

Catastrophic out-of-pocket health costs due to inefficient management of the health-care system: An evidence-based case study of tuberculosis control in rural Burkina Faso

Laokri S.^(a), Weil O.^(b), Drabo M.^(c), Dujardin B.^(a)

- (a) Centre de recherche Politiques et Systèmes de Santé – Santé Internationale, École de Santé Publique, Université Libre de Bruxelles, Brussels, Belgium
(b) HLSP Institute, London, United Kingdom
(c) Institut de Recherche en Sciences de la Santé, Ouagadougou, Burkina Faso

BACKGROUND: In low-income countries, illness-related costs incurred by patients constitute a severe economic burden for households. The weak uptake and poor success of the tuberculosis program in Burkina Faso is a major problem for national and international authorities.

OBJECTIVE: To estimate out-of-pocket costs related to tuberculosis (TB) caused by inefficiency of the health-care system.

METHOD: In 2008-2009, we conducted 242 in-depth interviews among smear-positive pulmonary tuberculosis cases enrolled in the national tuberculosis program in rural Burkina Faso. We evaluated the cost-burden by collecting data on direct and indirect costs associated with tuberculosis since the first symptoms to the end of the treatment.

RESULTS: Figure 1 describes the whole TB-care pathway. Success and adherence to at least six months of DOTS involving repeated interactions with different health workers remain a challenge for poor people living in rural areas.

Table 1 and Table 2 show direct and indirect costs incurred by the patients. By reviewing those costs, we identified a series of irrelevant and potentially avoidable out-of-pocket costs such as:

- Extra-costs during the diagnosis phase (phase B) like additional examination, hospitalization, medication, x-rays and travel costs
- Costs incurred during a delay between diagnosis confirmation and beginning of the DOTS (phase C)
- Medical costs during the DOTS (phases D1 and D2)

Those costs can be reduced through efficient patient management scheme. Figure 2 shows the financial gain for patients when the required of the national strategy against tuberculosis are met. Efficient management of tuberculosis patients leads to a median of 50% reduction in direct costs.

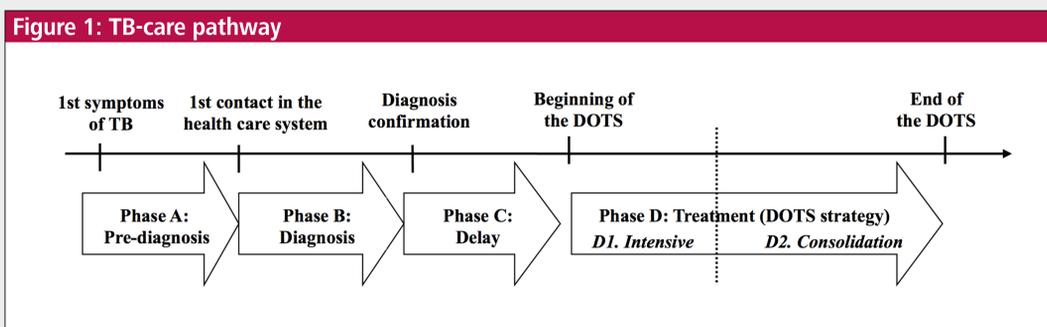


Table 1: Median direct costs of tuberculosis (IQR) (N=219)

	Euros	Months of household income
Direct costs	€69.3 (36.4 - 118.1)	2.8 (1.1 - 5.2)

Table 2: Median indirect costs of tuberculosis (IQR) (N=220)

Lost Work Days	Estimated financial Loss	
	Lower bound (based on the poverty line*)	Upper bound (based on the legal minimum salary**)
45 (10 - 109) days	€15.5 (3.5 - 37.6)	€95.7 (21.3 - 231.8)

* €10,5 per adult per month (ONAPAD2002) ** €46,7 per adult per month (SMIG, UNTCDA2009)

Figure 2: Impact of efficient patient management scheme on direct costs related to tuberculosis



CONCLUSION: The cost-burden of tuberculosis is definitely tremendous. Most of the catastrophic health expenses are preventable. Addressing inefficient management of the health-care system could result in a significant reduction in direct costs. More can be saved if we broaden this scenario to indirect costs. To reduce catastrophic OOP health costs, health system strengthening should focus on improving health services such as:

- promotion of rapid and cost-effective detection of tuberculosis,
- better integration of the national tuberculosis program in the health-care system,
- effective free-of-charge of the DOTS strategy,
- subsidy strategies for the poorest households.

ACKNOWLEDGMENT: Data collection of this study was funded by the European Commission (Europaid-2004/078-590).