

# ADDRESSING CATASTROPHIC COSTS FOR TUBERCULOSIS-AFFECTED HOUSEHOLDS IN CAMBODIA

POLICY BRIEF

June 2024

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## Background

In 2023, USAID, through the Local Health System Sustainability Project (LHSS), funded the first nationally representative study on tuberculosis (TB) patient costs in Cambodia. Methodology of and results from the survey are described in the Cambodia Tuberculosis Patient Cost Survey Report.<sup>1</sup> Study aims were to (1) identify cost drivers associated with seeking TB diagnosis and treatment and (2) to assess the prevalence of catastrophic costs among TB-affected households. The findings will guide policy formulation, particularly within existing social health protection programs, to mitigate financial barriers to TB care, and prevent impoverishment due to overwhelming costs. This brief details critical findings from the full report regarding factors contributing to catastrophic costs for TB-affected households in Cambodia, along with recommendations to alleviate these expenses and proposed next steps.

## Key Findings

### Costs Incurred by TB Patients During Diagnosis and Treatment

The cost drivers for TB patients and average costs incurred in US\$, including medical, non-medical, and income loss, before diagnosis and during treatment are shown in Figure 1 and Figure 2 respectively.

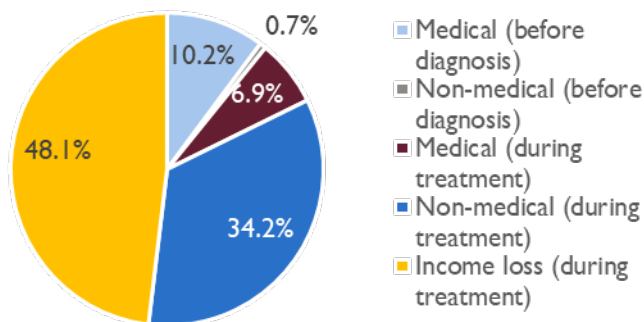
### Mitigating Medical Costs

While TB services are provided free-of-charge to all patients in public health facilities after diagnosis, patients still incur medical costs before they are diagnosed. Prior to diagnosis, patients sought care from pharmacies, private health facilities, and public health facilities in roughly equal proportions (31.0 percent, 34.4 percent, 31.8 percent, respectively). Patients who sought care in private facilities spent more money (mean \$153) on their first visit compared to those in public facilities (mean \$122) or pharmacies (\$38). However, following the initial visit, over half (51%) of patients sought care in public facilities (private facilities are not allowed to treat TB). **Public health facilities should post signage stating that TB services are free of charge if they do not already do so. Thus, there is an opportunity for the National Centre for Tuberculosis and**



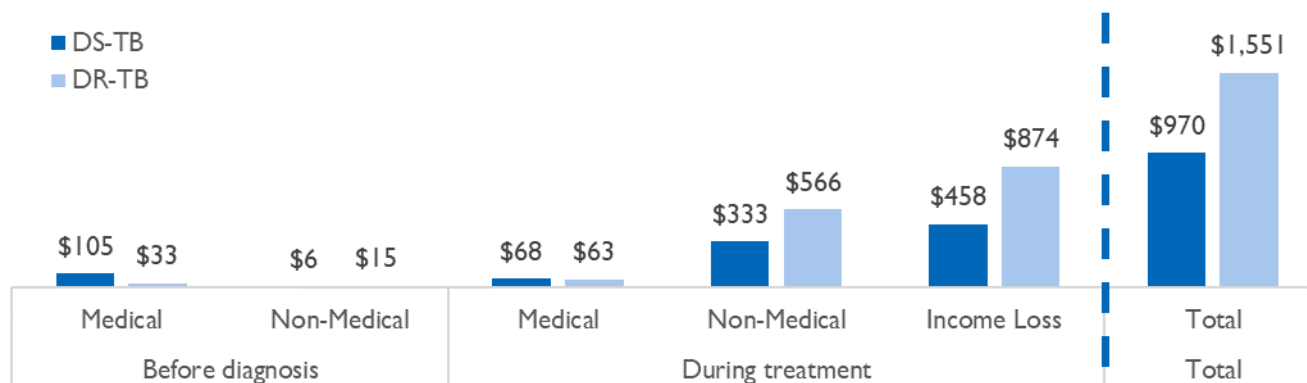
**Leprosy Control (CENAT) to increase TB identification by bolstering the referral system from private facilities and pharmacies to public health facilities for diagnosis and treatment.**

**FIGURE 1. COST DRIVERS FOR TB PATIENTS**



- **Medical costs**, including daily hospitalization and medicine, laboratory tests, medical procedures, imaging services, and doctor’s fees, made up 17 percent of total costs borne by TB patients.
- **Non-medical costs** made up 35 percent of total costs and were driven by nutritional supplements and food.
- **Income loss** comprised almost half (48 percent) of total costs.

**FIGURE 2. AVERAGE COSTS (IN US\$) INCURRED BY DS-TB AND DR-TB PATIENTS**



Prior to diagnosis, TB patients enrolled in ID-Poor and the Health Equity Fund (HEF) experienced significantly lower medical costs, with an average of only \$41, compared to those not enrolled, who spent an average of \$117 ( $p=.03$ ). After diagnosis, this disparity lessened, with average medical costs of only \$56 for ID-Poor and Health Equity Fund (HEF) beneficiaries and \$66 for non-beneficiaries. While the overall decline in medical costs after diagnosis for all patients affirms that the policy of providing free-of-charge TB care to patients is working, some out-of-pocket (OOP) medical costs remain, even for those with ID-Poor and HEF coverage. Further, 32 percent of patients were living below the poverty line prior to their TB diagnosis, yet not all were enrolled in ID-Poor and HEF. Given these findings, **increasing enrollment in ID-Poor and HEF among eligible individuals before TB diagnosis could effectively lower OOP medical costs.**

**Mitigating Non-Medical Costs**

DS-TB and DR-TB patients, respectively, spent an average of \$177 and \$393 on nutritional supplements and an average of \$85 and \$102 on food. WHO notes that many TB patients face digestive side effects of TB medications, which cause them to look for nutritional supplements to cope.<sup>1</sup> These supplements may be unnecessary and may be purchased with or without the advice of a health care provider. Further, WHO recommends that active TB patients and their household contacts receive a nutritional assessment and appropriate counseling<sup>3</sup> Those who are identified as malnourished should be provided with locally available, nutrient-rich or fortified supplementary foods. Pregnant and lactating women with active TB should receive appropriate micronutrient supplements. Given the potential that TB patients are purchasing costly nutritional

<sup>1</sup> Guideline: Nutritional care and support for patients with tuberculosis, WHO



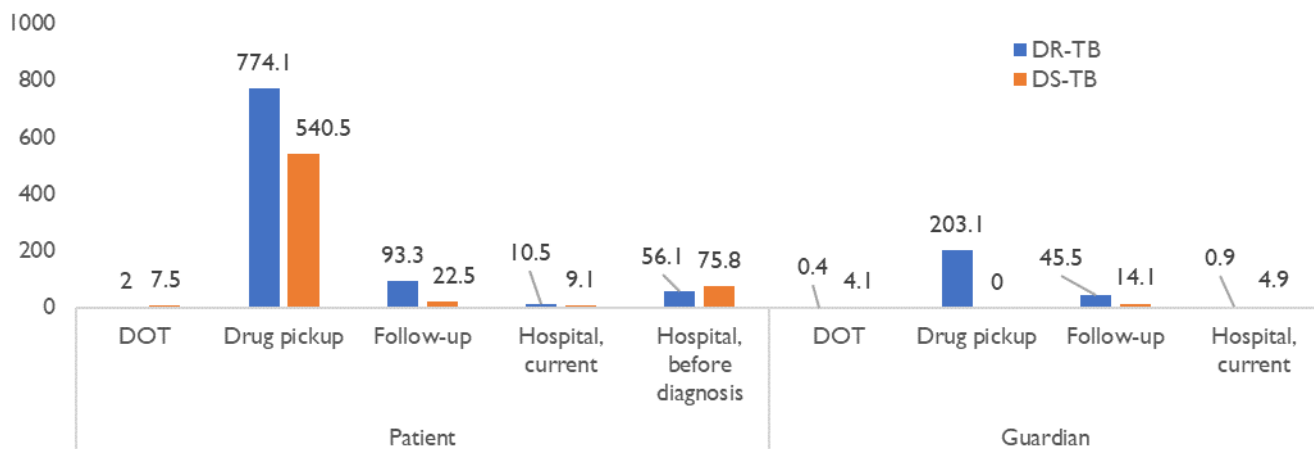
supplements and food, **education initiatives should target both patients and providers to clarify the suggested uses and benefits of these products.**

### Mitigating Indirect Costs

During TB treatment, income loss comprised almost half (48 percent) of total costs. To aid in alleviating this financial strain, Cambodia could consider advocating for a costing study to assess the feasibility of **establishing a conditional cash transfer scheme for TB patients enrolled in ID-Poor and HEF**, similar to the current government program for pregnant women. Additionally, the National Social Security Fund (NSSF) is developing procedures for providing a daily allowance for sick leave for the private sector to complement existing labor law requirements that would be a viable avenue to mitigate income loss, with potential for expansion as fiscal resources permit.

As shown in Figure 3, drug pickup constituted more than 80 percent of total time loss for patients and guardians. Mitigating such time loss, which is related to travel expenses and income loss, may be achieved by **re-evaluating the national guidelines around frequency of drug pickup, specifically for patients in the continuation phase of treatment.** Currently, the guidelines stipulate that drug pickup should occur each week in the continuation phase; however, this could be **lessened to once per month to reduce travel time and cost**, if the patient’s condition has been assessed by a medical professional. Additionally, time loss related to drug pickups may be reduced by **strengthening community-based directly observed therapy or using mobile health technologies to help patients manage medication schedules and drug pickups.**

**FIGURE 3. AVERAGE TIME LOSSES (IN HOURS) CONTRIBUTING TO INDIRECT COSTS FOR PATIENTS AND GUARDIANS**



DOT=directly observed therapy

### Catastrophic Costs Among TB Patients

More than one-third (34 percent; 95 percent CI: [30.8 – 37.5 percent]) of TB patients in this survey incurred catastrophic costs due to TB. The proportion of DS-TB patients who experienced catastrophic costs was 33.5 percent (95 percent CI [28.8 – 38.5 percent]), similar to regional comparators including Indonesia and Thailand.<sup>2</sup>

### Risk Factors for Incurring Catastrophic Costs

TB patients in lower wealth groups had a significantly higher likelihood of incurring catastrophic costs due to TB, compared to patients in the wealthiest groups. Being treated in a national hospital as opposed to a health center was associated with a 2.6 times greater likelihood of experiencing catastrophic costs. Patients in informal

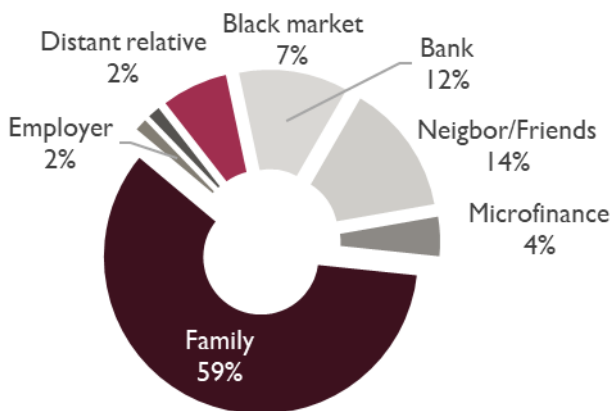


employment and unemployed patients had at least double the likelihood of catastrophic costs compared to those in formal employment.

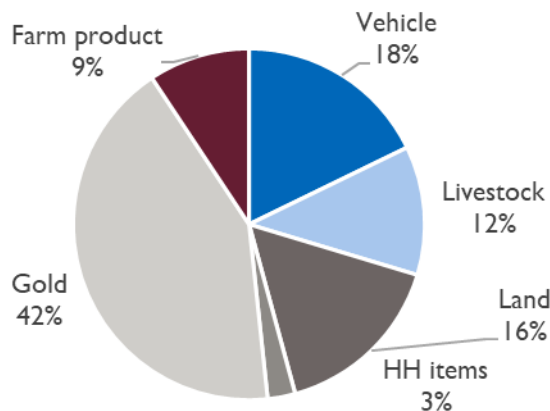
### TB Patients Use Various Coping Strategies to Alleviate Financial Strain

Figures 4 and 5 illustrate the various coping strategies, including borrowing and asset selling, TB patients use to alleviate financial strain.

**FIGURE 4. SOURCES OF BORROWING AMONG TB PATIENTS**



**FIGURE 5. SOURCES OF ASSET SELLING AMONG TB PATIENTS**



- Borrowing from family and friends who do not charge high interest rates may be less impactful than borrowing at very high interest rates.
- Selling high-worth assets such as gold or productive assets such as vehicles, livestock, and land, which are needed to earn a living, may result in making TB patients poorer in the long term.
- **TB patient networks and civil society organizations should educate new TB patients on borrowing at affordable interest rates instead of selling assets needed to earn a living.**

### TB Patients Face Adverse Social Consequences

#### Employment

Unemployment doubled from almost 20 percent before TB diagnosis to more than 40 percent during treatment, with formal and informal employment declining by almost 7 percent and 8 percent, respectively (see Table 1). To address this challenge, **integrating illnesses such as TB, which can lead to short- or long-term disability, into the NSSF is a potential solution.** Over 14 percent of TB patients in the sample were covered by NSSF, whose planned introduction of an unemployment allowance, to be implemented as fiscal resources permit, could offer critical support. Further, connecting TB patients to vocational training programs and job placement services could be instrumental in assisting patients to maintain employment or re-enter the workforce after treatment.

**TABLE 1. EMPLOYMENT CHANGES FOLLOWING TB DIAGNOSIS**

| STATUS                 | BEFORE DIAGNOSIS | DURING TREATMENT |
|------------------------|------------------|------------------|
|                        | N (%)            | N (%)            |
| Formal employment      | 139 (22.9%)      | 98 (16.1%)       |
| Informal employment    | 153 (25.2%)      | 104 (17.1%)      |
| Unemployed             | 118 (19.4%)      | 247 (40.6%)      |
| Retirement & Housewife | 152 (25.0%)      | 102 (16.8%)      |
| Other                  | 46 (7.6%)        | 57 (9.4%)        |

#### Social Protection

As shown in Figure 6, most (approximately 70 percent) of TB patients with ID-Poor + HEF coverage were classified in either the poorest (Q1) or second poorest (Q2) wealth bracket, as expected; however, overall, only



16 percent of all patients were covered by ID Poor + HEF, indicating that its aim of targeting those who are most vulnerable due to poverty is effective, but its coverage is low, leaving many eligible patients at financial risk. Health facilities treating TB patients should **ensure that patients are aware of the ID-Poor benefits and facilitate the registration process to increase enrollment**, which would augment facility income from HEF. Community outreach initiatives supported by local officials can also bolster advocacy efforts in this regard.

Ongoing research by the Ministry of Health and the World Bank aims to understand why some poor households are not using their ID-Poor entitlement, with plans for CENAT, provincial TB supervisors, and TB managers to follow up with health facilities and TB patients to boost enrollment and utilization. Meanwhile, NSSF coverage, which is relatively evenly distributed among wealth brackets, provides an additional avenue of financial support for TB patients, highlighting the importance of leveraging existing social protection schemes to enhance financial resilience among affected individuals.

**FIGURE 6. SOCIAL PROTECTION COVERAGE AMONG TB PATIENTS, BY WEALTH QUINTILE (Q)**



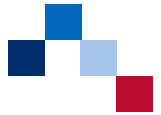
## Summary of Recommendations

Based on these findings, LHSS generated four key recommendations for CENAT and its social protection partners to help minimize catastrophic costs incurred by TB patients, with a focus on the need to create policy and/or revise policy.

**Enhance Enrollment in Social Protection Schemes.** Facilitating increased enrollment in social protection schemes that cover TB health services can mitigate medical costs incurred by TB patients both before diagnosis and during treatment, when costs are incurred at health facilities that fall under the scope of existing schemes, including ID-Poor and NSSF. Government efforts, through community organizations and provider training, should focus on promoting awareness of these schemes among TB patients and ensuring seamless registration processes, particularly targeting vulnerable populations. Strengthening enrollment in these schemes can significantly alleviate the financial burden on TB patients and improve access to essential health care services.

**Strengthen Referral Systems.** To minimize OOP expenditures for TB diagnosis and treatment, it is crucial to strengthen the referral system from private facilities and pharmacies to public health facilities. By ensuring seamless transitions for presumptive TB cases to access diagnosis and treatment services at public health facilities, CENAT and its social protection partners can reduce unnecessary expenses borne by patients seeking pre-diagnosis care in the private sector. Investing in robust referral mechanisms will increase TB identification and improve access to quality TB care in addition to contributing to the effective management of TB-related costs for patients and their households.

**Prioritize Appropriate Nutritional Support and Educate Patients about Nutritional Requirements.** Based on WHO recommendations, it is imperative to conduct nutritional assessments and provide appropriate counseling to active TB patients. Healthcare providers can address the nutritional needs of affected individuals, mitigate treatment side effects, improve treatment outcomes, and reduce the financial burden associated with managing the disease. CENAT can contribute to these efforts by developing and adapting existing tools (such as BMI for adults) for nutritional assessments and patient education on nutritional requirements to mitigate unnecessary purchases of food and supplements. CENAT should work with the National Nutrition Program to develop a nutrition module for TB patients that includes a nutritional assessment, including measures to address low BMI in patients, at the TB ward and provide training in nutrition to VHSGs.



**Assess the Feasibility of Implementing a Conditional Cash Transfer Scheme.** Conducting a costing study to assess the feasibility of implementing a conditional cash transfer scheme tailored specifically for TB patients undergoing treatment parallels existing successful initiatives, such as those for pregnant women. If such a scheme is feasible, it would provide crucial financial support to TB patients, helping to offset income loss and other expenses incurred during treatment. By offering direct financial assistance to patients, the government's social protection agencies can substantially alleviate the economic strain experienced by TB-affected households, ensuring continuity of care and reducing the risk of catastrophic costs.

## Next Steps

CENAT, social protection agencies, and other stakeholders should meet to thoroughly review the recommendations outlined in this policy brief and develop a multi-sectoral, integrated draft action plan to effectively implement these recommendations.

**Activity Breakdown:** Each recommendation will be broken down into sub-activities to ensure clarity and specificity in execution in the form of an action plan, including roles and timelines.

**Identification of Lead Actors:** CENAT will assign lead actors to each recommendation, clearly delineating who will be responsible for its successful execution. This ensures accountability and facilitates smooth coordination throughout the implementation process.

**Time Period Classification:** Recommendations will be categorized based on their implementation timeframes (immediate, medium-term, and long-term). Additionally, CENAT will identify the sequencing and prerequisites necessary for each recommendation, ensuring a strategic and systematic approach to implementation.

**Stakeholder Engagement:** Recognizing the importance of engaging key stakeholders in the process, the draft action plan will be circulated to these stakeholders for feedback, fostering collaboration and inclusivity in decision-making.

**Multi-Sectoral Working Group:** To further enhance collaboration, CENAT will convene a working group comprising stakeholders from various sectors, including the Ministry of Health, Ministry of Economy and Finance, Ministry of Planning, National Social Security Fund, and others. This group will review and refine the details of the action plan, ensuring alignment with the agreed-upon recommendations.

## References

1. The Local Health System Sustainability Project (LHSS) under the USAID Integrated Health Systems IDIQ. *Cambodia Tuberculosis Patient Cost Survey Report*. May 2024.
2. World Health Organization. *Tuberculosis Patient Cost Surveys: A Handbook*. 2017. <https://www.who.int/publications/i/item/9789241513524>
3. World Health Organization. *Guideline: Nutritional Care and Support for Patients with Tuberculosis*. 2013.

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The Local Health System Sustainability Project (LHSS) under the United States Agency for International Development (USAID) Integrated Health Systems IDIQ helps low- and middle-income countries transition to sustainable, self-financed health systems as a means to support access to universal health coverage. The project works with partner countries and local stakeholders to reduce financial barriers to care and treatment, ensure equitable access to essential health services for all people, and improve the quality of health services. Led by Abt Associates, the five-year project will build local capacity to sustain strong health system performance, supporting countries on their journey to self-reliance and prosperity.

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