Consortium of Universities for Global Health

Webinar | November 2019

CDC's Integral Role in Ending the Global TB Epidemic

| Speaker |

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| Moderator |

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| CUGH | www.cugh.org **|** info@cugh.org **|** Visit cugh.org after November 15, 2019 to see and share the webinar recording **|**

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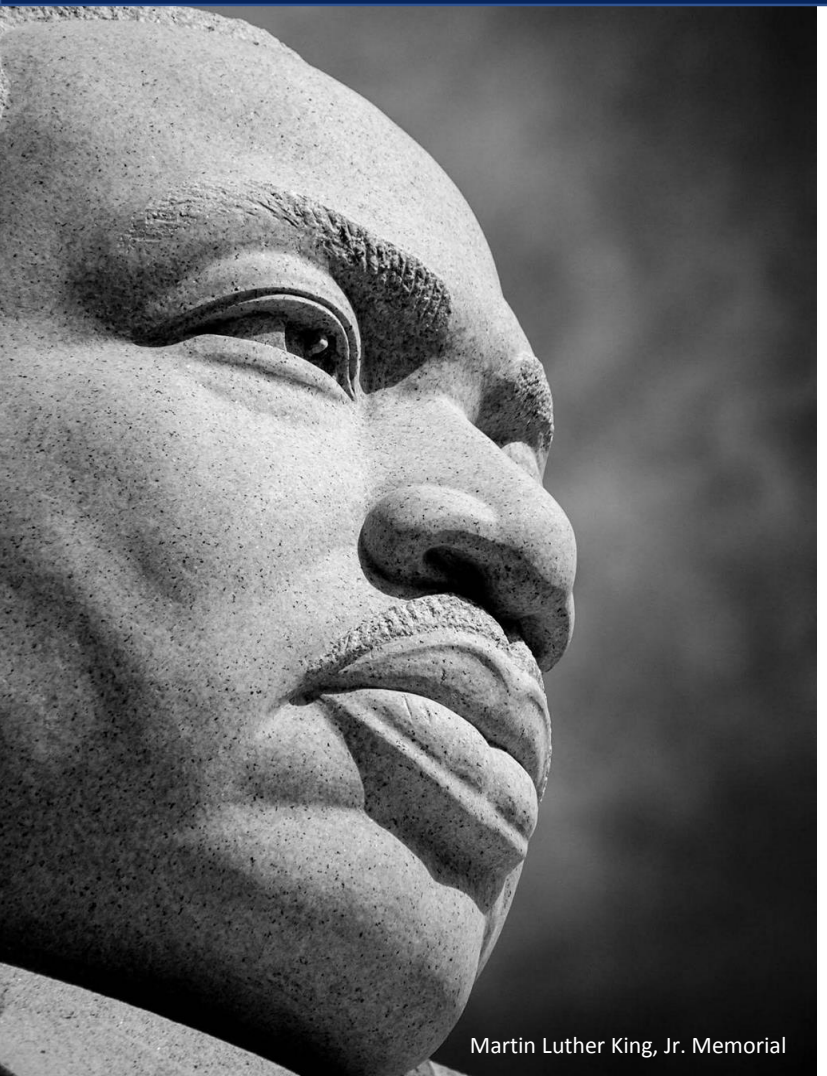
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CDC's Integral Role in Ending the Global TB Epidemic

Hank Tomlinson, Ph.D.
Director, Division of Global HIV & TB
Center for Global Health
U.S. Centers for Disease Control and Prevention





SUSTAINABLE DEVELOPMENT GOAL 3

Ensure healthy lives and promote well-being for all at all ages

GOAL 3, Target 3.3:

By 2030, end the epidemics of AIDS, ***tuberculosis***, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

Vision:

A world free of TB

Zero TB deaths

Zero TB disease

Zero TB suffering

Goal:

End the global TB epidemic

Tuberculosis is the **world's top infectious disease killer,**

CLAIMING 1.5 MILLION LIVES EACH YEAR

1.7 BILLION
people are **infected with latent TB** (23% of the world's population)

10 MILLION
people become ill with the disease each year
1,100,00 million are children

251,000 deaths
from TB among HIV-positive people; leading cause of death for PLHIV

484,000 new cases
of MDR/RR-TB in 2018; accounts for nearly **30%** of projected AMR disease and death

WHAT IS DRIVING THE *CONTINUED SPREAD OF TB?*

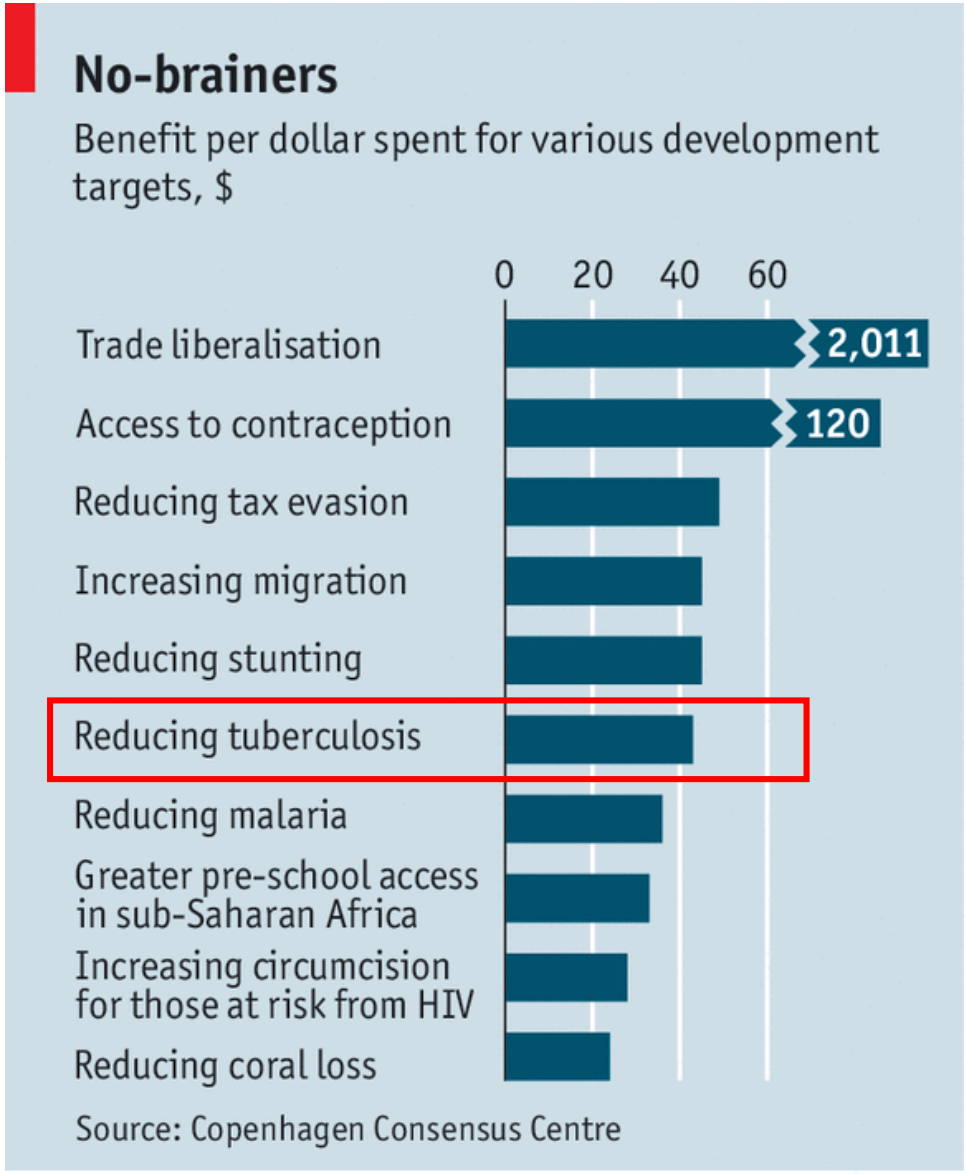
Missed TB
More than 30% of all TB cases go undetected, unreported, or not linked to care

Weak Health Care Systems
Patients are not being diagnosed and treated effectively, leading to continued transmission and growing threat of drug resistance

TB/HIV Co-Infection
TB is a top killer of people living with HIV, whose weakened immune systems make them more susceptible to becoming ill with TB

Drug Resistant TB
TB has grown resistant to available drugs. DR-TB is deadlier, costlier, and harder to treat. It's now found in every country.

Investment in TB is a “No Brainer”

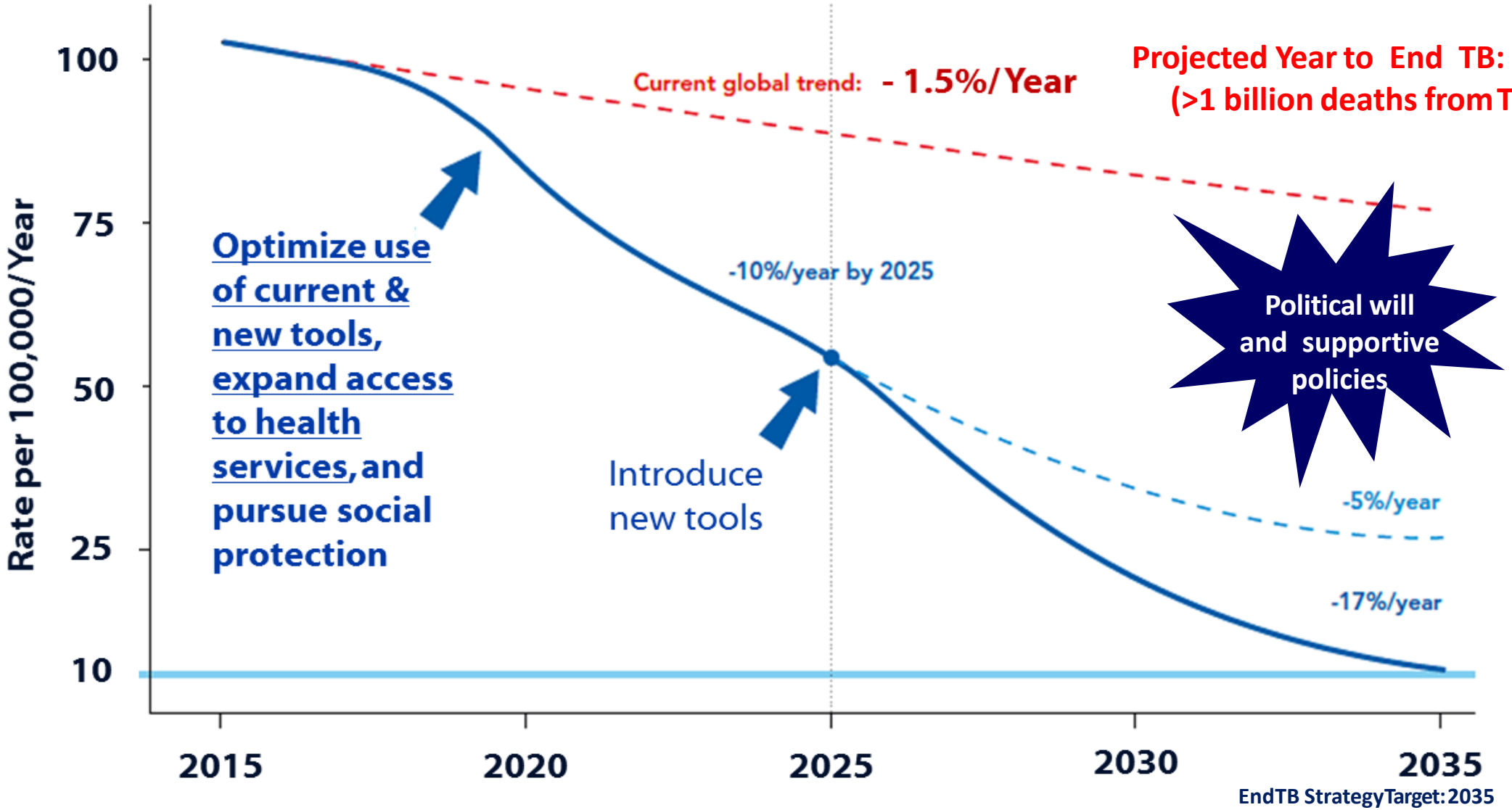


Expert panel including Nobel Laureates identified 19 Sustainable Development Goal (SDG) targets with **the best value for money for 2016-2030**

- Focus on these would **quadruple impact of aid budget** without extra spending
- Reducing TB deaths by 95% would result in a **$43 gain in environmental, economic & social benefits per $1 spent**
- 84% of TB funding already comes from governments of affected countries, but there remains a $2B shortfall to reach global targets

Economist.com

WHO End TB Strategy
Accelerate Impact to EndTB & MDRTB by 2035
Scale-up What Works & Invest in Innovations



Reason to Hope: Progress & Momentum

2% TB incidence decrease per year

Xpert Rollout: >10 million cartridges delivered

2018 First ever UN HLM on TB

WHO endorses shortened 9-12 mo. And all oral MDR regimen

5M PLHIV will be reached with TPT

60 M+ lives saved

Through TB and TB/HIV treatment, since 2000

6.5M PLHIV screened for TB

CDC-supported, as of September 2018

Doubling MDR-TB Case Notifications since 2010

Promising new vaccine candidates

3 new anti-TB drugs

Approved by FDA for treatment of MDR-TB **Bedaqualine, Linezolid and Pretomanid**

UNITED NATIONS
HIGH-LEVEL MEETING ON THE FIGHT TO END TUBERCULOSIS
26 SEPTEMBER 2018, UNHQ, NEW YORK

2018 UNGA TB UNHLM Bold Targets for 2022

Political leadership, collaboration and multi-sectoral accountability key requirements

Reaffirmed the 2030 agenda for Sustainable Development

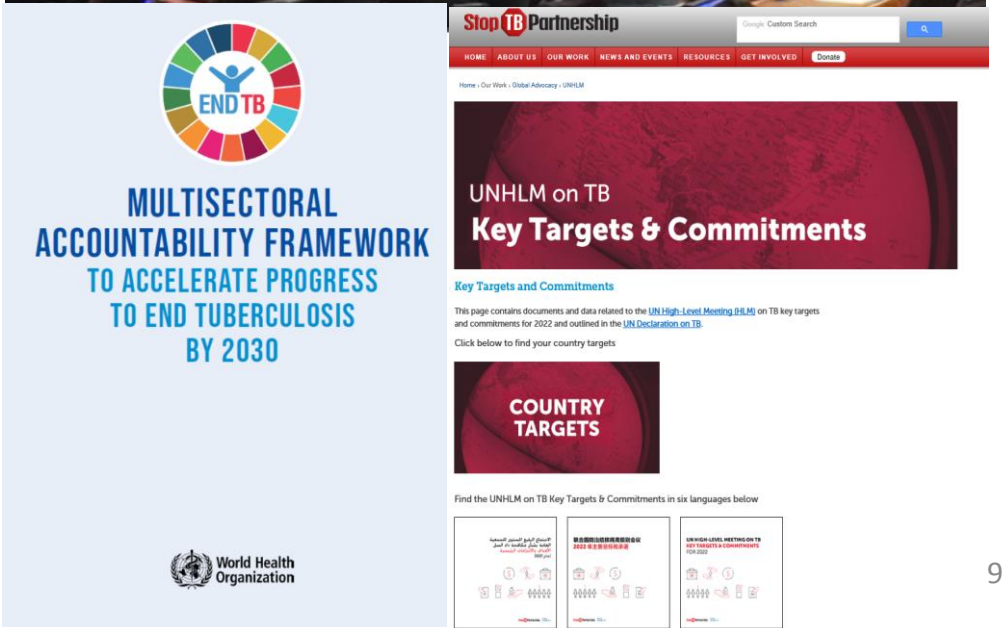
- Goal 3: Ensure healthy lives & promote well being

People on treatment (2018-2022)

- TB: 40 million
- Children with TB: 3.5 million
- MDR-TB: 1.5 million
- Children with MDR-TB: 115,000
- TB Preventive treatment: > 30 M: 6 million PLHIV, 4 million children, 20 million household contacts

Resources (2018-2022)

- 13 billion USD avg. per year for implementation
- 2 billion USD per year for research



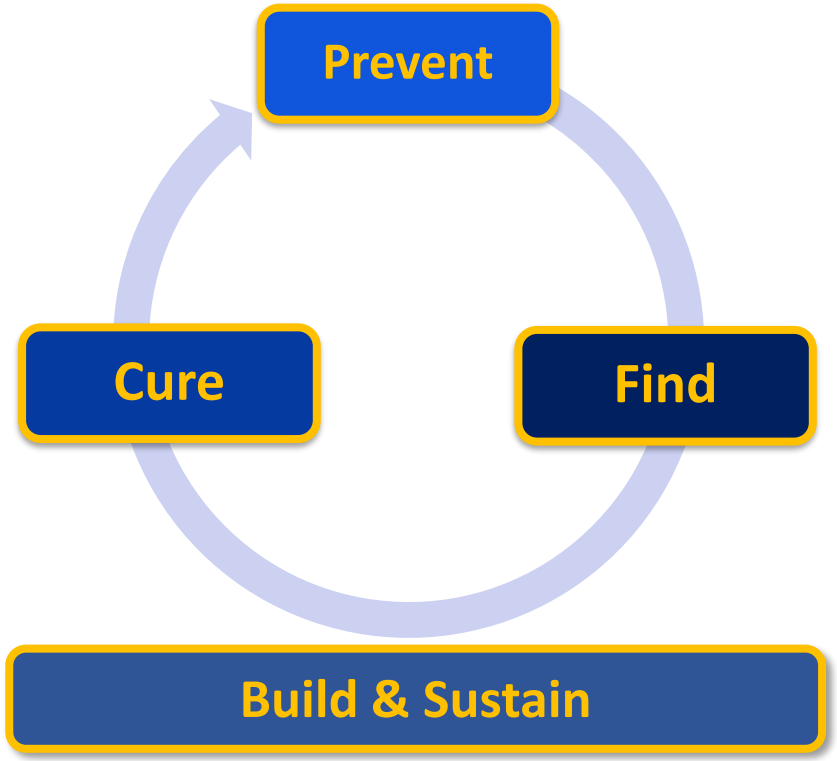
CDC PROVIDES

- Unmatched scientific and technical knowledge
- Technical know-how to build large sustainable public health programs, such as PEPFAR, polio and small pox
- Strong peer to peer relationships with Ministries of Heath
- Strategic use of data to increase impact and cost effectiveness
- Global and domestic expertise to inform dual efforts

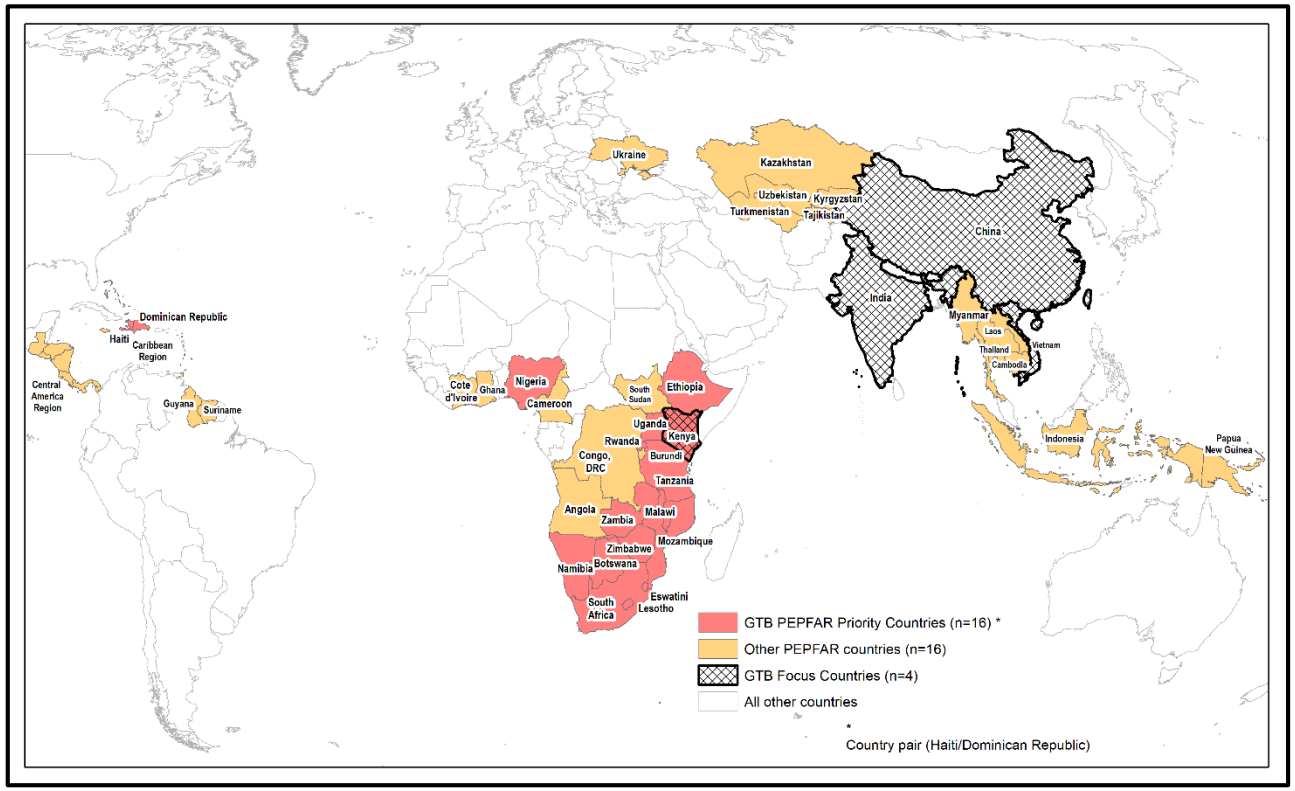
CDC's Mission in Global TB

Provide scientific leadership and expertise for developing, evaluating, and implementing evidence-based and innovative approaches to find, cure, and prevent TB

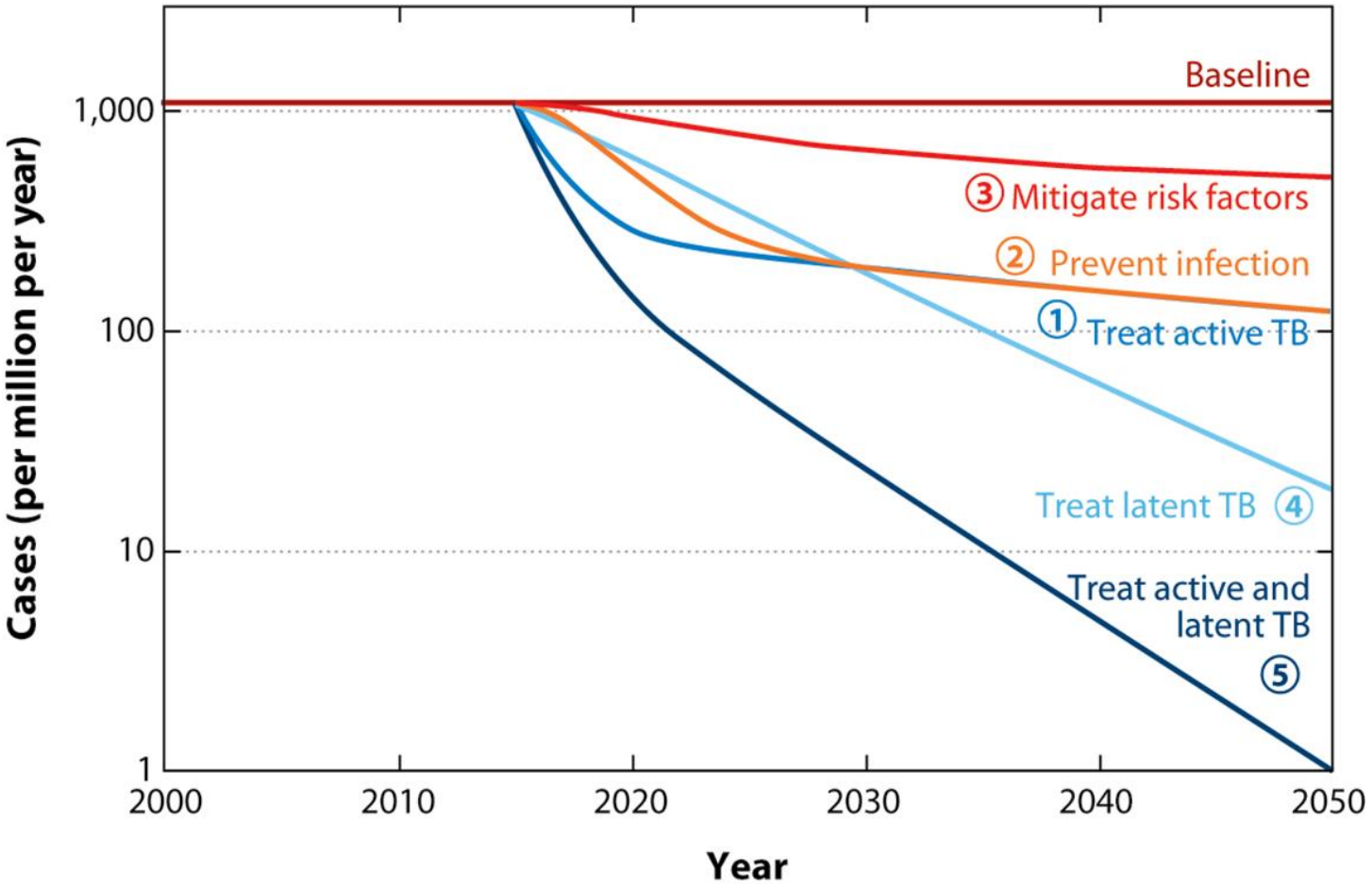
Strategic Priorities



Geographic Priorities



Tackling TB on Every Front
Implementing a Comprehensive Epidemic Response



Prevent Infection:

- Breaking the cycle of transmission is essential to protect our health workforce and reduce new infections and cases

Find and **Cure** Active TB:

- 40% of adult and 60% of childhood TB cases are missed each year

Prevent Disease:

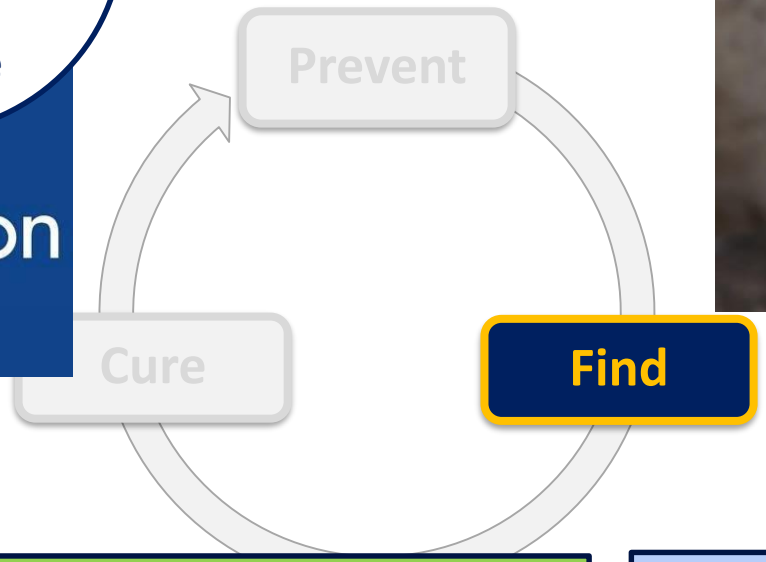
- Prevention must be linked to treatment efforts. PLHIV and children are 30x and 10x more likely to develop disease and die from TB than others, and benefit most from TB Preventive Treatment (TPT), which can reduce risk of death by up to 80%

Dye et al. Annual Rev Public Health 2013; 34:271-286.

TB in Children

CDC/Union collaboration: **The Child and Adolescent TB Centre of Excellence**

The Union



As part of the Gates-funded PERCH study, we demonstrated TB is one of top 10 causes of pneumonia in children.

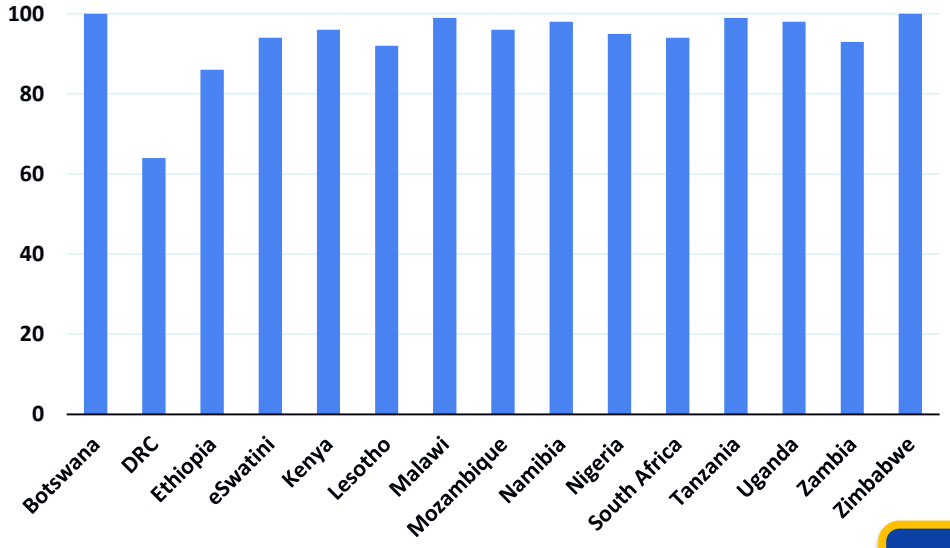
In Mozambique and Uganda, we're implementing and evaluating approaches to household-based contact investigations to identify and treat children at risk for TB

Our work in South Africa has also led to WHO guideline changes for treatment of drug-resistant TB among children

In Kenya, we are identifying the fastest, most effective way to diagnose TB in children: assessing innovative specimens & tests

TB/HIV Care Integration

Proportion of TB Patients with Known HIV Status*, 2017

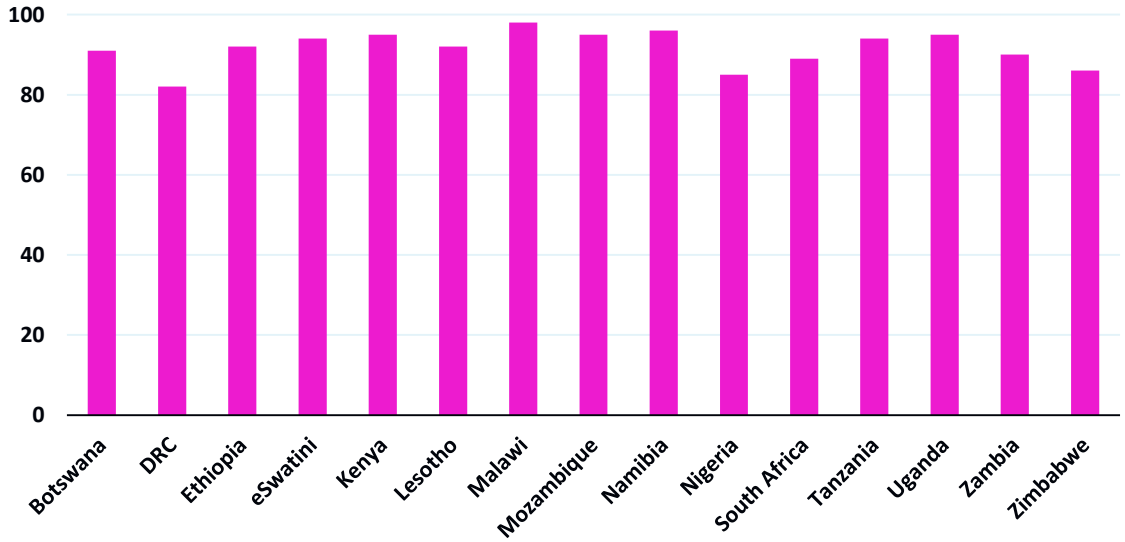


Prevent

Cure

Build and

Proportion of HIV-Positive TB Patients on ART*, 2017



WHO Global TB Report 2018

***In selected PEPFAR countries**

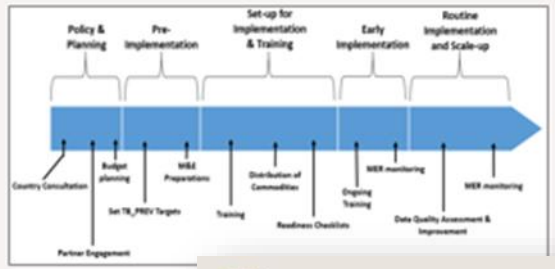
TB Preventive Treatment (TPT)

Prevent

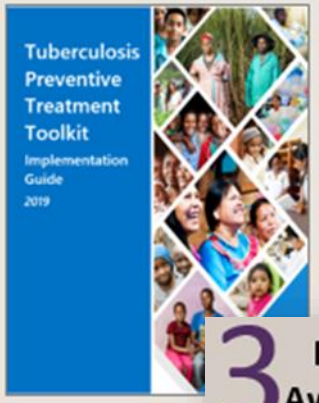
Find

Cure

1 Baseline Country Assessment



2 TPT Implementation Toolkit and Operational Guide



3 Raising Awareness

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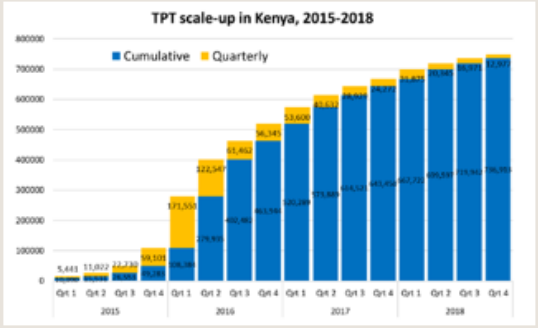
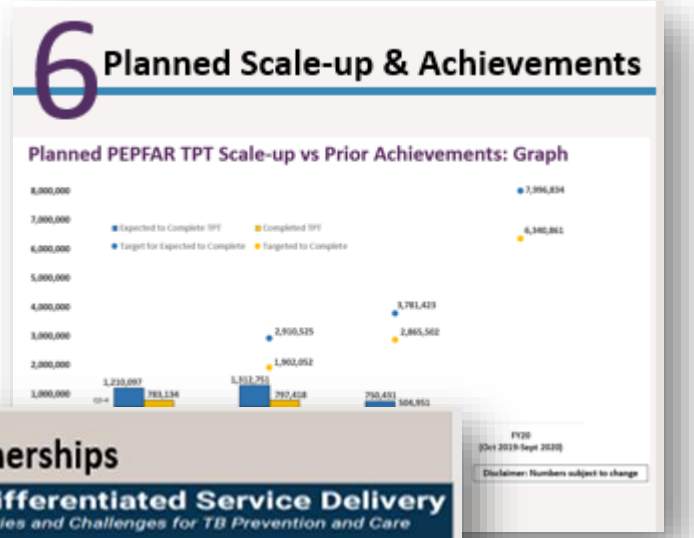
4 Technical Assistance



SOUTH-TO-SOUTH TPT MENTORSHIP VISIT
KENYA — MAY 20-23, 2019
(UGANDA, ZAMBIA, ZIMBABWE)

5 Partnerships

6 Planned Scale-up & Achievements



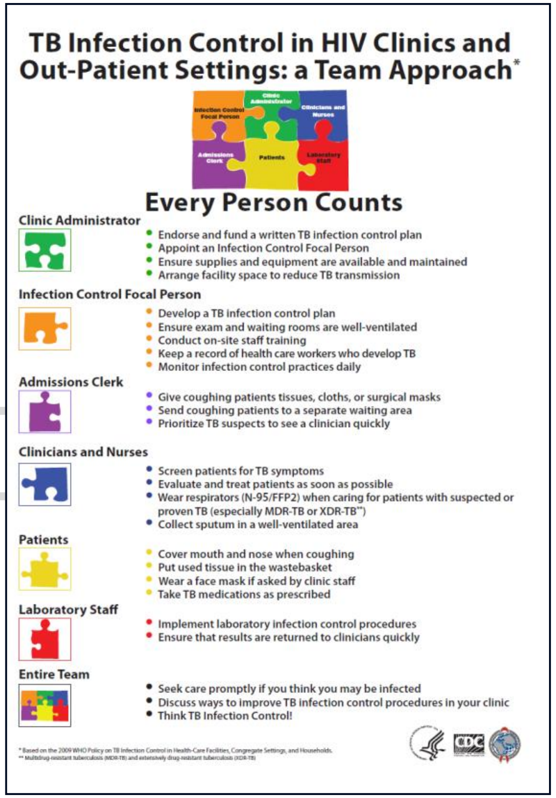
TB BASICS

Building and Strengthening Infection Control Strategies

- *Innovative mentorship and training program to strengthen TB infection control
- *Designs tailored interventions to address gaps
- *Implements M&E and ongoing program improvement
- *Emphasizes sustainable, local capacity development
- *Scaling-up in > 15 countries in Africa and Asia


Morbidity and Mortality Weekly Report

Building and Strengthening Infection Control Strategies to Prevent Tuberculosis — Nigeria, 2015



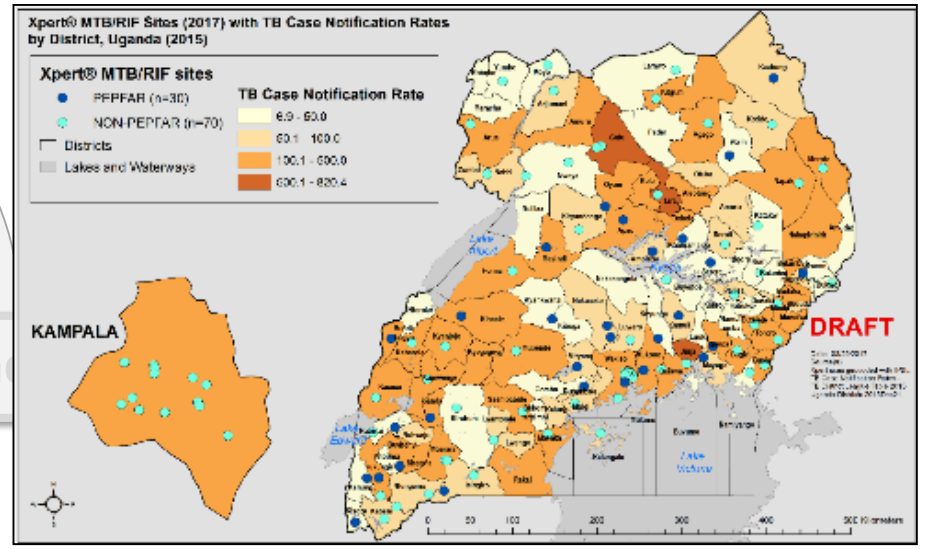
Laboratory and Surveillance System Strengthening

Data Use to Improve Program

Engaging Local Experts to Validate and Analyze TB data to END TB

Prevent

Xpert MTB/RIF Optimization



Build and Sustain

TB SLMTA & SLIPTA

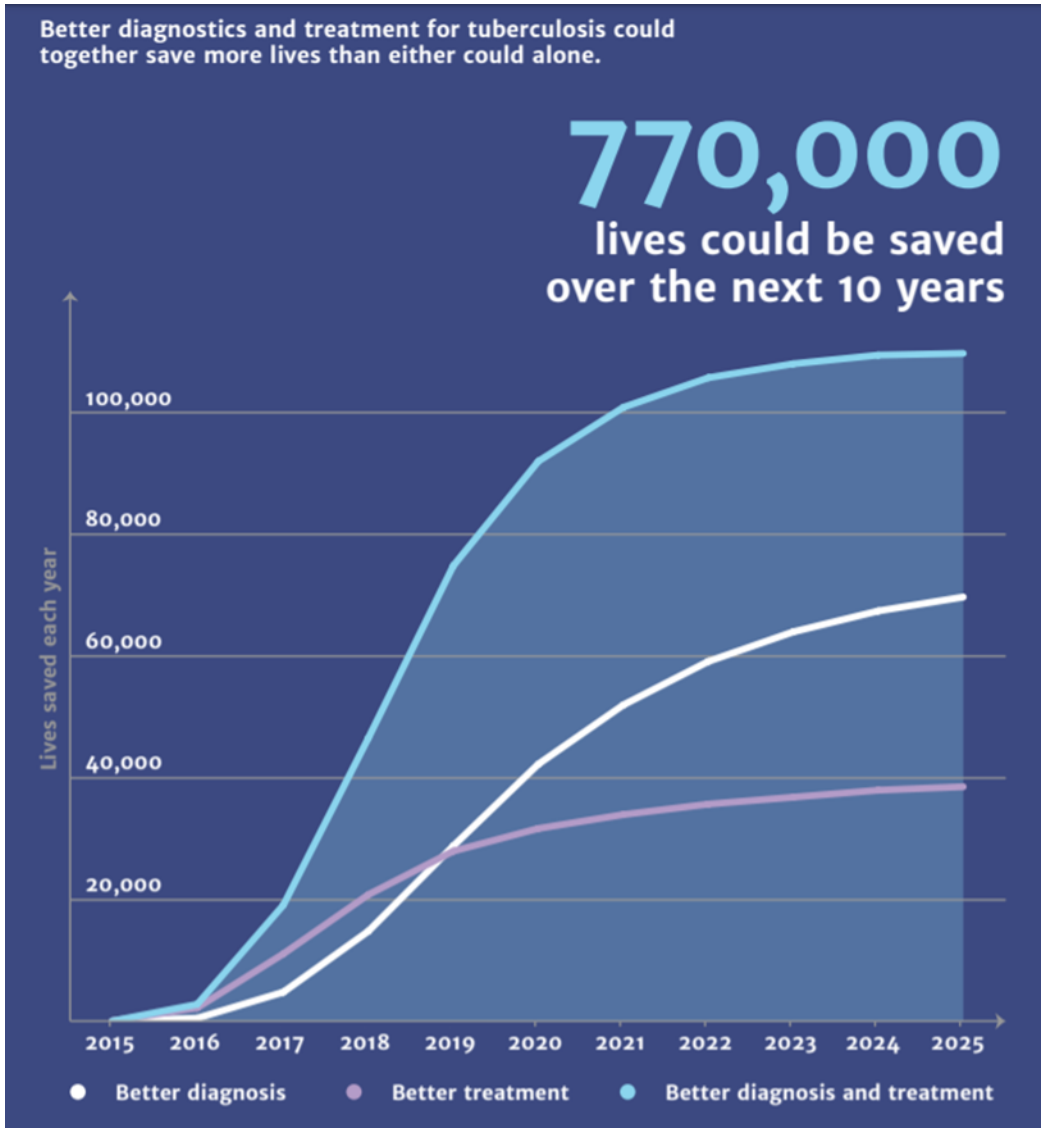
Stepwise Laboratory Quality Improvement Process Towards Accreditation — SLIPTA

SLMTA

the State of the XMPEP
Xpert MTB/RIF Performance Evaluation Program

What's Next
Investing in Game-Changers to End TB

- Rapid, mobile, point-of-care diagnostics
  - Urine, blood, breath, sweat
- New treatments
  - New therapies and drugs for all forms of TB
  - Shorter, less toxic treatment regimens for adults and children
  - Alternative treatment delivery (e.g. depo, inhaled, transdermal)
- Effective vaccine to prevent TB infection and disease



Source: Arinaminpathy N, 2016, www.amr-review.org

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Questions?

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