

# Reviewing Evidence and Identifying Priorities

## A Systematic Analysis of TB and Poverty

**Bertha Nhlema**

**Funded by the Stop TB Partnership**

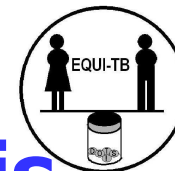




## Background

- By preventing gainful participation in livelihood activities and expenditures incurred during care seeking, tuberculosis brings impoverishment
- Effective TB Control could reduce the burden of the illness experienced by societies, individuals and families of different poverty status, age and sex





# Objectives of the systematic analysis

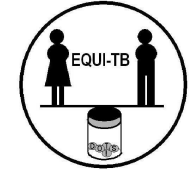
- To analyse the existing evidence that tuberculosis causes or worsens poverty
- To analyse the existing evidence that current tuberculosis control (or elements of tuberculosis control) benefits the poor
- To identify strategies for implementing DOTS that meet the needs of poor people.





Time Activity	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Appraisal Framework Development		←→									
Literature Search			←→								
Data Extraction				←→							
First Draft submitted to the Advisory Panel					▲						
First Progress report to TB and Poverty Advisory Panel					▲						
Second report to TB and Poverty Advisory Panel						▲					
Preparation of the final review and policy document								←→			
Final progress report										←→	

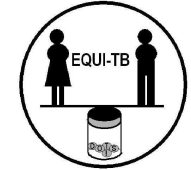




# Methodology

- Reports were searched from the following databases; Embase, Pubmed, Medline, Socig using a predefined search strategy
- Members of the TB & Poverty Advisory Committee were approached for unpublished reports
- Quality criteria for evaluating reports were developed for both observational and qualitative work.
- Abstracts were reviewed independently for exclusion and inclusion
- Drafts of the analysis were reviewed by panel of the advisors from LSTM and Equi-TB Knowledge Programme



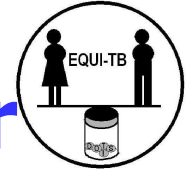


# Results

- 18 out of the total 117 studies identified met the criteria for inclusion
- 3 of the 18 studies were unpublished
- Studies were identified from India, Malawi, Zambia, South Africa, United States, Vietnam, and Pakistan
- Mixture of quantitative and qualitative methodologies
- Different measures of poverty; geographical, integrated household survey, poverty lines, employment status, income level, gender.

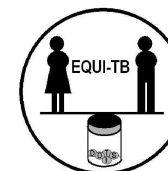


# Existing evidence that TB causes or worsens poverty 1



- Direct and indirect costs of accessing care are higher before diagnosis.
  - Many visits are made to different health care providers before diagnosis
  - Most expenditure was made on transportation for both patient and guardians
  - Delay in care seeking (median delay of 8.6 weeks)  
*(Lienhardt et al., 2001, Needham et al., 2001)*
  - Unnecessary time spent at the health facilities
- *“When we work in an office, we are only allowed to have certain amount of time for treatment, if we need more time for treatment, it will influence the economy of the family”*





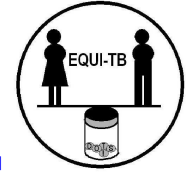
## Cost of accessing care (currency, Thai Baht)

Source Kalmoratanakul et al 1999 3(7):596-602

	<b>Income below poverty line</b>	<b>Income below average</b>	<b>Income above average</b>
Annual household income	21 585	67 411	194 028
Expenditure before average	1430	5797	1669
Expenditure after diagnosis	1467	1278	1422
Total expenditure	2168	3244	2922
Relative cost (% of household income)	15.3%	8.6%	1.8%



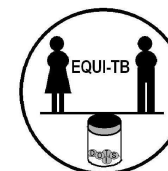




## Existing evidence that TB causes or worsens poverty 2

- Non-poor peoples' aggregate expenditure was generally higher compared to poor people
- ***but***
- Relative costs are greater for poor people compared to non-poor people



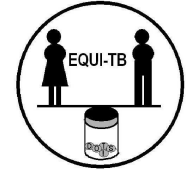


# Costs for different groups (US\$) (Malawi)

Source: Mann et al 2002 TB Equity 2002 Report

	All Patients	All poor	All non-poor
<b>Direct Costs of Pathway to Care</b>			
Fees and Drugs			
Transport			
Food			
<b>Total Direct Costs</b>	<b>\$ 12</b>	<b>\$ 11</b>	<b>\$ 17</b>
<b>Opportunity Costs</b>			
Days Lost			
Mean income (IHS)			
<b>Income lost during care seeking</b>	<b>\$ 16</b>	<b>\$ 5</b>	<b>\$ 29</b>
<b>Total Costs</b>	<b>\$ 28</b>	<b>\$ 16</b>	<b>\$ 46</b>
Total costs as % of monthly income	134 %	248 %	124 %
% income not spent on food	65 %	42 %	70 %
Total costs as % of monthly income after food expenditure	206 %	584 %	176 %

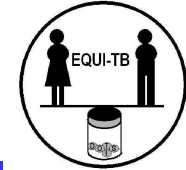




## Existing evidence that current TB control benefits the poor 1

- Among TB patients; there are few patients from poor settings
- Patients are delayed at each stage of care seeking
- Patients drop-out at each stage



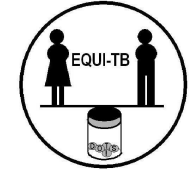


# Proportion of patients from different residential areas, presenting and starting TB treatment

	172			
Proportion from each area	Urban settled 101 (59%)	Urban squatter 26 (15%)	Rural Farming 23 (13%)	Rural settled 22 (13%)
Delay in presentation	101 1 (3.8)	26 1 (3.7)	23 4 (7)	22 1 (3.9)
Delay in diagnosis	91 4 (5.7)	22 4 (5.9)	22 3 (3.9)	21 3 (4)
Delay in treatment	76 0.1 (0.9)	13 0.1 (0.9)	22 0.1 (0.1)	20 0.1 (0.1)

Source: Beyers et al., 1994, *Tubercle and Lung Disease* 75. 260-265

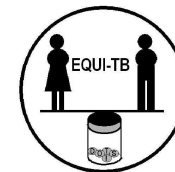




## Existing evidence that current TB control benefits the poor 2

- Health workers in some settings develop eligibility criteria for admitting patients to DOTS programmes.
  - Balasubramanian *et al.*, 2000 reported that within a sample of 200 diagnosed patients only 74 percent were receiving treatment under direct observation.
  - Singh *et al.*, 2002 reported less than 63% of diagnosed patients were receiving direct observation



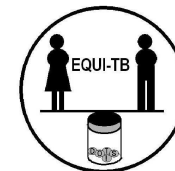


# Existing evidence that current TB control benefits the poor 3

- Singh et al., 2002 reported an algorithm which was excluding mainly poor or disadvantaged patients

Suitability for the Direct therapy	Patient 'suspect' if
<b>Proof of residence:</b> Ration card, voter's card or any other legal document Guarantor from the community	No ration card or A married woman staying with parents not enrolled on their ration card
<b>Duration of stay:</b> Long-term residence in Delhi	Recently moved within Delhi Short Stay at current address Recent migrant with the family still in village
<b>Job or occupation:</b> Permanent or Government job	Daily wage earner (construction worker etc) Factory worker with shift duties Contract workers (export garment workers)
<b>Visit by DOT centre worker:</b> Overall impression of patient's home Convenience to the clinic and /or for 'defaulter retrieval'	Difficult to reach patient (residence is far from the centre) House is difficult to locate.

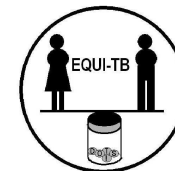




## Strategies for implementing DOTS that meet the needs of poor people 1

- Flexibility in implementation of treatment observation helps to meet the needs of different patients (*Dick et al., 1996 and Davidson et al., 2000*).
  - For example, observation by teachers, volunteers, guardians and health workers is effective
  - Incentives in some settings (if affordable) may increase adherence





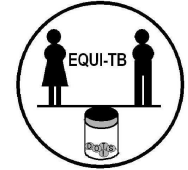
## Strategies for implementing DOTS that meet the needs of poor people 2

- Private-public partnership in tuberculosis control in poor settings could increase case notification and reduce the socio-economic burden.
  - In India, Murphy *et al.*, (2001) reported that a project that linked private practitioners, volunteers and non-governmental organisation increased case notification in a poor setting.





# Conclusions



- The impact of tuberculosis on the livelihoods of both poor and non-poor patients is great
  - Relative impact is greater on the poor
  - Stratified analysis by gender, age within poor groups is necessary for a more in depth understanding
- The poor are not being reached by DOTS
  - Limited research on the impact of DOTS benefiting the poor
- Some alternative strategies for implementing DOTS that meet the needs of the poor and may have positive impact on case finding and holding
- Develop 'equity indicators' for monitoring access

