stimulate necessary changes in health financing systems. When the government observes that citizens are willing to incur significant costs for their health care, it may be motivated to implement mechanisms for collecting insurance premiums from the population. Moreover, this heightened awareness of the financial challenges faced by individuals can lead the government to address systemic issues within the healthcare financing framework. These reforms not only benefit individuals but also contribute to the overall strengthening of healthcare systems.

The call for an integrated financial system is bolstered by international experiences. The WHO's health financing team created a policy focused on pooling revenues and minimizing fragmentation to advance toward universal health coverage] [38]. In settings where donor funds and domestic revenue are pooled under one coordinated framework, there is evidence of improved equitable fund management and enhanced policy implementation, For instance, coordinated financial management in countries such as Ethiopia and Nigeria have demonstrated a marked improvement in health outcomes where unified frameworks are implemented [39].

Preventive measures as emphasized by interviewees, play a pivotal role in mitigating the economic burden of CDs. International evidence suggests that every US$1 invested in sanitation or preventive infrastructure can yield savings of up to US$9 in reduced treatment costs and productivity gains [37]. A systematic review of cost-effectiveness analysis suggests that in sub-Saharan Africa and Southeast Asia, household-based water chlorination was the most cost-effective intervention among others [40].

Finally, weak leadership and the dominance of donor-oriented policies have led to vertical and short-term CD control programs, which often operate independently of the national agenda. Strengthening leadership capacity by recruiting policymakers with training in economics and health financing has been a recommended strategy by the experts. A study in Nigeria evaluated a workshop designed for stakeholders to assess the use of health economics evidence in policy and practice. The training significantly enhanced their ability to apply this knowledge in decision-making within their respective fields [41].

Debates on health system structure—between fully decentralized versus centralized systems—suggest that a semi-centralized approach could offer a balance, allowing central authorities to guide overall strategy while enabling local entities to address region-specific challenges. This model has been adopted in Iran, where it is the most optimal option for healthcare governance [42].

Some limitations of the study should be considered when interpreting the results.

The context-specific nature of the study means that the insights gathered may be less generalizable to other low-income countries or different healthcare systems. The unique socio-political and economic conditions in Afghanistan significantly influence the experiences and opinions of participants, which may not translate easily to other settings.

Furthermore, the dynamic political environment in Afghanistan, especially following the recent government changes, poses a challenge. The fluidity of funding and health policies may affect the relevance and applicability of the findings over time, as the financing landscape for CDs continues to evolve.

Addressing these limitations in future research will be essential to enhance the robustness and generalizability of findings related to health financing for CD management in Afghanistan and similar contexts.

Conclusion

This study reveals the ongoing strengths, weaknesses, opportunities and threats in financing the management of CDs in Afghanistan, a country marked by conflict, fragility, and a donor-dependent health system. Although international aid has historically supported key CDs programs—such as those targeting tuberculosis, malaria, and polio—the sustainability of these investments remains uncertain amid declining donor engagement and limited domestic fiscal capacity. Fragmented funding flows, weak public financial management, and a lack of integration across vertical disease programs impede effective resource allocation. Strengthening the efficiency, equity, and resilience of CDs financing mechanisms is crucial to safeguarding population health, especially in the face of recurrent health emergencies and outbreaks.

Based on the findings of this study, policymakers in Afghanistan and similar contexts should consider the following policy options.

- Establish a national health insurance scheme to reduce high OOPE.
- Promote PPPs to expand healthcare access and reduce cross-border care-seeking
- Prioritize preventive WASH investments to lower economic and disease burdens of CDs.
- Invest in local capacity building to reduce reliance on external expertise
- Reduce fragmentation between donor-driven vertical programs and government systems
- Increase national budget allocation for the health system based on the Abuja Declaration
- Institutionalize results-based financing to reward cost-effective interventions, particularly in high-burden disease areas like TB and malaria.

Abbreviations

AHA	Annual Health Account
ARI	Acute respiratory infection
AWD	Acute watery diarrhea
BPHS	Basic Package of Health Services
CCHF	Crimean Congo hemorrhagic fever
CDC	Centers for Disease Control and Prevention
CDs	Communicable diseases
DALY	The age-standardized Disability-Adjusted Life Years
DH	Distract Hospital
EPHS	Essential Package of Hospital Services
GAVI	Global Alliance for Vaccines and Immunization
GDP	Gross domestic product
HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency syndrome
IPA	Interpretative phenomenological analysis
JICA	Japan International Cooperation Agency
KUMS	Kabul University of Medical Sciences
KfW	Kreditanstalt für Wiederaufbau
MOF	Ministry of Finance
MOPH	Ministry of Public Health
NCDs	Non-communicable Diseases
NGOs	Non-Governmental Organizations
NHA	National Health Account
OOPE	Out-of-pocket expenditure
PPP	Public–private partnership
SDG	Sustainable development goal
UHC	Universal Health Coverage
UN	United Nations
UNICEF	United Nations Children's Fund
USA	The United State of America
USAID	The United State Agency for International Development
WASH	Water, sanitation and hygiene
WHO	World Health Organization

Acknowledgements

We appreciate the leadership of Tehran University of Medical Sciences and the support of the managers and staff of the MOPH of Afghanistan who facilitated the conduct of this research. We are grateful to all the interviewees who participated in the interviews and shared their knowledge, experience and insight.

Author contributions

EH, AMM, HD and NN, participated in the design of the study and developed the interview guide. EH, collected and analyzed the data and drafted the manuscript. AMM, EJ and NN edited the manuscript. All authors read and approved the final manuscript.

Funding

Researchers conducted this study with research funding from the Tehran University of Medical Science.

Availability of data and materials

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the Tehran University of Medical Science with the code of IR.TUMS.SPH.REC.1400.262.

Consent for publication

All authors consent to the publication of this manuscript.

Competing interests

The authors declare no competing interests.

Received: 19 November 2024 Accepted: 27 May 2025
Published online: 04 August 2025

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