Developing an optimized NSP using PCF

Taye Letta
National TBL Manager
FMOH of ETHIOPIA
Oct 20-24. 2020

The Union

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

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
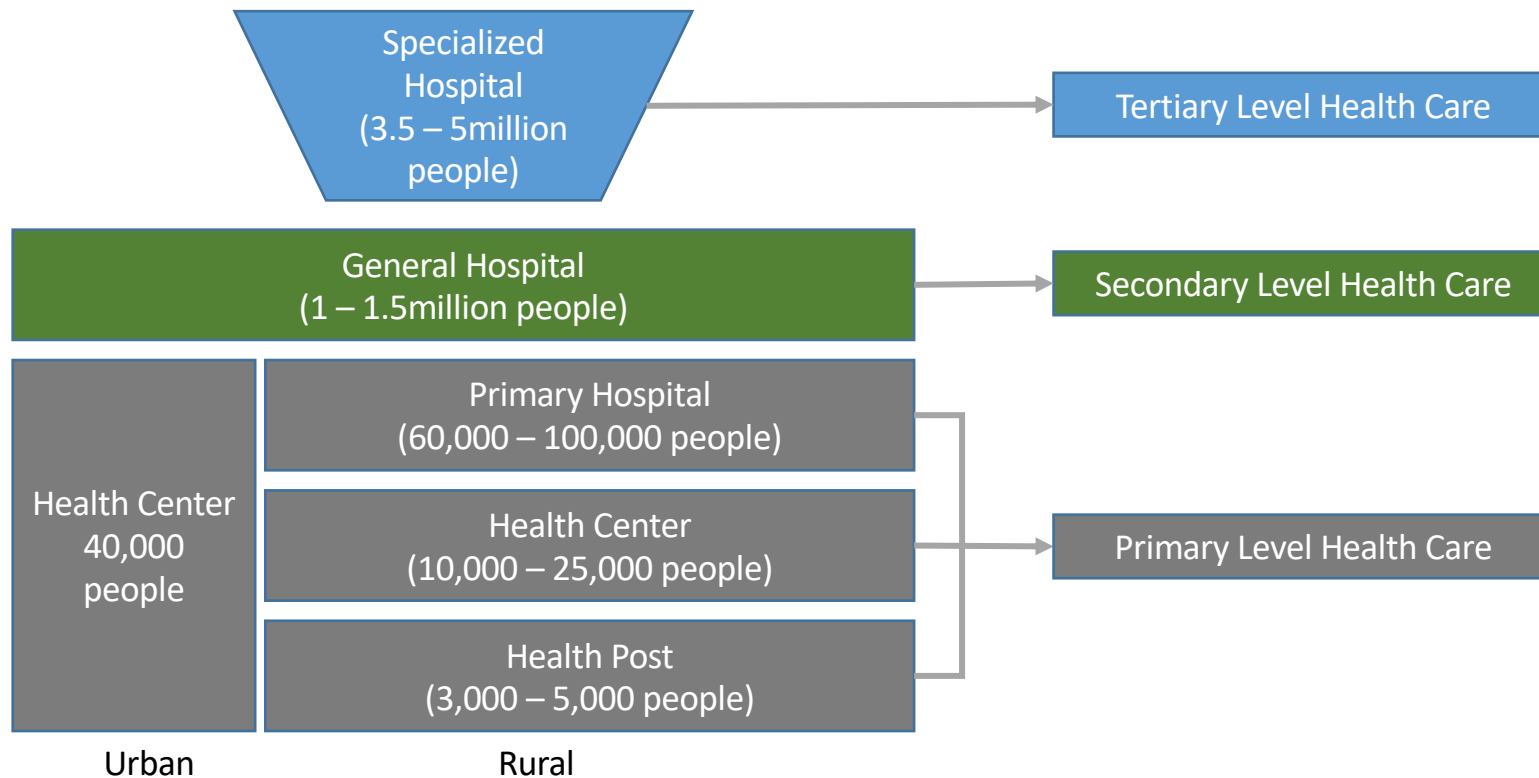## HIV prevalence of 0.9 %

Administrative organization
✓ Federal government with **ten regional governmental states and two city administrations** - further broken down into 99 zones and 1095 Woreda
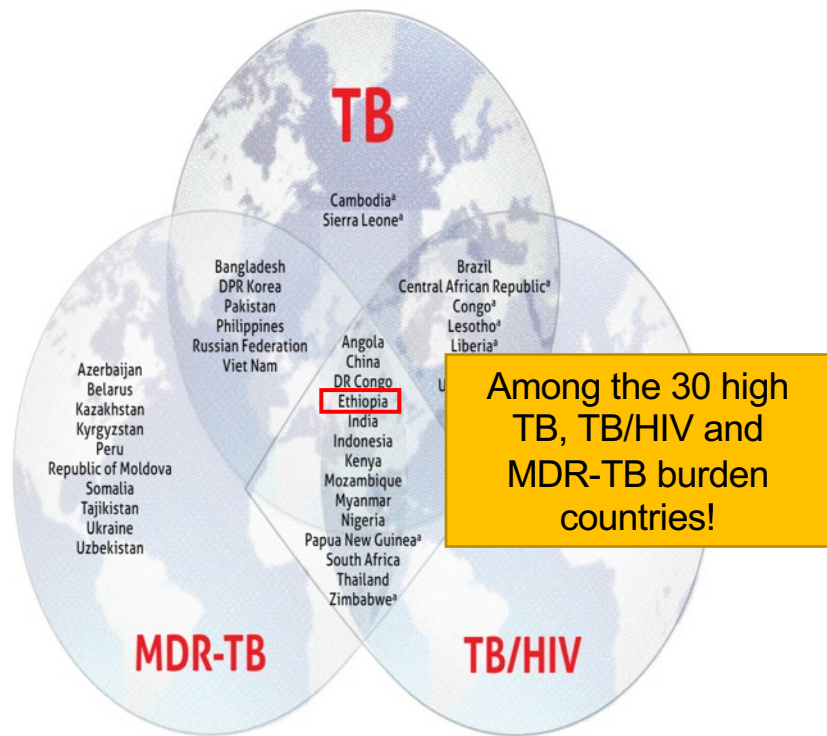
Health services coverage
281 hospitals, 3622 health centres and 16,660 Health posts

TB SITUATION: BURDEN, PROGRAMMATIC RESPONSE AND PROGRESS

The Union

TB

Cambodia[a]
Sierra Leone[a]

Bangladesh
DPR Korea
Pakistan
Philippines
Russian Federation
Viet Nam

Brazil
Central African Republic[a]
Congo[a]
Lesotho[a]
Liberia[a]

Azerbaijan
Belarus
Kazakhstan
Kyrgyzstan
Peru
Republic of Moldova
Somalia
Tajikistan
Ukraine
Uzbekistan

Angola
China
DR Congo
Ethiopia
India
Indonesia
Kenya
Mozambique
Myanmar
Nigeria
Papua New Guinea[a]
South Africa
Thailand
Zimbabwe[a]

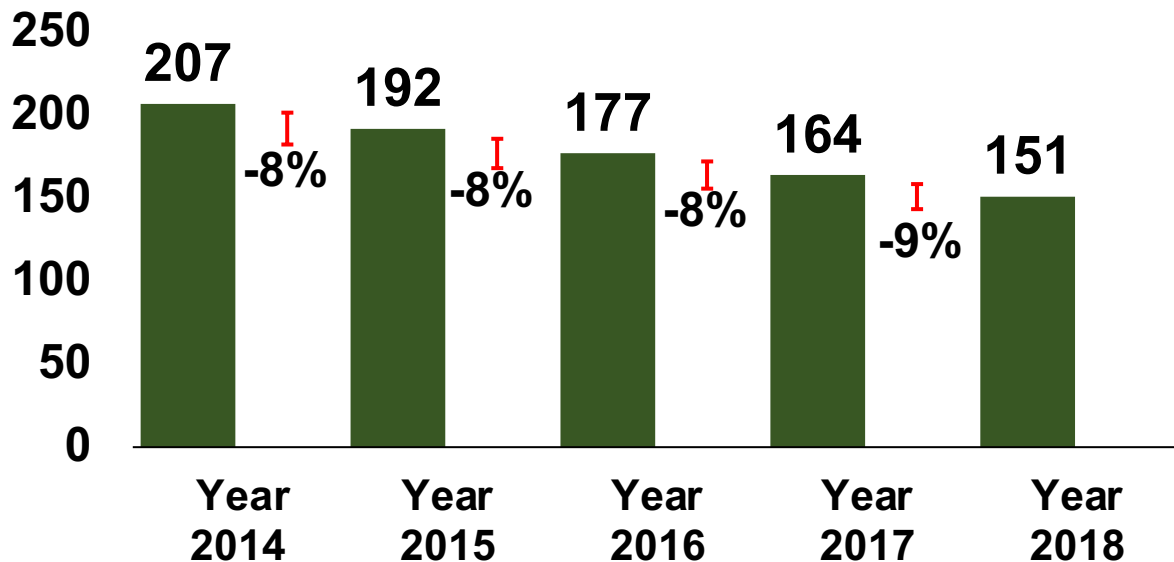Among the 30 high TB, TB/HIV and MDR-TB burden countries!

MDR-TB

TB/HIV

- 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

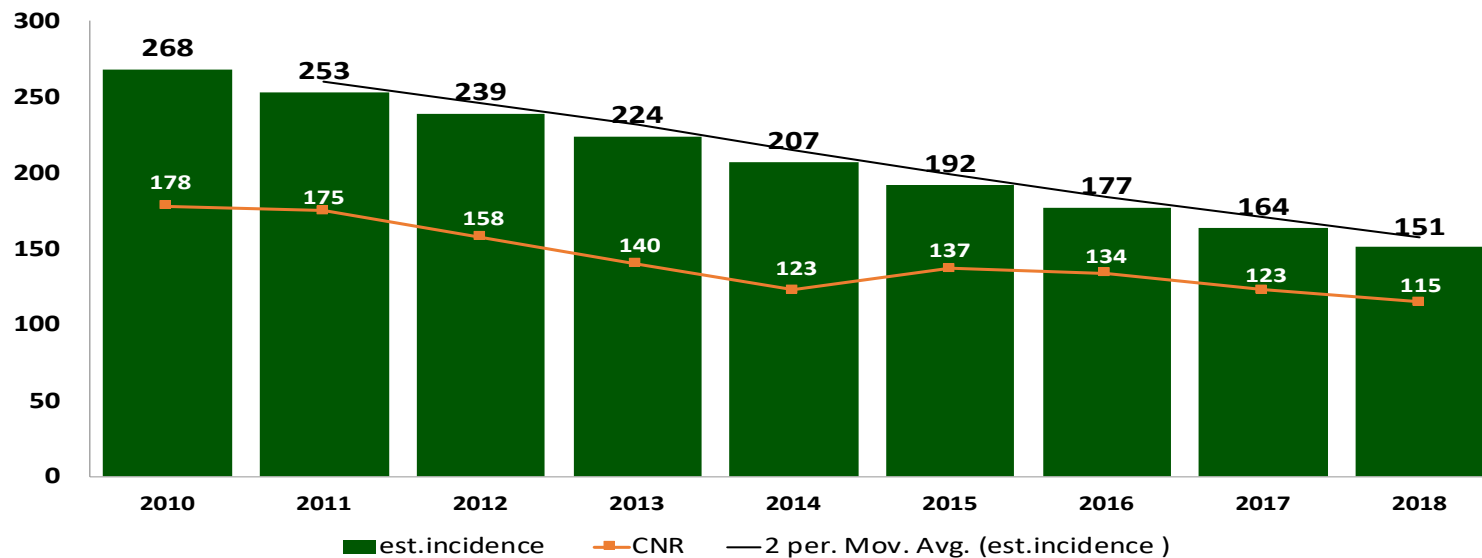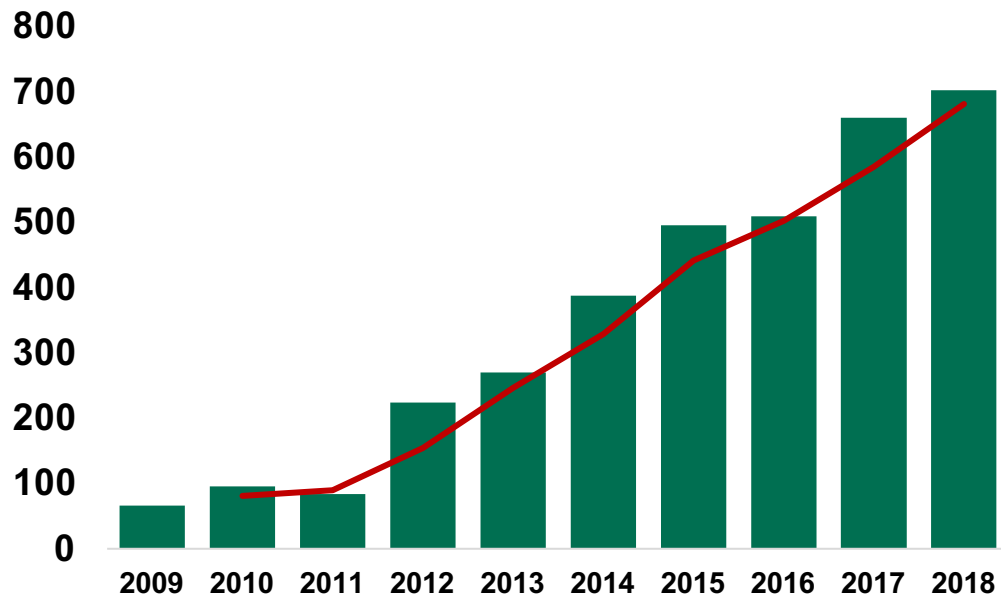 - HIV Co-infection rate among TB Patients is 8%
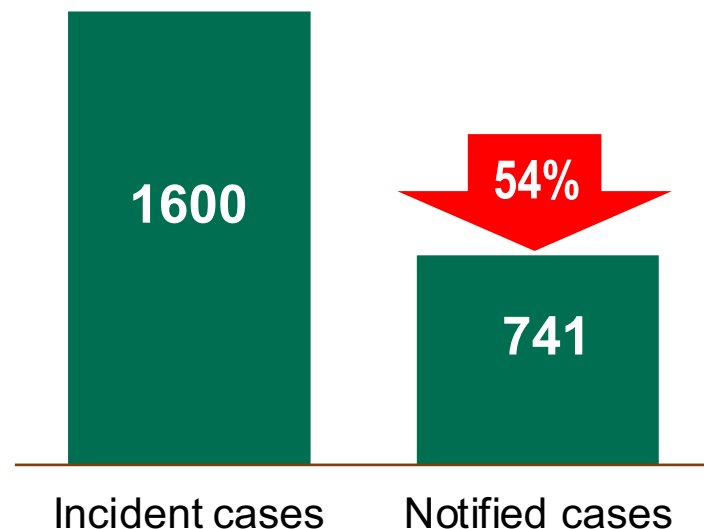
*WHO 2019 Report

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

1600 — Incident cases
741 — Notified cases
54%

TREND IN ESTIMATED TB MORTALITY PER 100,000 POPULATION
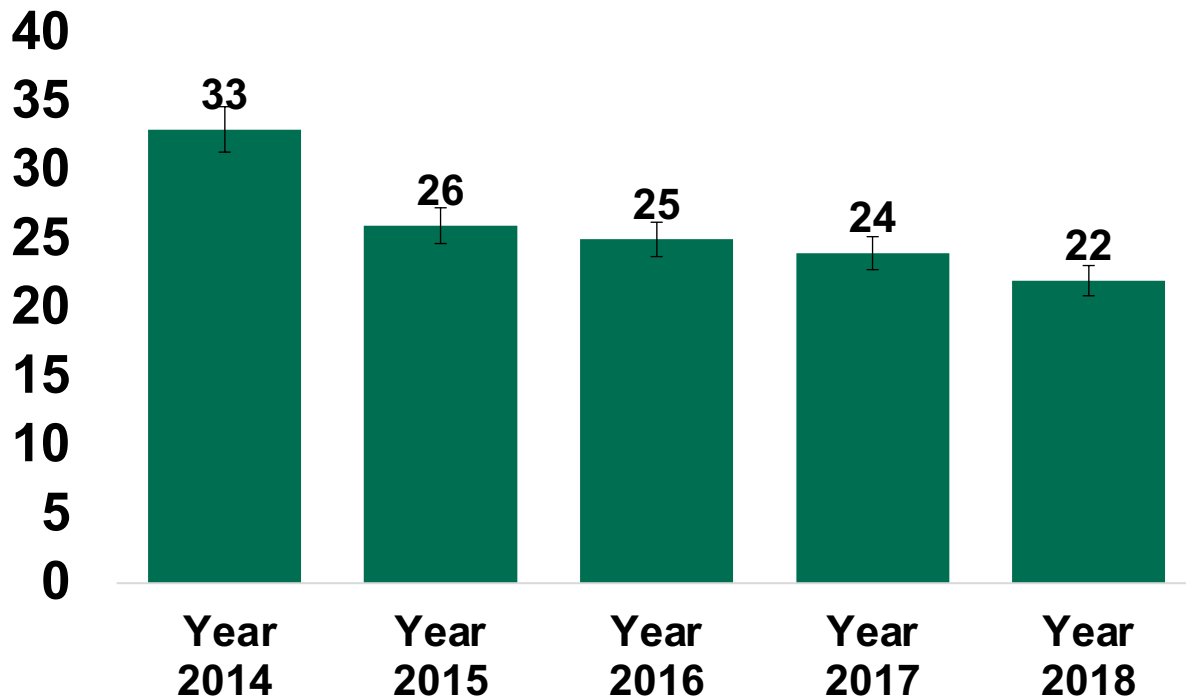
An estimated 24,000 persons have lost their lives to TB, in 2018

Chart data: TB mortality per 100,000 population
- Year 2014: 33
- Year 2015: 26
- Year 2016: 25
- Year 2017: 24
- Year 2018: 22

The Union

TREND IN RR/DR-TB TREATMENT SUCCESS RATE, 2014 -2018
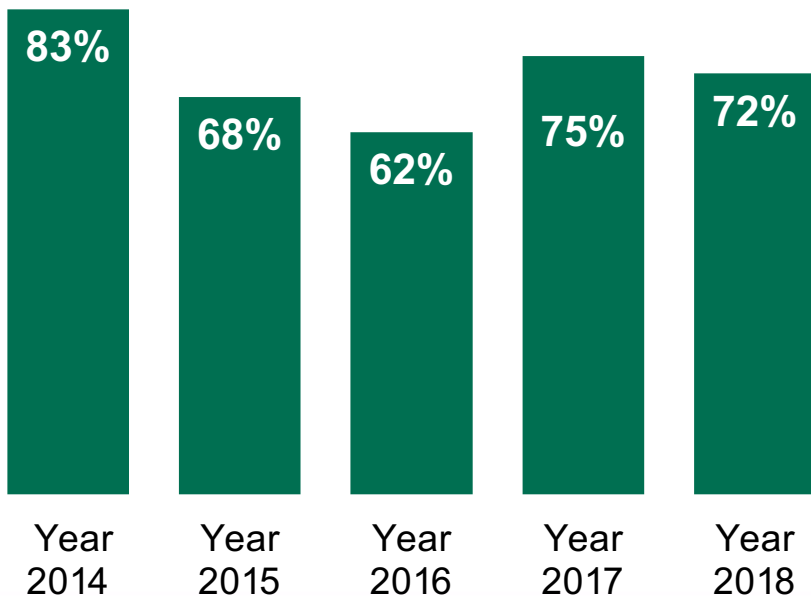
PERCENTAGE OF RR/DR-TB DEATH AMONG ALL ENROLLED IN SL TREATMENT, 2012-2018

Minimal change in RR/MDR-TB

THE 51ST UNION WORLD CONFERENCE ON LUNG HEALTH   @UnionConference #UnionConf

The Union
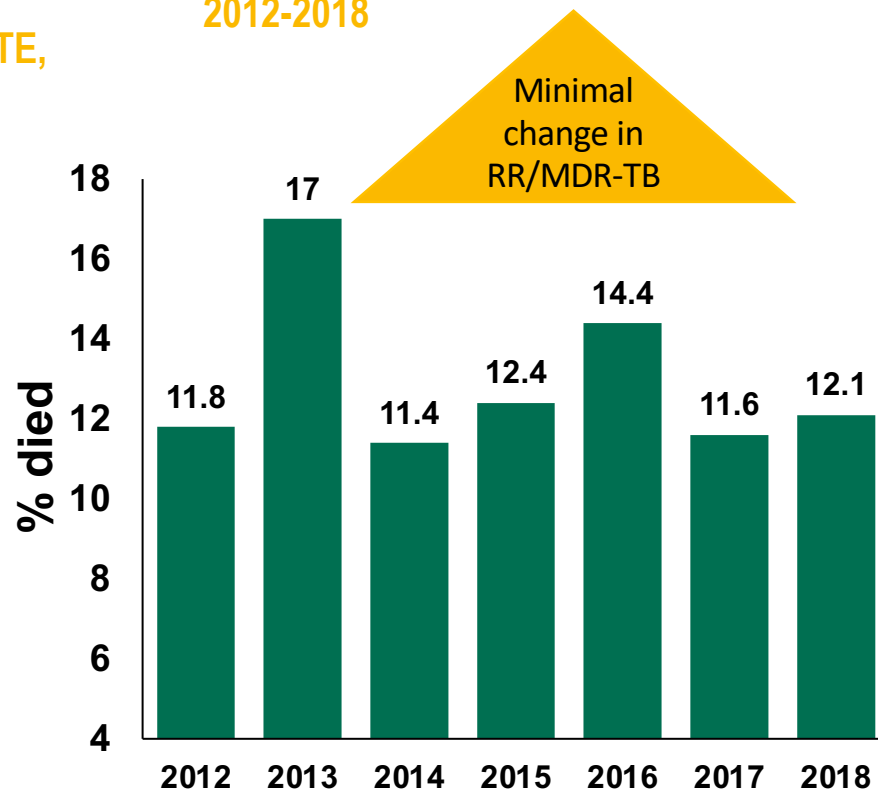
1) **Missed TB and leprosy Cases**
   - A third of the estimated people with TB disease un-detected and un-treated every year

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 Union

Based on clear roadmap

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

PEOPLE CENTRED FRAMEWORK (PCF)

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

- Inception meetings and orientation conducted though webinars
- Data consolidation
- Consultative workshops
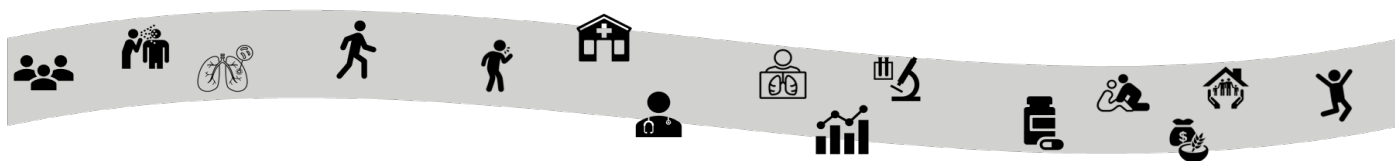
	General	People not accessing the health system			People with TB seeking care but either not diagnosed or not notified			People with TB diagnosed and notified but not successfully treated		
	Overall Data	TB infection, high risk for disease	Asymptomatic disease, not seeking care	Symptomatic disease, not seeking care	Presenting to health facilities, not diagnosed	Diagnosed by non-NTP, not notified	Diagnosed by NTP, not notified	Diagnosed, not started on treatment	Notified, not successfully treated	Successfully treated, not relapse free
Epidemiological data										
People-centred data										
System-related data										

The Union

Description of different scenarios assessed for epidemiologic impact

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

TIME IMPACT AND TIME ECONOMICS MODELLING

Incidence (rate per 100,000 population)
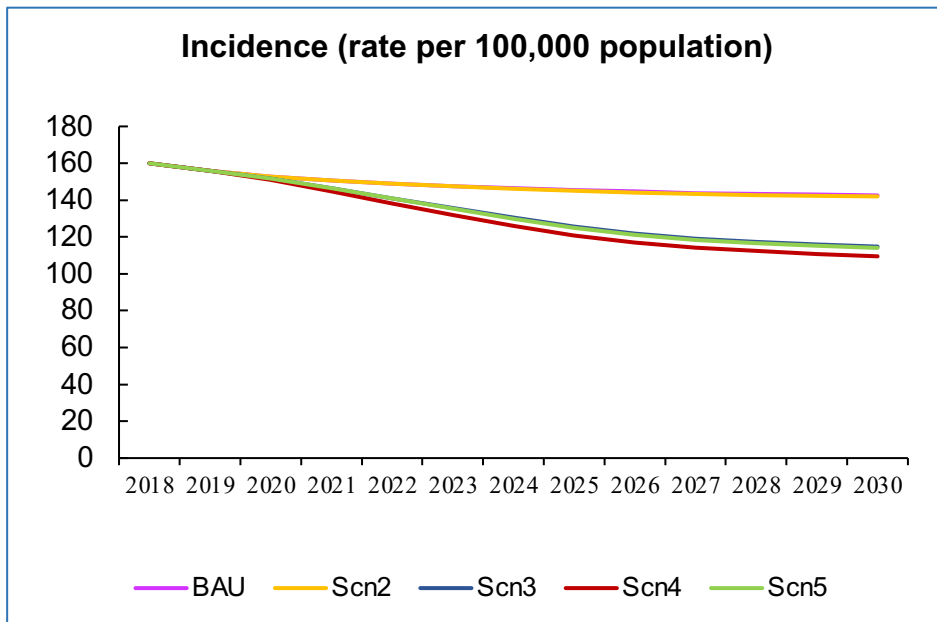
**Legend:**

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.

TB Incidence (rate per 100,000 population)

Baseline   Intervention   • WHO Incidence rate

143

109
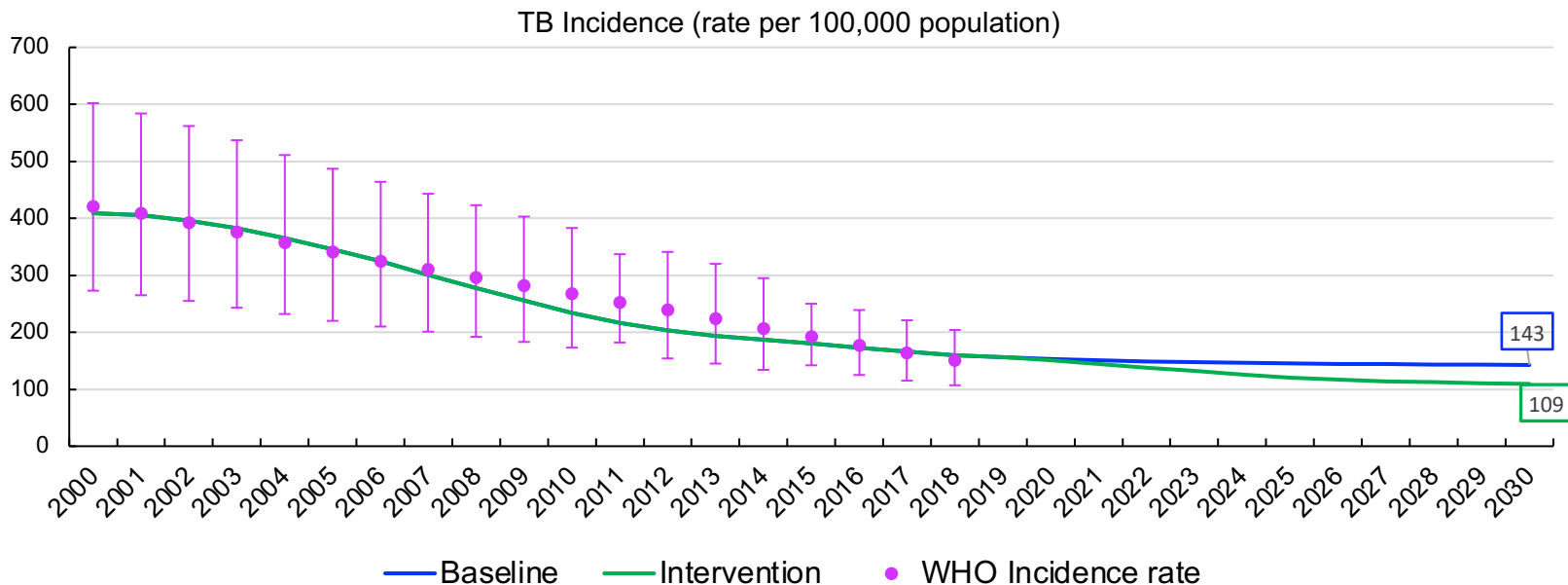
Impact of combination of CxR screening with GeneXpert test expansion, intensive case finding at health facilities, and household contact investigation and TPT on TB mortality.

TIME IMPACT COST EFFECTIVENESS ANALYSIS
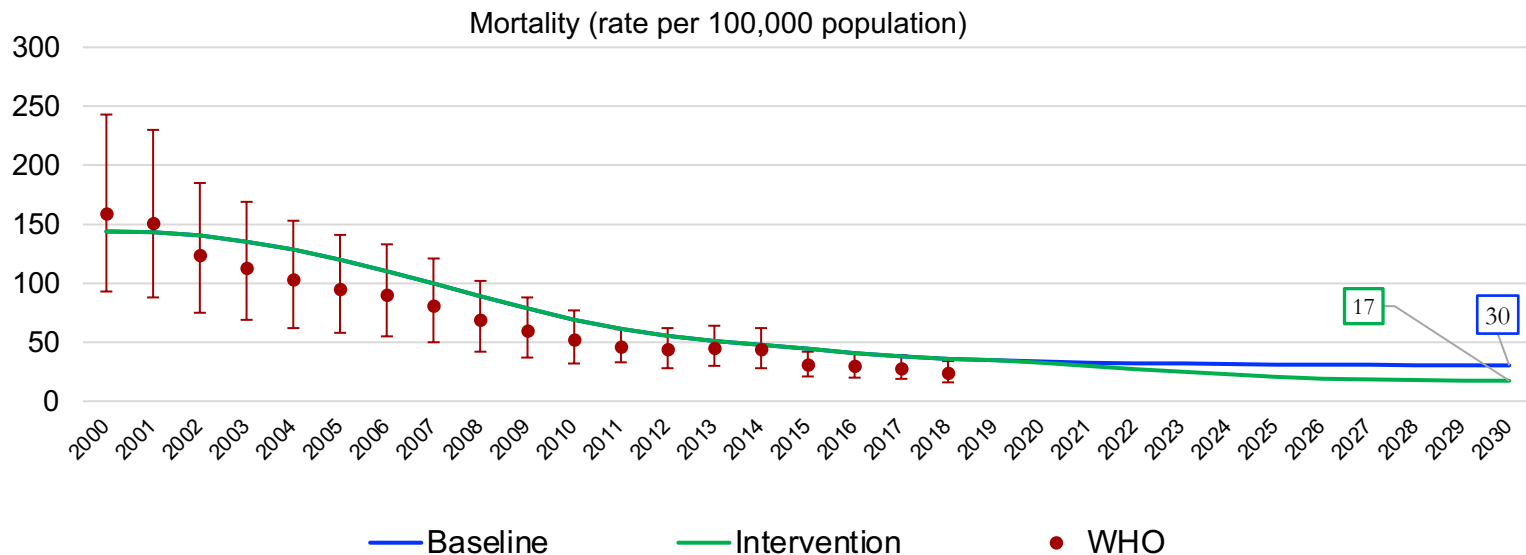
Scenario	Scenario category	Incremental cost per death averted	Incremental cost per DALY averted	GDP per capita: USD 772
1	Status quo			
2	Increase GeneXpert coverage alone to 80% coverage	$25,508	$3,182	4.12 GDP per capita
3	Use CxR for screening and increase GeneXpert coverage as first diagnostic test	$6,591	$855	1.11 GDP per capita
4	Scenario 3 + intensive case finding in health facilities (including PPM)	$16,795	$2,308	2.99 GDP per capita
5	Scenario 3 + contact investigation	$6,511	$856	1.11 GDP per capita

The Union

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

LESSONS LEARNED

- 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

The Union

- 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

@UnionConference #UnionConf