Developing an optimized NSP using PCF

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PRESENTATION OUTLINE

• Background
• TB situation in Ethiopia
• Remaining challenges
• NSP development process
• TIME IMPACT and TIME ECONOMICS modelling
• NSP based GF application
• Lessons learned
• Conclusions
• Acknowledgments
**BACKGROUND**

**Country Profile 2019**
- N>100 million based CSA projection

**Total Characterized by young population**
- Growth Rate of 2.4% and TFR of 4.2.
- 14.6% under five; 41% younger than 15

**20% urban and 80% rural residence**
- Life expectancy of 62 and 66 years
- HIV prevalence of 0.9 %

**Administrative organization**
- Federal government with **ten regional governmental states and two city administrations** - further broken down into 99 zones and 1095 Woreda

**Health services coverage**
- 281 hospitals, 3622 health centres and 16,660 Health posts
ETHIOPIA HEALTH TIERS

Specialized Hospital
(3.5 – 5 million people)

Tertiary Level Health Care

General Hospital
(1 – 1.5 million people)

Secondary Level Health Care

Primary Hospital
(60,000 – 100,000 people)

Urban

Health Center
40,000 people

Health Center
(10,000 – 25,000 people)

Rural

Health Post
(3,000 – 5,000 people)

Primary Level Health Care
TB SITUATION: BURDEN, PROGRAMMATIC RESPONSE AND PROGRESS

• Current Levels*
  - Estimated Incidence is 151/100K Populations
  - Mortality rate (HIV Negatives) of 22/100k populations
  - TB is the top ten leading causes of mortality in Ethiopia
  - HIV Co-infection rate among TB Patients is 8%

*WHO 2019 Report

Among the 30 high TB, TB/HIV and MDR-TB burden countries!
TB INCIDENCE TRENDS

165,000 persons estimated to have fallen ill from TB, in 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>207</td>
</tr>
<tr>
<td>2015</td>
<td>192</td>
</tr>
<tr>
<td>2016</td>
<td>177</td>
</tr>
<tr>
<td>2017</td>
<td>164</td>
</tr>
<tr>
<td>2018</td>
<td>151</td>
</tr>
</tbody>
</table>
ESTIMATES OF TB INCIDENCE AND CASE NOTIFICATION (PER 100,000 POPULATION)
NUMBER OF DR-TB CASES SUCCESSFULLY TREATED, 2009-2018

MDR-TB TREATMENT CASCADE, 2018

Incident cases

Notified cases

1600

741

54%
An estimated 24,000 persons have lost their lives to TB, in 2018.
Trend in RR/DR-TB Treatment Success Rate, 2014-2018

- **Year 2014**: 83%
- **Year 2015**: 68%
- **Year 2016**: 62%
- **Year 2017**: 75%
- **Year 2018**: 72%

Percentage of RR/DR-TB Death Among All Enrolled in SL Treatment, 2012-2018

- **2012**: 11.8%
- **2013**: 17%
- **2014**: 11.4%
- **2015**: 12.4%
- **2016**: 14.4%
- **2017**: 11.6%
- **2018**: 12.1%

Minimal change in RR/MDR-TB death rate.
OTHER CHALLENGES

1) Missed TB and leprosy Cases
   • A third of the estimated people with TB disease undetected and untreated every year

2) Community based TB care (CTBC) packages and approaches
   • Suboptimal implementation of CBTC packages.
   • CBTC approaches, such as pastoralist and urban community settings

3) TB Diagnostics
   • Microscopy is only available in about 60%-80% of primary health facility
   • Xpert coverage?
   • Digital x-ray coverage?

4) DR-TB
   • Case finding below the target and access to DST

5) Poor data quality of selected indicators

6) Under-utilized private sector capacity
THE NSP DEVELOPMENT PROCESS

Step 1: Preparation
Step 2: TBL-NSP development
Step 3: Costing, modelling, budgeting
Step 4: Endorsement and dissemination.
Step 5: Implementation and monitoring

Based on clear roadmap
Data consolidation, framing gaps and root cause analysis based on a people-centred framework.

- Inception meetings and orientation conducted through webinars
- Data consolidation
- Consultative workshops

**PEOPLE CENTRED FRAMEWORK (PCF)**

<table>
<thead>
<tr>
<th>General</th>
<th>People not accessing the health system</th>
<th>People with TB seeking care but either not diagnosed or not notified</th>
<th>People with TB diagnosed and notified but not successfully treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview Data</td>
<td>TB infection, high risk for disease</td>
<td>Asymptomatic disease, not seeking care</td>
<td>Symptomatic disease, not seeking care</td>
</tr>
</tbody>
</table>

**Epidemiological data**

**People-centred data**

**System-related data**
## TIME IMPACT AND TIME ECONOMICS MODELLING

Description of different scenarios assessed for epidemiologic impact

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Scenario category</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Status quo</td>
<td>Continue as is</td>
</tr>
<tr>
<td>2</td>
<td>GeneXpert coverage as first test</td>
<td>Expand GeneXpert test alone (to 80% coverage)</td>
</tr>
<tr>
<td>3</td>
<td>CxR for screening and GeneXpert test as first diagnostic tool</td>
<td>Introduce CXR for initial screening (to 60% coverage). Expand GeneXpert coverage (to 80% coverage).</td>
</tr>
<tr>
<td>4</td>
<td>Scenario 3 + intensive case finding in health facilities (including PPM)</td>
<td>Screen 70% of outpatient visitors, including in private care settings</td>
</tr>
<tr>
<td>5</td>
<td>Scenario 3 + contact investigation and community outreach</td>
<td>Household contact investigation</td>
</tr>
</tbody>
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TIME IMPACT AND TIME ECONOMICS MODELLING

Legend:

BAU=Business as usual

Scn2 = Expand only GeneXpert coverage as first test (80% coverage)

Scn3 = CxR screening (60%) + GeneXpert as 1st test (80% coverage)

Scn4 = Scn3 + ICF in high volume health facilities (including PPM-TB sites)

Scn5 = Scn3 + contact investigation through community outreach.
Impact of combination of CxR screen with GeneXpert test expansion, intensive case finding at health facilities, household contact investigation and TPT on TB incidence.
Impact of combination of CxR screening with GeneXpert test expansion, intensive case finding at health facilities, and household contact investigation and TPT on TB mortality.
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Scenario category</th>
<th>Incremental cost per death averted</th>
<th>Incremental cost per DALY averted</th>
<th>GDP per capita: USD 772</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Status quo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Increase GeneXpert coverage alone to 80% coverage</td>
<td>$25,508</td>
<td>$3,182</td>
<td>4.12 GDP per capita</td>
</tr>
<tr>
<td>3</td>
<td>Use CxR for screening and increase GeneXpert coverage as first diagnostic test</td>
<td>$6,591</td>
<td>$855</td>
<td>1.11 GDP per capita</td>
</tr>
<tr>
<td>4</td>
<td>Scenario 3 + intensive case finding in health facilities (including PPM)</td>
<td>$16,795</td>
<td>$2,308</td>
<td>2.99 GDP per capita</td>
</tr>
<tr>
<td>5</td>
<td>Scenario 3 + contact investigation</td>
<td>$6,511</td>
<td>$856</td>
<td>1.11 GDP per capita</td>
</tr>
</tbody>
</table>
Development of the TB and Leprosy national strategy (TBL-NSP) using the The World Health Organization (WHO) Patient Centered Framework (PCF)

- Consolidation of **epidemiologic, health system and patient data**, across the TB continuum of care
- An external review of the TB programme conducted in November 2019
- The findings and recommendations from the external review informed the development of the strategic plan
- Extensive stakeholder consultations informed the policy and implementation gap identification, prioritization and data analysis and intervention identification and prioritization

**Outcome:** Submitted an evidence based Global Fund Application with a favorable review
There is population and geographic variation in the burden of TB in Ethiopia.

Patient path to TB diagnosis and treatment indicates most patients initiate care at lower level facilities.

Local level planning is essential with all relevant stakeholders involved.

Robust strategic information is important for prioritizing gaps and interventions.

Use of the people-centered framework was useful to discern the gaps and design appropriate strategies.

Engagement of TB affected, and at-risk population is essential for an effective and comprehensive response.

Country-level capacity with TIME modelling facilitated effective application of the PCF model for optimization.

The PCF guided NSP development greatly facilitated the GF grant application.
• This TBL-NSP is informed by extensive review of both published and unpublished documents, researches, program reviews and assessments, and TIME modelling outputs.

• Gaps and interventions are prioritized across the patient pathway and care continuum.

• Major programmatic priorities include increasing the treatment coverage, both for DS and DR-TB while maintaining high level of successful outcomes.

• Expanding and increasing TPT coverage is additional priority to achieving the end TB target.

CONCLUSIONS
• National Team participated in the process of NSP development
• KNCV for TA on PCF
• LSTMH
• All team participated on End term review
• All members of TWG
• All TBL partner
THANK YOU