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## The catastrophic cost of tuberculosis: advancing research and solutions

THERE IS A VICIOUS CYCLE BETWEEN tuberculosis (TB) and poverty—TB is driven by poverty and is associated with a catastrophic financial burden on affected low-income households.<sup>1</sup> Two recent papers from the same study contribute important evidence in this area.<sup>2,3</sup> In Limpopo Province in South Africa, 28% of 323 adult TB patients experienced catastrophic costs.<sup>2</sup> Applying a different measurement method revealed high rates of deprivation (33%) among patients and higher TB episode costs in patients from deprived households.<sup>3</sup>

Erlinger et al.'s study confirms the burden imposed by TB on already vulnerable individuals and households.<sup>3</sup> It also demonstrates different approaches for measuring catastrophic costs and stimulates debate on persisting uncertainties about optimal measurement strategies. For example, the authors highlight self-reported income as a less reliable measure.<sup>3</sup> The study also provides valuable insights into the design of the forthcoming South African national TB costs survey. However, while methodology is important, it is time to move the research debate from methodological issues to pragmatic solutions.

Catastrophic cost is a term peculiar to TB. Complementing it with the concept of impoverishment, as Erlinger et al. have done,<sup>3</sup> has the potential to advance research in this field in our opinion. Our understanding of how to measure impoverishment is more extensive than the notion of health-related expenditures. Countries could follow Erlinger et al.'s lead in relying on robust methods such as the South African Multidimensional Poverty Index (SAMPI),<sup>4</sup> to estimate the extent of impoverishment experienced by TB-affected households and identify opportunities to pilot these methods within surveys on TB-related impoverishment. As recommended by Erlinger et al.,<sup>3</sup> linkage to broader survey opportunities would enable a longitudinal perspective for ascertaining whether impoverishment is transient or chronic and determining how TB shapes the life trajectory of affected households, including children.<sup>5</sup>

Most importantly, discussions on impoverishment could facilitate action. In this context, Stracker et al. acknowledge the role of social protection in addressing TB-related catastrophic costs.<sup>2,3</sup> The South African disability grant is designed as a form of social protection for people being treated for TB, and in one qualitative study, the grant provided a buffer against

absolute poverty during TB treatment.<sup>6</sup> However, as pointed out by Stracker et al., only 5% of people being treated for TB in South Africa are reported to have access to the local Disability Grant despite eligibility.<sup>2</sup> Poor access to locally available social protection schemes is both a missed opportunity and a largely unexplored area of research. Despite our consolidated understanding of how financially disastrous it is to experience TB, we still know far less about how social protection schemes could be made accessible to TB patients, or how these could be designed or adapted to best meet the needs of households living with or at risk of TB.<sup>7</sup>

The above research agenda is urgent if the consequences of TB are to be mitigated and, ideally, prevented. The creation of strong and sustainable partnerships with stakeholders outside the TB sector will be key to making this research agenda affordable and impactful.

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