

1) TB modelling demands and challenges

2) TB MAC
WORK IN
PROGRESS



3) Unmet need

Road
map
meeting

4) Proposal for country level
models catalogue, guidelines
and next steps



5) Expectations from
stakeholders of independent
evaluation of TB MAC

Demands



What are the major demands for TB modelling?

(From needs assessment of **key stakeholders** for TB MAC proposal, 2015; & **modellers** - Feb 2017)

Demand	Stakeholders
Modelling for country-level NTP planning, resource allocation & resource need	GFATM, StopTB, USAID, World Bank, KNCV, Viet Nam, South Africa, Modellers
Modelling for advocacy	WHO, StopTB, BMGF, Viet Nam, Modellers
Modelling to understand impact & CE of new tools	FIND, TB Alliance, Modellers
Modelling for building policies	WHO, Viet Nam, Modellers
Modelling for internal GFATM TB needs assessments, strategy goals, and between-county resource allocations	GFATM, Modellers
Modelling for research investment decision making	BMGF, Modellers
Modelling to understand data gaps and lack of intervention effect	BMGF, Modellers
<i>(Investigator led modelling (eg to NIH, MRC, ...))</i>	Modellers

What are the major demands for TB modelling? Modeller's perspective

Demand	Who
Modelling for country-level/subnational intervention impact, resource allocation decision making	Imperial/PHI, Harvard/Yale, J Trauer, CAHRD(Liverpool), ErasmusMC, Avenir, RIVM, IDM, Vynnycky, TIME
Modelling for research investment decision making (global and c-level)	JHU, Imperial/PHI, IDM, Harris/Rhodes
<i>Investigator led modelling, eg understand natural history & epi of TB (eg to NIH, MRC, ...)</i>	<i>UniMich, Harvard/Yale, CAHRD(Liverpool), LSHTM</i>
Modelling to help understand impact, CE and budget impact of near-available new tools	AIGHD/LSHTM, Vynnycky
Modelling for expert advice to stakeholders	JHU, LSHTM
Modelling for global intervention choice/resource estimation/budget impact	Avenir
TB MAC multi modelling exercise!	Rhines



**CHALLENGES
AHEAD**

What are the major **challenges** in TB modelling?

General, modellers and economist perspective

- Lack of effective **communication/knowledge sharing** between TB modelers, economists and stakeholders (TB MAC improved, but further strengthening needed)
 - Clarity on key model uses to focus activity
- Lack of **resources**
 - Small # modellers and economists; capacity building vs. research outputs; acute vs strategic
 - Lack of data on key model parameters, and linking scale up of services to impact eg ACF and social protection & subnational and linkage to cost data
 - Lack of models (including cost models) to inform TB programme strategies, resource allocation and resource requirements across *a range* of possible TB control interventions
 - Guidelines for models for burden projection, intervention impact and country level allocative efficiency;
 - Funding of model development (rather than application)
- Lack of **global & country capacity** to source, interpret and integrate modelling/econ into decision making
 - Lack of easily available information on the policy-evidence process, from modeller, economist and policy maker perspective
 - Decision maker
 - expectations vs what models can do at present
 - expectations vs realistic timelines
 - buy-in/engagement
 - Fragmentation of modelling efforts/ conflicting advice

What is the vision of success? What are the primary policy questions and uses of modelling?

- In 3-5 years, we would have succeeded if:
 - ① We have improved **coordination**, knowledge sharing and management within TB community
 - ② Created new high quality modelling tools and **resources** and made them available
 - Improved the validity / reliability / transparency of modelling efforts designed to support policy-making
 - Have identified/filled most important model improvements (eg better data) that can feasibly be made in the next 5 years
 - Improved country-level data collection platforms
 - ③ Developed **better informed** TA/decision making communities and modellers
 - There is a better understanding of stakeholder needs, and limitations of modelling
- In order to get there, suggested key policy questions/uses for TB modelling to address:
 - Improved modelling evidence (and data) for country level burden projection, intervention impact and resource allocation decision making
 - Identifying/filling the most important model improvements (eg better data) that can feasibly be made in the next 5 years
 - Improved country-level data collection platforms

1) TB modelling demands and challenges

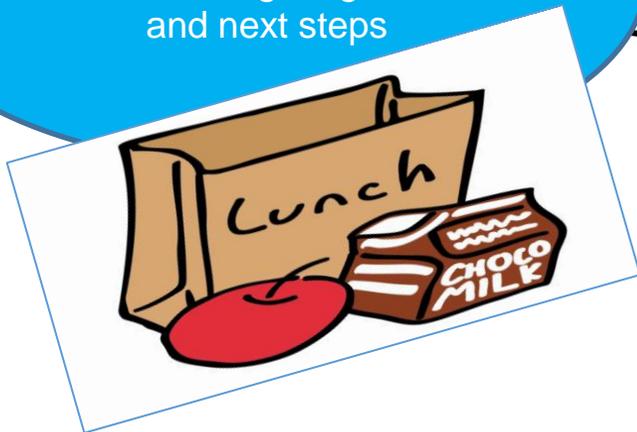
2) TB MAC
WORK IN
PROGRESS



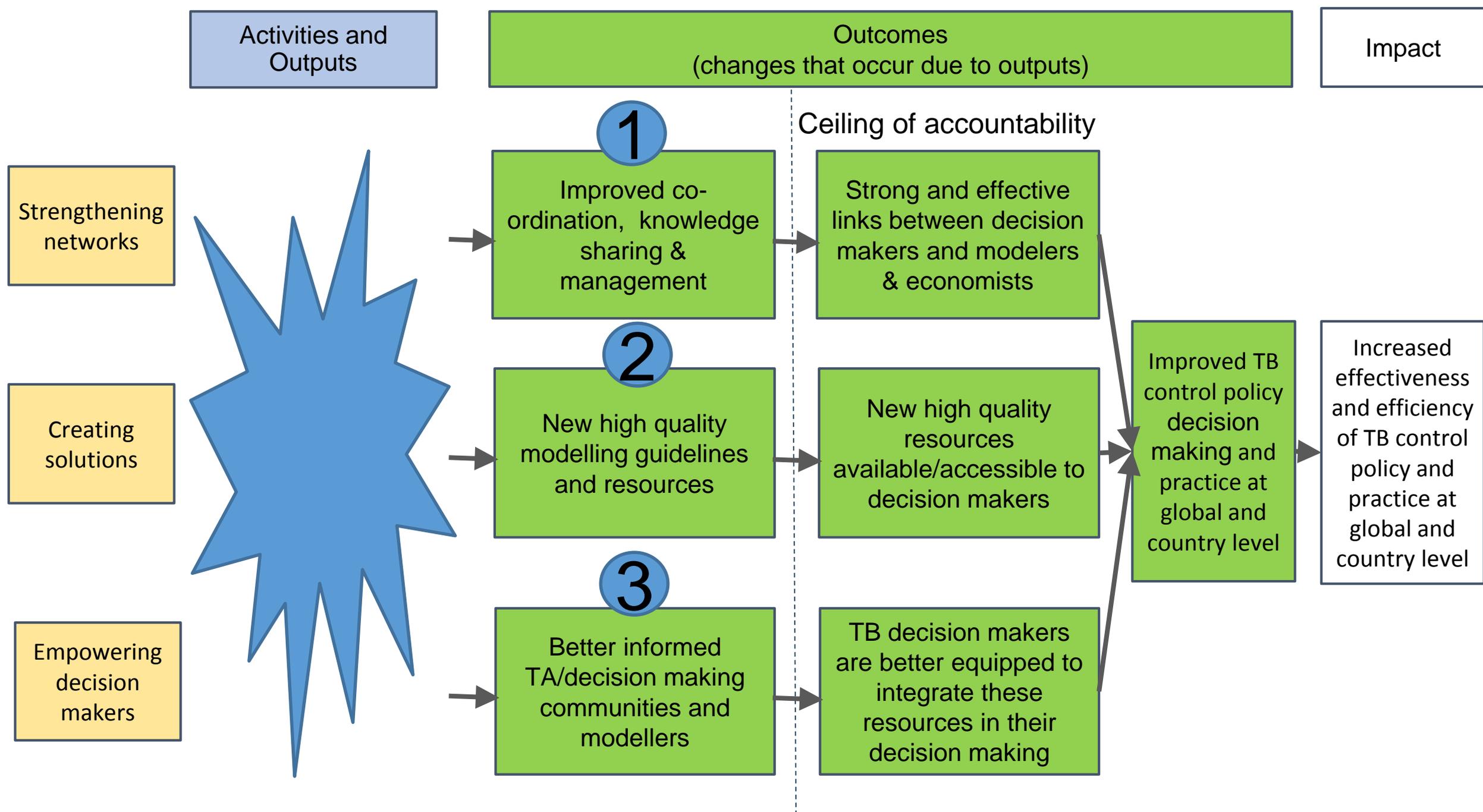
3) Unmet need

Road
map
meeting

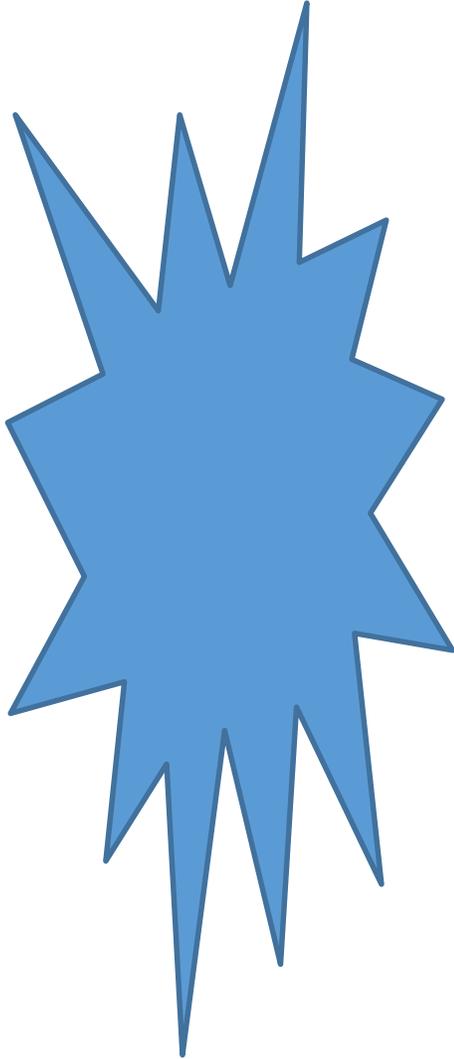
4) Proposal for country level
models catalogue, guidelines
and next steps



5) Expectations from
stakeholders of independent
evaluation of TB MAC



Activities and
Outputs



Summary of major TB MAC deliverables

Outcome # (see fig)	1	2					3			
Stakeholder	Facilitation and linkage of decision makers and modellers/economists	Modelling/reviews to inform decision-making	Knowledge-sharing on key data and methodological advances to support decision making	Guidance for modelling evidence GF funding application submission	Co-ordinate WHO Task Force modelling stream	Guidance on modelling for burden estimation, impact and resource allocation at county level	Framework for measurement of coverage and change in epi indicators	Co-ordinate modelling in regional WHO/ GF/ StopTB HIC workshops	Model generic training of TA in use of models for decision-making	Case studies of best practices in TB modelling and model sharing

Better evidence for resource allocation decision making

- Need identified through TB MAC Targets work, GFATM target setting
- Evidence synthesis to inform epi model parameterisation for interventions scenarios
- Reduce instances of 'expert assumption'
- Global good - all models will be unable to model allocative efficiency in TB without filling this evidence gap

• **Proposal (generated early/mid 2016)**

• Deliverables:

1. Framework for measurement coverage, change in epidemiological indicators
2. Empirical estimates for 7 activities (suggested in 3 epidemiological distinct countries)
3. Estimation of change of relationship with coverage level
4. Uncertainty bounds for estimates
5. Proposal for operational data collection
6. Dissemination of findings

Notes

• **Deliverable 1 funded as part of TB MAC deliverables (1.2.7)**

--> Important to better define scope and methods, as well as estimated funding need)

- Likely multi-year project – ideally start as soon as possible --> estimate and fill funding gap
- To combine systematic reviews with data collection/collation in-country, collaboration with NTPs
- Work linked to ongoing efforts (GHCC, Cost data collection efforts, TB MAC)
- Will seek endorsement of gaps by WHO Task Force
- Link with Care cascade approach
- Look to cover different geographies and intervention areas, though generalisability will remain challenge
- Key outcome of project is generating framework and workable, tested approach

1) TB modelling demands and challenges

2) TB MAC
WORK IN
PROGRESS



3) Unmet need

Road
map
meeting

4) Proposal for country level
models catalogue, guidelines
and next steps



5) Expectations from
stakeholders of independent
evaluation of TB MAC

Summary of key epi gaps, given funded activities

- 1 Communication/knowledge sharing
- 2 Data, modelling tools and resources
 - Clarity on model uses to focus feasible data collection activities => understanding the degree to which models can be fit for purpose, given existing data
 - Funding 'better evidence for burden, impact and resource allocation decision making' proposal
 - Funding model development (rather than application)
- 3 Global & country capacity
 - Sustained engagement of stakeholders with modellers
 - Involvement of modellers in stakeholder decision making
 - Funder co-ordination of modelling efforts(?)

Summary key **economic** gaps

Other projects

- iDSi
- GHCC
- Cost – TB

Remaining gaps

- NTP support in economics/ allocative efficiency
- Involving economists at local and global levels (academic and consultancy) throughout the process
- Cost data
- Communication/ linking modellers and economists

1) TB modelling demands and challenges

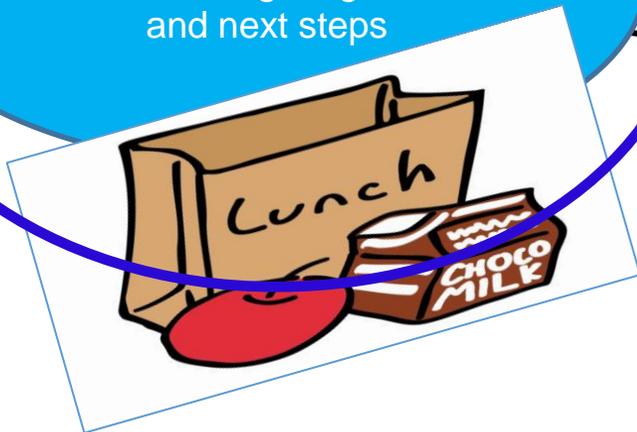
2) TB MAC
WORK IN
PROGRESS



3) Unmet need

Road
map
meeting

4) Proposal for country level
models catalogue, guidelines
and next steps



5) Expectations from
stakeholders of independent
evaluation of TB MAC

Guidance on country-level modelling for burden, impact, and allocative efficiency: **need**

- Role of modelling to support TB policy choices increasing: more countries employing modelling, more groups offering modeling support
- Little guidance currently available on good practices for technical assistance for country-level modelling
- Information on modelling technical assistance options not standardized, difficult to judge capabilities of modelling groups to address different policy options
- TB MAC stakeholders request for guidance on approaches for country-level modelling and objective information on currently available modelling options

Guidance on country-level modelling for burden, impact, and allocative efficiency : [proposal](#)

1. Good practice guidance for country-level TB modelling & TA
 - Roles and responsibilities of modelling groups, country users, funders
 - Guidance on reporting and external review
2. Catalog of available modelling options
 - Scope: models that can project epi and econ outcomes for multiple policy options, track record of country support
 - Descriptive, not normative
 - Covers model technical features and capacity (epi and econ), approach for providing TA, past country support experience
 - Content and structure developed iteratively with input of modelling grps
3. Recs for future work to improve modelling validity, usefulness

Guidance on country-level modelling for burden, impact, and allocative efficiency : **activities**

1. Review of existing guidance documents
2. Engagement + input from groups that provide modelling TA
3. Survey of countries that have received modelling TA in past
4. Review and input from funders, stakeholders, external experts
5. Piloting of draft guidance with modelling groups
6. Public comment period
7. Finalization of guidance through WHO Global Taskforce on TB Impact Measurement
8. Technical debrief and lessons-learned from modelling work in 2017 GFATM funding request

1) TB modelling demands and challenges

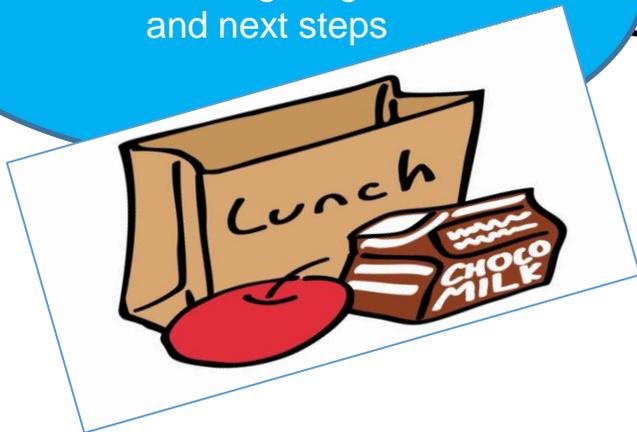
2) TB MAC
WORK IN
PROGRESS



3) Unmet need

Road
map
meeting

4) Proposal for country level
models catalogue, guidelines
and next steps



5) Expectations from
stakeholders of independent
evaluation of TB MAC

Summary of independent evaluation of TB MAC (David Collier)

- General approach endorsed
- Stakeholder suggestions
 - Engage a board range of stakeholders and modellers, but don't be unrealistic in scope
 - Balance evaluation effort over full range of TB MAC activities
 - Look for examples of impacts above TB MAC theory of change ceiling of accountability, eg decisions being informed by TB MAC partner activities
 - But remain aware many impact are longer term, including use of modelling by countries