

## Families affected by catastrophic costs due to tuberculosis



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The high household costs associated with tuberculosis diagnosis and treatment can create barriers to access and adherence. One of WHO's End TB Strategy targets states that no tuberculosis-affected household should face catastrophic costs—that is individuals with tuberculosis (or their households) having to spend a substantial portion of their income to treat or diagnose tuberculosis. To estimate the occurrence of catastrophic cost (defined as >20% of household income or expenditure) associated with tuberculosis diagnosis and treatment in low-income and middle-income countries (LMICs), Alison Portnoy and colleagues<sup>1</sup> carried out a meta-regression analysis. In their paper, published in *The Lancet Global Health*, they show that 54.9% of tuberculosis-affected households experience catastrophic costs due to tuberculosis diagnosis and treatment, with poorer households more likely to experience catastrophic expenditure than richer ones. After WHO's End TB Strategy, endorsed by the 67th World Health Assembly in 2014, WHO promoted universal health coverage, emphasising the need for access to services at an affordable cost to protect households from catastrophic health expenditures. Policy makers have designed many interventions to provide financial protection to patients with tuberculosis. However, there is still a financial burden for patients with tuberculosis in LMICs. Further studies from LMICs suggest that health-care payments increase the risk of poverty and affect the poorest the most.

Portnoy and colleagues,<sup>1</sup> by using a meta-regression analysis, provide a synthesised perspective on costs, and predict the economic implications for 135 LMICs by combining Bayesian approaches with data from 22 national surveys.<sup>1</sup> This study offers crucial insights for policy makers and health-care practitioners striving to create effective and equitable health-care interventions in resource constrained settings. The findings contribute substantially to understanding the broader socioeconomic challenges associated with tuberculosis care in LMICs. In a different study, Siapka and colleagues<sup>2</sup> took a provider's perspective, giving a comprehensive analysis of the costs associated with treating patients with tuberculosis. Notably, the predicted median costs per 6 months of treatment, for providers, vary from US\$315 for low-income countries, to \$527 for LMICs,

and \$896 for upper-middle-income countries. Patient costs reported by Portnoy and colleagues, per patient per episode of tuberculosis was US\$1253.<sup>1</sup> Despite the availability of free diagnosis and treatment for tuberculosis, there are substantial costs incurred by patients and their families. This influences adverse treatment outcomes and has a bidirectional relationship with poverty. The high indirect costs are due to poor health and an inability to work and generate income. Households with the lowest income are further affected by the unexpected health expenditure on treatment making the households poorer. This financial burden warrants a social health insurance scheme that enables an increased level of health insurance coverage to all households and allows the poorest to access health care without the risk of catastrophic health expenditure.

Since various studies have reported the patient costs incurred for tuberculosis, including catastrophic costs, hospitalisation costs, and other associated costs through national surveys, prediction models, and systematic reviews and meta-analyses, implementation of interventions and strategies to reduce catastrophic costs is essential.<sup>3-5</sup> Active case finding is one intervention that could result in reduced delays before diagnosis, prevent disease transmission in the community, and reduce direct and indirect costs for patients and households.<sup>6</sup> LMICs should also develop public health systems or social insurance systems that cover the out-of-pocket expenditure to patients and their families. In addition, introducing new digital technological interventions and novel approaches such as 99DOTS (a low-cost solution for tuberculosis medicine adherence),<sup>7</sup> video-supported home-based tuberculosis care, video-observed therapy, and an eHealth portal could also reduce catastrophic costs to patients with tuberculosis.

I declare no competing interests.

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