



The socio-economic impact of TB on children, adolescents and their families: Findings from national TB patient cost surveys

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Background questions

- **Socio-economic impact of TB on families**
 - WHO End TB Strategy target: zero affected families should face catastrophic costs related to TB care (more than 20% of annual household income)
 - Literature review
 - Cross country analysis of national TB patient cost surveys
- **Engaging adolescents with TB, or at risk of TB, in their care**
 - Critical population, being both at risk and important for TB control
 - Adolescent-friendly interventions needed
 - To reduce stigma/discrimination/risk behaviour, to diagnose/manage HIV co-infection, to address educational needs
 - Qualitative narrative literature review and best practices in adolescent TB care



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Background on TB patient costs

- The costs of TB diagnosis and care are thought to be a significant impediment for patients and their families
- They are also a key indicator of the WHO End TB Strategy and contribute to the attainment of national and global targets of reductions in TB incidence and mortality
- These costs include direct medical costs such as the costs of medical appointments, direct non-medical costs such as travel, and indirect costs such as income loss
- Estimations of patient costs are carried out using national TB patient cost surveys

VISION: A WORLD FREE OF TB
Zero deaths, disease and suffering due to tuberculosis

GOAL: END THE GLOBAL TB EPIDEMIC

INDICATORS	MILESTONE		TARGETS	
	2020	2025	2030*	2035
Reduction in number of TB deaths compared with 2015	35%	75%	90%	95%
Reduction in TB incidence rate compared with 2015	20% (<85/100 000)	50% (<55/100 000)	80% (<20/100 000)	90% (<10/100 000)
TB-affected families facing catastrophic costs due to TB (%)	0	0	0	0

THE
END TB
STRATEGY



Aim and objectives

Aim: To undertake cross country analyses of the national TB patient cost surveys to inform the GDG on the socio-economic impact of TB on children, adolescents and families

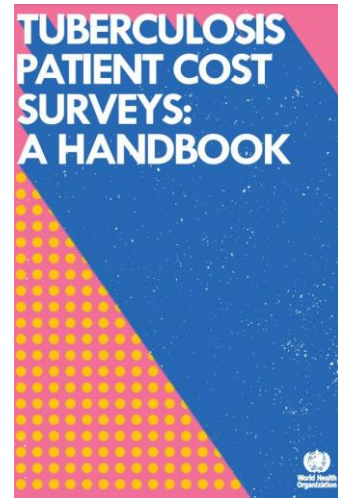
Objectives:

- To determine the costs of TB care for children, adolescents and households and for TB patients overall
- To determine the distribution of these costs in terms of medical versus non-medical costs
- **To determine the proportion of households who experience catastrophic costs**
- **To determine the socio-economic consequences of TB for children, adolescents and households**

Methods

- Secondary analyses of national TB patient cost surveys
- Nationally representative cross-sectional surveys, usually using cluster sampling
- TB patients (or their guardians for children) were interviewed using a structured questionnaire on their experiences and costs associated with TB care and socioeconomic situation of their households
- Standard analytical methods according to the methods outlined in: [Tuberculosis Patient Cost Surveys: A Handbook](#)
- We undertook descriptive analyses including pooled averages and 95% CI of:
 - Proportion of children, adolescents and adults with catastrophic costs*
 - Proportion of children and adolescents who missed school, experienced food insecurity and who received social protection

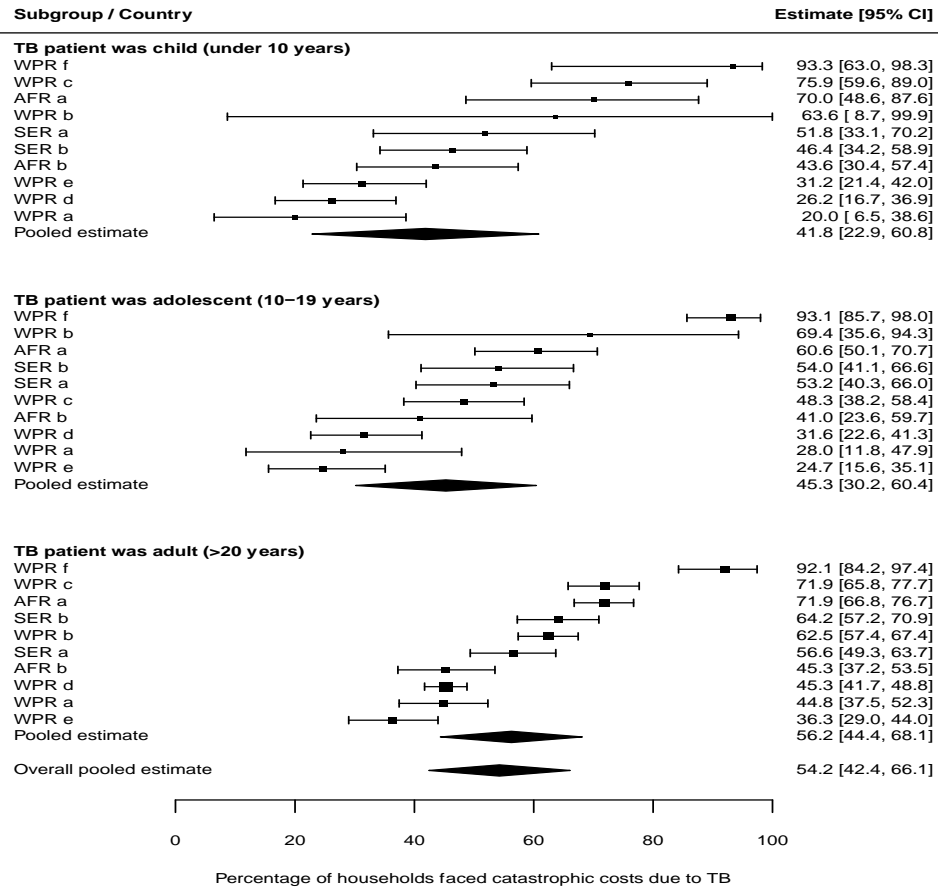
*The operational definition of 'catastrophic costs as a result of TB' refers to medical and non-medical out-of-pocket payments and indirect costs exceeding a given threshold (e.g. 20%) of the household's income (World Health Organization, 2015)



National TB patient cost surveys included

Country	Children (0-9 years) Number (%)		Adolescents (10-19 years) Number (%)		Adult (20 years +) Number (%)		Total number of participants Number (%)	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
AFRO a	40	(3.4%)	104	(8.7%)	1046	(87.9%)	1190	(100%)
AFRO b	53	(6.8%)	56	(7.2%)	668	(86.0%)	777	(100%)
SEARO a	51	(3.7%)	123	(8.8%)	1222	(87.5%)	1396	(100%)
SEARO b	175	(18.2%)	64	(6.6%)	724	(75.2%)	963	(100%)
WPRO a	25	(11.0%)	25	(11.0%)	174	(76.7%)	227	(100%)
WPRO b	5	(0.7%)	12	(1.7%)	708	(97.7%)	725	(100%)
WPRO c	30	(4.1%)	84	(11.4%)	625	(84.6%)	739	(100%)
WPRO d	146	(7.6%)	144	(7.5%)	1622	(84.8%)	1912	(100%)
WPRO e	150	(15.0%)	117	(11.7%)	733	(73.3%)	1000	(100%)
WPRO f	15	(8.2%)	29	(15.8%)	139	(76.0%)	183	(100%)
Total	690	(7.6%)	758	(8.3%)	7661	(84.1%)	9112	(100%)

Catastrophic costs



Proportion of households faced catastrophic costs due to TB, by age group*

Children: 41.8% (95% CI: 22.9-60.8%)

Ranged from 20.0% to 93.3%

Adolescents: 45.3% (95% CI: 30.2-60.4%)

Ranged from 24.7% to 93.1%

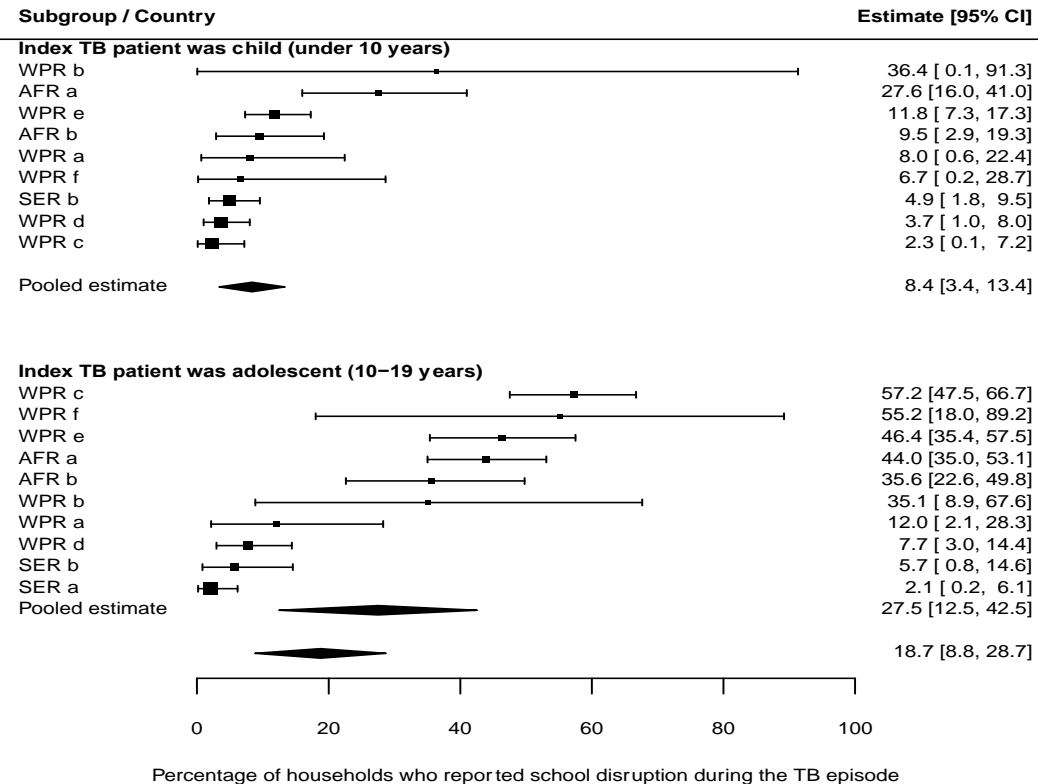
Adults: 56.2% (95% CI: 44.4-68.1%)

Ranged from 0.7% to 32.2%

All households: 54.2% (42.4-66.1%)

* Households were categorized according to the age group of index TB patient

School disruption



Households reported school disruption, by age group*

Children: 8.4% (95% CI: 3.4-13.4%)

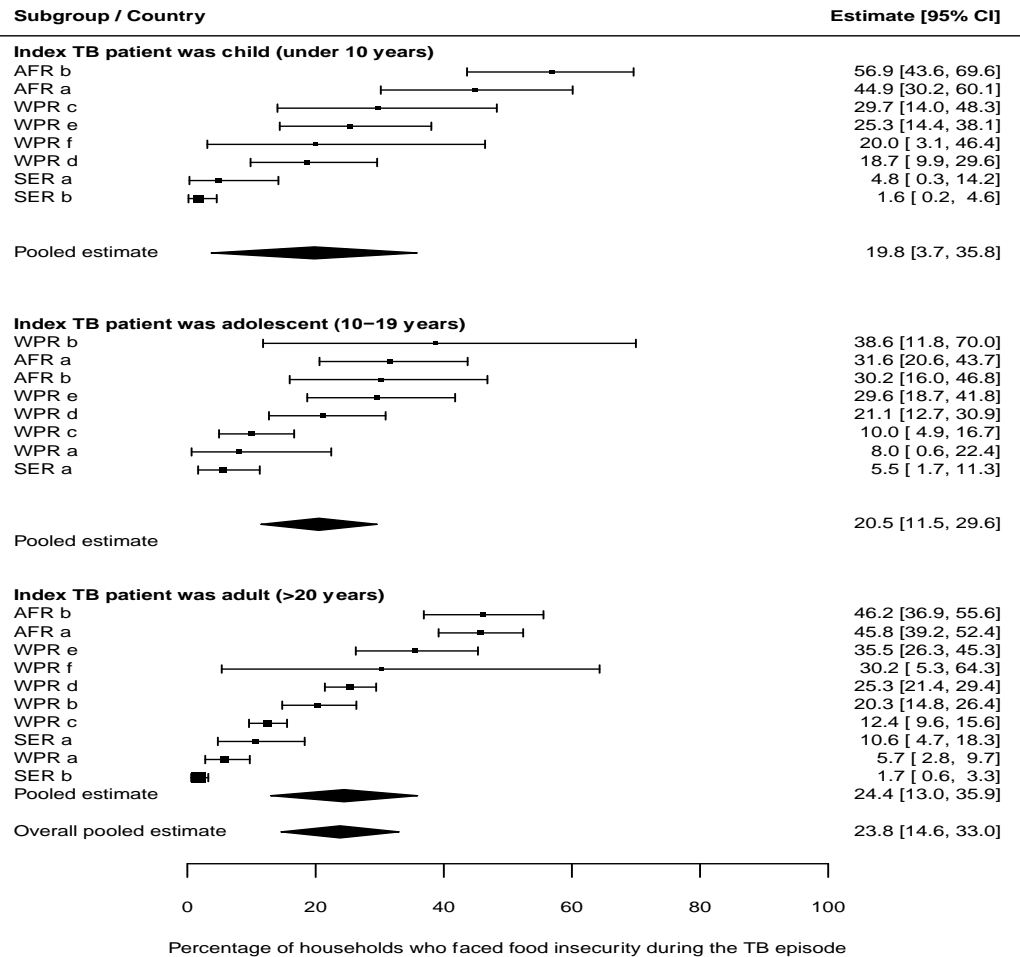
Ranged from 2.3% to 36.4%

Adolescents: 18.7% (95% CI: 8.8-28.7%)

Ranged from 2.1% to 57.2%

* Households were categorized according to the age group of index TB patient

Food insecurity



Households reported food insecurity, by age group*

Children: 19.8% (95% CI: 3.7-35.8%)

Ranged from 1.6% to 56.9%

Adolescents: 20.5% (95% CI: 11.5-29.6%)

Ranged from 5.5% to 38.6%

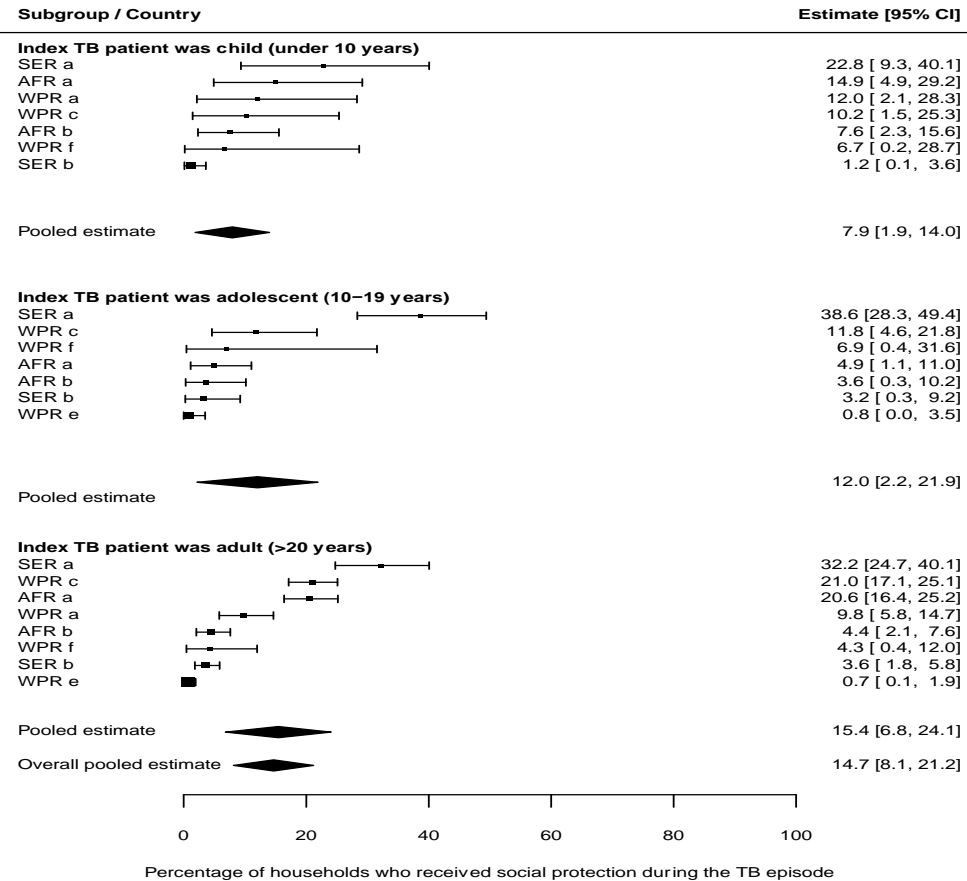
Adults: 24.4% (95% CI: 13.0-35.9%)

Ranged from 1.7% to 46.2%

All households: 23.8% (14.6-33.0%)

* Households were categorized according to the age group of index TB patient

Social protection



Households reported to have received social protection, by age group*

Children: 7.9% (95% CI: 1.9-14.0%)

Ranged from 1.6% to 56.9%

Adolescents: 12.0% (95% CI: 2.2-21.9%)

Ranged from 0.8% to 38.6%

Adults: 15.4% (95% CI: 6.8-24.1%)

Ranged from 0.7% to 32.2%

All households: 14.7% (8.1-21.2%)

* Households were categorized according to the age group of index TB patient

Social protection, or social security, is a human right and is defined as the set of policies and programmes designed to reduce and prevent poverty and vulnerability throughout the life cycle. Social protection includes benefits for children and families, maternity, unemployment, employment injury, sickness, old age, disability, survivors, as well as health protection (International Labour Organisation, 2017).

Conclusions

- These analyses have demonstrated that households suffer from catastrophic costs even when the TB patient is not an income earner, such as a child or adolescent
- The proportion of households experiencing catastrophic costs where the TB patient is a child or adolescent are lower than for adult patients but still exceed the target in the WHO End TB Strategy for 2020, which is 0%
- Based on these survey results, almost one in five children and adolescents will experience disrupted schooling and food insecurity (other consequences are likely)
- Social protection is infrequently available to offset the costs of TB care
- Multisectoral action is needed to mitigate these effects and to reduce the costs and consequences of TB for children, adolescents and TB affected households

