

Measuring Catastrophic Costs Due to Tuberculosis in Colombia, 2021



Cruz O¹, Alvis Zakzuk NJ², García I³, Puerto G⁴, Lopez M³,
Moreno J³, Sanchez A¹, Trujillo Trujillo J¹, Castro C⁴, Rubio V⁴,
Castañeda-Orjuela C⁴, Montoro E³, Nguhiu P², Baena IG²

1. Ministerio de Salud y Protección Social, Bogotá, D.C., Colombia, 2. World Health Organization, Geneva, Switzerland – Postgraduate program in Epidemiology, Universidade de São Paulo, 3. Panamerican Health Organization, Bogotá, D.C., Colombia, 4. Instituto Nacional de Salud, Bogotá, D.C., Colombia

OBJECTIVES

To estimate the baseline to measure one of the three indicators of the World Health Organization (WHO) End TB strategy (2015-2035), measure the costs incurred by patients affected by tuberculosis during a treatment episode and estimate the proportion of households facing catastrophic costs (CC) (defined as costs above 20% annual household income) and associated risk factors, in Colombia in 2021.

METHODS

National cross-sectional survey with a probabilistic quantitative approach, designed according to the WHO methodology but with telephone interviews in adaptation to an exceptional pandemic data collection setting, collected costs per household for an episode of tuberculosis (medical and nonmedical out-of-pocket expenses and indirect costs), loss of time, coping measures, self-reported income, and asset ownership. Total costs were expressed as a proportion of annual household income. A regression model estimated risk factors associated with CC.

RESULTS

Table 1. Individual and household income (US\$a) and poverty level

	TB patients on firstfirst-line treatment	Drug-resistant TB patients	Total
Self-reported monthly income: before onset of TB symptoms, in US\$, mean (95% CI)			
Individual patient	226 (204–251)	207 (128–334)	226 (203 –251)
Household	306 (276–338)	284 (188–427)	305 (276–337)
Self-reported monthly income: at the interview, in US\$, mean (95% CI)			
Household	230 (202–261)	289 (205–406.9)	231 (203–263)
Individual patient	166 (151–183)	215 (182–254)	167 (152–184)
Patient was the primary income earner before onset of TB symptoms	72% (69–75)	76.3% (58.9–88)	72.3% (69–75)
Impoverishment: TB-affected households below the poverty line, percentage (95% CI)			
At the interview	1% (0.5–1.8)	3.9% (0.3–32.5)	1% (0.6–1.9)
Before onset of TB symptoms	0.4% (0.1–1.2)	7.3% (2.2–22)	0.6% (0.3–1.3)

A total of 1,065 TB patients were interviewed, 65,7% men, 61,6% >35 years old, 82,2% with pulmonary TB, and 11,3% with HIV. In Colombia, the proportion of TB-affected households incurring in costs above 20% annual household income (CC) was 51.7% (95%CI: 45.4–58.0) overall, 51.3% (95%CI: 44.9–57.7) among patients with drug-sensitive TB, 65.0%% (95%CI: 48.0–82.0) among drug-resistant. The average patient cost of a TB case in Colombia was estimated at \$1,218 (95% CI 1,106-1,330) including \$860.9 (95% CI 776.1-945.7) for non-medical costs, \$339 (95% CI 257-421) for the indirect costs, and \$18.1 (95% CI 11.9–24.4) for the medical costs. The factors that influenced the probability of facing CC were income quintile, job loss, TB type and HIV status.

Fig. 1. Distribution of total costs by cost category

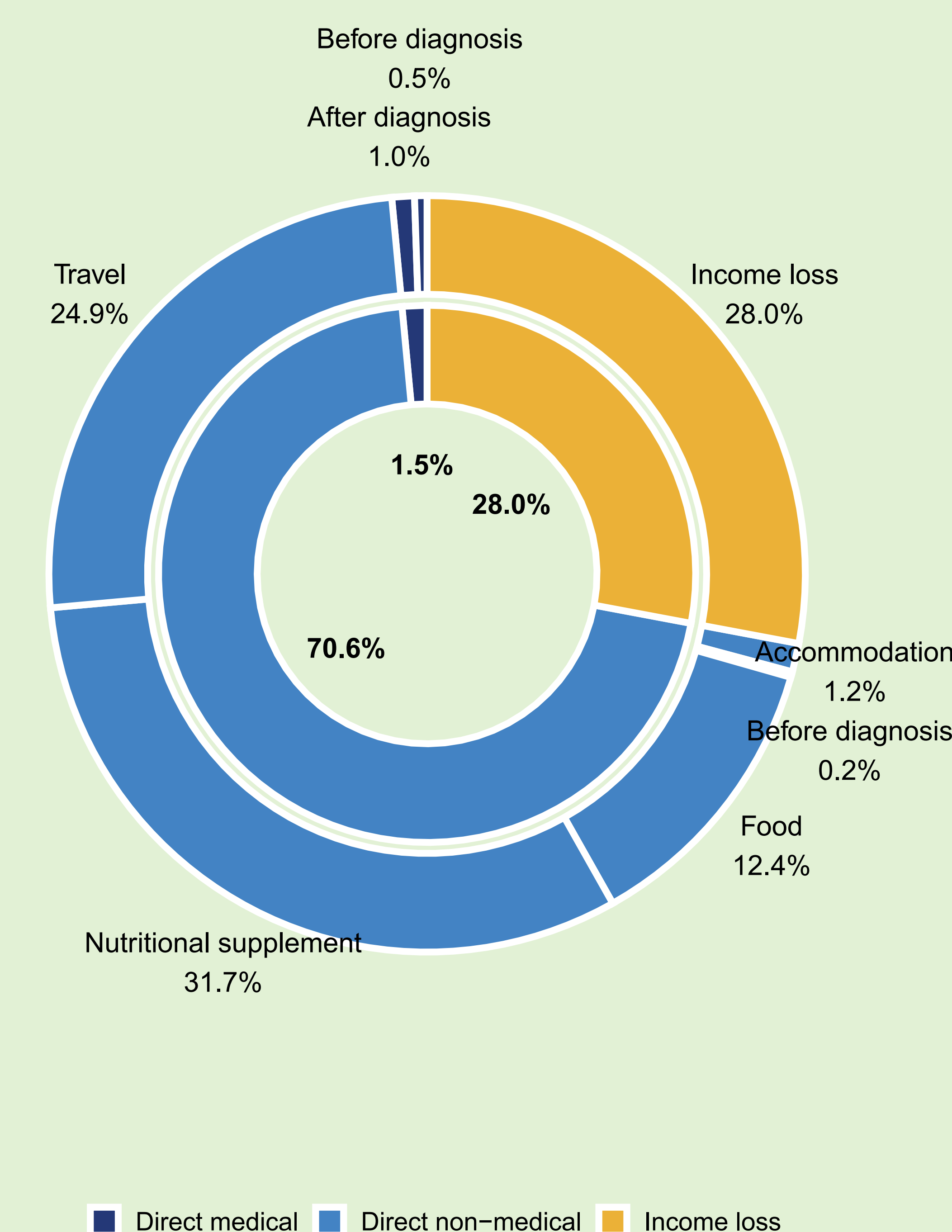
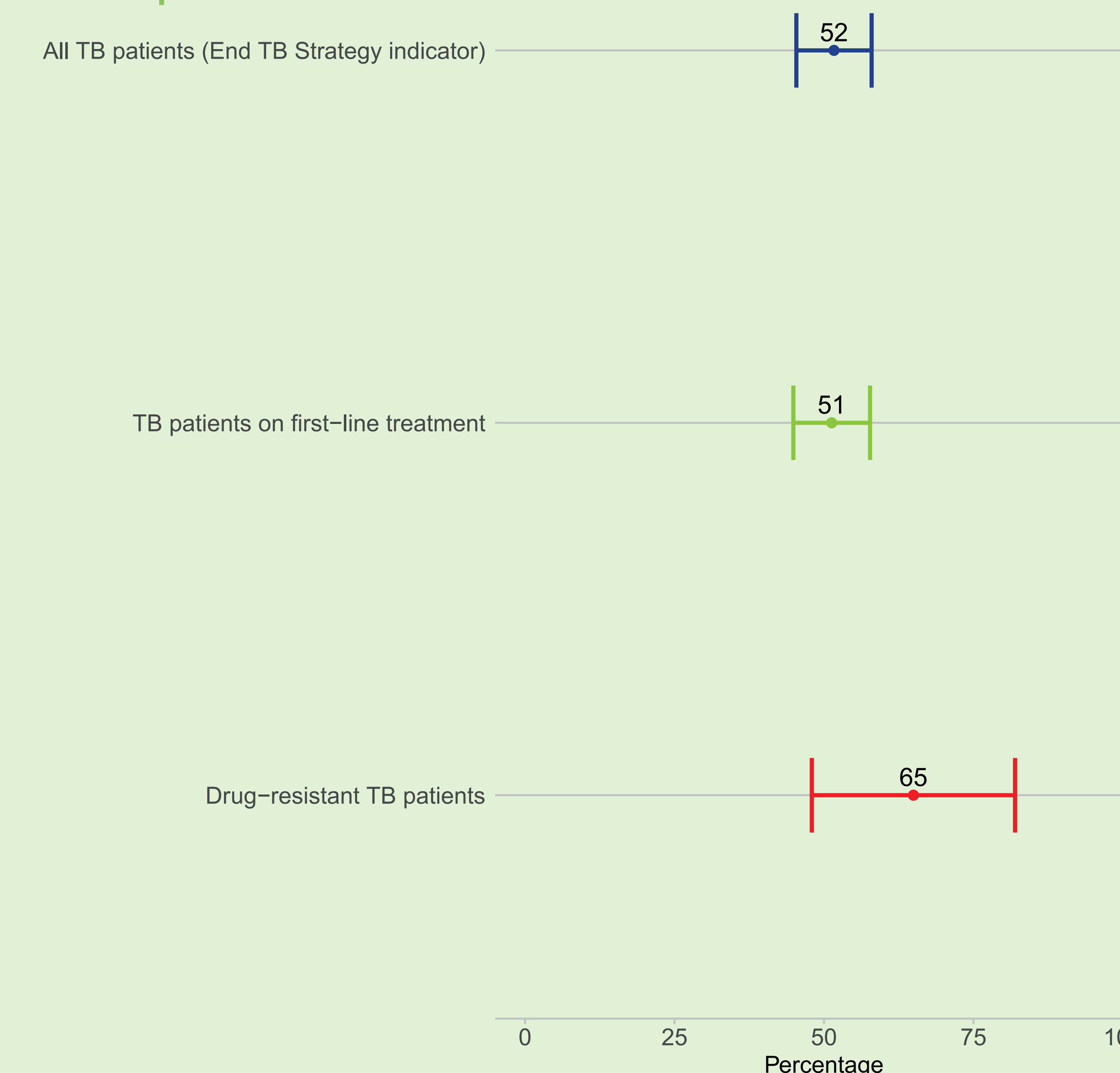


Fig. 2. Percentage of TB-affected households facing costs >20% of household income or expenditure due to TB



CONCLUSIONS

Main cost drivers for CC were non-medical out-of-pocket expenses and loss of productivity (indirect costs). Current social protection programs ought to be expanded to mitigate the proportion of TB affected households facing CC in Colombia, especially those with lower income levels.

Contact: Nelson J. Alvis-Zakzuk. nzakzuk@usp.br