

Economics of TB: Part 2 supporting decisions at the country level (Value TB)

Sedona Sweeney (on behalf of Value TB global team)



Our primary aim is to enable NTPs and their funders allocate their resources, both to and within TB, in an efficient and fair way. To achieve this aim, we have defined three intermediate objectives:



- To provide a comprehensive set of unit costs for TB services for five countries
- To develop a sustainable framework (in terms of tools and processes) for TB cost data collection at the country level
- To support the use of cost data by policy-makers and TB planners, in collaboration with the GHCC and TB Modelling Consortium (TB-MAC)



Value TB country teams

Value TB Philippines:

Juhani Capedig, Donna Geocaniga-Gaviola, Janvic Dela Rosa, Christian Hontveros, Renalyn Lomboy, Jesebell de Jesus, Justine Marjorie Tiu, Hilton Lam (University of the Philippines), Philippines National TB Programme, Ines Garcia Baena (WHO)

Value TB Kenya:

Angela Kairu, Stacey Orangi, Robinson Oyando, Evelyne Kabia, Peter Nguhiu, Wendy Nkirote, Jane Ong'ang'o, Eunice Mailu, Enos Masini, Edwine Barasa (KEMRI-Wellcome Trust), Kenya National TB Leprosy and Lung Disease Program, Lucy Cunnama (UCT)

Value TB Ethiopia:

Abayneh Dessalegn, Belachew Hailu, Blen Tedla, Dessalegn Tadesse, Endashaw Nadew, Getasew Tadessa, Hiwet Eyob, Marta Minwyelet, Tamrat Assefa, Teketel Tumebo (Armauer Hansen Research Institute), TB and Leprosy Prevention and Control Case Team Ethiopia Ministry of Health, Yoko Laurence (LSHTM)

Value TB Georgia:

Ivdity Chikovani, Natia Shengelia, Nutsa Marjanishvili (Curatio International Foundation), Georgia National TB Programme, Yoko Laurence, Anna Vassall (LSHTM)

Value TB India:

Susmita Chatterjee, Prajkta Bhide, Geethaa Loganathan (George Institute), Manoj Toshniwal, India National TB Programme, Ines Garcia Baena (WHO)

Value TB Global:

Sedona Sweeney, Anna Vassall, Yoko Laurence, Nichola Kitson (LSHTM), Ines Garcia Baena (WHO), Lucy Cunnama (UCT)









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Study Methods

Cost type: full economic costs from a provider perspective

Time horizon: 1 patient episode of care

Resource use measurement: retrospective microcosting, using both top-down and bottom-up costing methods

Sampling: 5 countries, ~20 facilities per country

Black

500

GEORGIA

Akhaltsikhe

Kutaisi

Poti



Estimating efficiency



Normative costing:

Estimates costs under assumptions of 'perfect efficiency' – often not achievable in the real world!

Real-world costing:

Bottom-up: Can capture process inefficiency Top-down: Can capture capacity inefficiency



Intervention category	Intervention	STANDARD UNIT COST INTERVENTION (quality adjusted unit cost)
Case detection and diagnosis	Active Case Detection	Cost per person screened
		Cost per person diagnosed
		Cost per TB case diagnosed
	Intensified Case Detection	Cost per person screened
		Cost per person diagnosed
		Cost per TB case diagnosed
	Passive Case Detection	Cost per person diagnosed
		Cost per TB case diagnosed
Treatment and care	TB Treatment and care	Cost per treatment month
		Cost per person treated
		Cost per person completing treatment
Prevention	Screening and treatment to prevent active TB	Cost per treatment month
		Cost per person treated
		Cost per person completing treatment
Vaccination	BCG vaccination	Cost per person vaccinated

Aim: Comparative and <u>comprehensive</u> unit costs for *all* TB interventions

(in consultation with WHO GTB/ TB MAC, HIV consortium/ GFATM)



Example: Active case finding



Value TB instrument suite









Good existing data on costs of first-line treatment in GHCC unit cost study repository

Predictors of costs:

TB case detection rate at year y Log (GDP per capita) at year y*** HIV prevalence at year y Includes hospital costs, yes** DOTS treatment strategy, no Community-based (ref: facility-based)** Included all key input cost, yes*** ART coverage in 2017 ART coverage in 2017 squared HIV prevalence at year y squared



Siapka M, Vassall A, Cunnama L, Pineda C, Cerecero D, Sweeney S, Bautista-Arredondo S, Bollinger L, Cameron D, Levin C, Gomez GB. *(Unpublished)* Cost of treating drug sensitive tuberculosis in low- and middle-income countries: a systematic review and meta-regression study

VALUE TB ESTIMATING THE COSTS OF TB SERVICES

What new data is available?

~20 facilities per country

Top-down and bottom-up

87 activity types Outpatient visits Inpatient bed days Community services Lab tests (57) Radiology services

Sub-populations: PTB/EPTB Adults/children DS/DR/Pre-XDR/XDR New and retreatment Previously treated ACF platforms ICF screening / cough triage HIV + / high-risk populations



So... what is the data telling us?



First-line treatment: variation across countries

Number of visits per patient - 1st line treatment (adult, PTB, new and retreatment)



First-line treatment (Ethiopia)



Variation within country (Georgia)



ESTIMATING THE COSTS OF TB SERVICES

Variation within country (Kenya)



ESTIMATING THE COSTS OF TB SERVICES

Variability in efficiency: Xpert costs (Philippines)



Variability in practice: Smear microscopy (India)



Variability in efficiency: First-line treatment (all countries)



More variability in efficiency at lower levels of care



Less variability in tertiary facilities

Treatment cost - FLT, Adult, PTB, new

Active Case Finding (bottom-up)



Intensified Case finding (bottom-up)



*household contacts of DRTB patients, the elderly, and those with co-morbidities

Intensified Case Finding (bottom-up)



*household contacts of DRTB patients, the elderly, and those with co-morbidities

VALUE TB provides us with first understanding of efficiency within of TB services within countries

Further work to understand how understanding within country variation will improve our predictions of costs across countries

Provides insights into the different procedures at the input level (how long do they take in practice); and output level (how many visits/ procedures are provided in practice).



FINDINGS

- i) Data will be available publicly beginning 2020,
- ii) Specific requests now
- iii) Tools available in the next month
- iv) Tools will be simplified some more by end of the year, so a revision early next year

BUT

i) TB now is a very complex set of interventions: costing tools are challenging to develop

ii) Takes considerable time to get NTP buy-in, identify and contract partners, and obtain ethic approvaliii) The extent of support varies by country (data collection time from 3 months to 1.5 years)iv) Needed a highly experienced team

Going forward

i) Further analysis and work to focus data collection (record time of data collection)

ii) Clarify role of these studies to validate and inform costing models (periodic)

iii) Key gaps still (above service level/ community costs)

iii) Co-ordinate with other costing/HTA efforts (bring them into TB)/ links with the patient cost surveys



Lots more to do:

- Further analysis and work to simplify instruments (at the moment still only for experienced users)
- Clarify role of these studies to validate and inform costing models (periodic)
- Key gaps still (above service level/ community costs)
- Co-ordinate with other costing/HTA efforts (bring them into TB)/ links with the patient cost surveys



Thank you!













The George Institute for Global Health





