Global epidemiological perspective on the impact of UHC on tuberculosis: the role of social protection

Delia Boccia

Faculty of Population and Health Policy,

London School of Hygiene and Tropical Medicine



To accelerate progress towards Universal Health Coverage, including financial risk protection, access to quality of essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

- Global access by 2030
- One billion people more by 2023

Universal Health Coverage in the context of TB

- About 3 million out of 8.6 million TB cases annually do not access TB care that meets international quality standards
- Proportion larger for MDR-TB
- In 2013, free-diagnosis and free first-line treatment reported by 89% and 87% of countries
- Private providers and also complex pathway to care requiring additional costs and most importantly non-medical costs and income-losses:
 - Medical costs: 20% of the total costs
 - Income loss: 60% of total costs
 - Non-medical costs: 20% of total costs

Social protection

What is social protection?

"A nationally defined set of basic social security guarantees which secure protection aimed at preventing or alleviating poverty, vulnerability and social exclusion."

International Labour Organization. Social Protection Floors Recommendation 2012. Geneva, Switzerland. International Labour Organization.

Social protection taxonomy



Agricultural Inputs

What is social protection?

- TB-inclusive/sensitive social protection: existing schemes that cover TB-affected people while not specifically being targeted to TB-affected people alone
- TB-specific social protection:
 - Cash transfers for TB patients (unconditional/conditional)
 - Food / travel / housing and other support for TB patients (in-kind, vouchers, cash allowance)
 - Vocational training, micro-credit or enterprise support for TB patients

What is the global coverage of social protection?

Rapid expansion, but limited coverage. 27% have adequate coverage, >50% have none



What is the global coverage of social protection?

Lowest social protection coverage in low-income countries

Proportion of the population receiving social protection benefits, most recent data available during 2000-2014 (percentage)



Source: UN Stat, https://unstats.un.org/sdgs/report/2016/goal-01/

Impact of social protection and UHC on TB



Impact of social protection on TB



"TB is a social disease." *Rudolf Virchow,* 1880s



"One of the most powerful weapons we can use against TB is social welfare centres." *Robert Koch, 1890s*



"Those who profess to be desirous of preventing and curing consumption must be either hypocrites or fools, for they ridicule the suggestion that it is necessary first to cure and prevent poverty."

Robert Tressell, 1912

Impact of social protection on TB

Pillar 2: End TB Strategy



A. Political commitment with adequate resources for TB care and prevention

B. Engagement of communities, civil society organizations, and all public and private care providers





D. Social protection, poverty alleviation and actions on other determinants of TB C. Universal health coverage policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control

World Health Organization. Implementing the End TB Strategy: the essentials. 2015. Geneva, Switzerland. World Health Organization.

Projected acceleration of

TB incidence decline to target levels



The impact of social protection on TB incidence



The impact of social protection and poverty elimination on global tuberculosis incidence: a statistical modelling analysis of Sustainable Development Goal 1

Daniel J Carter, Philippe Glaziou, Knut Lönnroth, Andrew Siroka, Katherine Floyd, Diana Weil, Mario Raviglione, Rein M G J Houben*, Delia Boccia*



Figure 2: Reduced conceptual framework

	Expected annual proportional decrease
Pathway A: social protection for all (100% coverage)	8·7%
Pathway C: poverty elimination (100% eliminated)	2-0%
Pathway A and Pathway C: social protection and poverty elimination	11.1%
Pathways B + C: social protection via poverty elimination	1.8%
Pathway A and Pathways B + C: total effect of social protection	9.1%

TB care

Cash transfers improve TB treatment outcomes



OR = 1.77, 95%CI 1.57 - 2.01

TB care

Cash transfers improve TB treatment outcomes

3a) Outcome: treatment success

Study or subgroup	Intervention		Control		Weight (%)	Risk ratio	Risk ratio
	Events	Total	Events	Total		M-H, random (95%CI)	M-H, random (95%Cl)
Baral et al. 22	32	42	54	81	5.0	1.14 (0.91; 1.44)	+
Clarke et al. 31	39	47	27	42	3.8	1.29 (1.00; 1.44)	
Datiko & Lindtjørn 19	205	230	74	88	25.1	1.06 (0.96; 1.17)	
Lutge et al. 43	208	273	182	257	24.5	1.08 (0.97; 1.19)	
Martins et al. ³⁰	103	136	100	129	14.6	0.98 (0.86; 1.12)	_ _
Ritchie et al. ²¹	15	22	33	58	2.0	1.20 (0.83; 1.72)	
Sudarsanam et al. ³⁶	43	48	41	49	10.5	1.07 (0.92; 1.25)	_
Zuwarenstein et al. ³⁴	40	54	26	44	3.0	1.25 (0.94; 1.68)	
Álvarez Gordillo et al. ²⁶	43	44	35	43	11.5	1.20 (1.03; 1.39)	
Total		896		791	100.0	1.09 (1.03; 1.14)	•
Total events	728		572				
Heterogeneyty: Tau ² : 0.00); $\chi^2 = 7.54$;	df = 8 (p =	0.48); $l^2 = 0$	196			
fest for overall effect: Z =							0.5 0.7 1.0 1.5 2.0
							Protection Risk

RR = 1.09, 95%CI 1.03 - 1.14

Freitas de Andrade, Reports in Public Health, 2018

TB financial protection



Wingfield et al, ERJ, 2016

TB financial protection



Rudgard et al, 2016, PloS Med

Evidence gaps

- Still relatively **few evidence** still fragmented and not supported by solid impact evaluation methods.
- Largely provided by few, **scarcely representative countries** (mostly in Latin America).
- Potential impact hampered by still unknown coverage among TB patients and/or TB-affected communities.
- What is the **overall impact** in terms of TB elimination and also in terms of impoverishment?
- TB-sensitive interventions:
 - 1. Governmental programs **impossible to manipulate** for research purposes (in terms of coverage, size, type of transfers)
 - 2. Unclear **long term impact** on health and TB in particular

Thank you