Diagnostic Network Integration: Opportunities and Pitfalls

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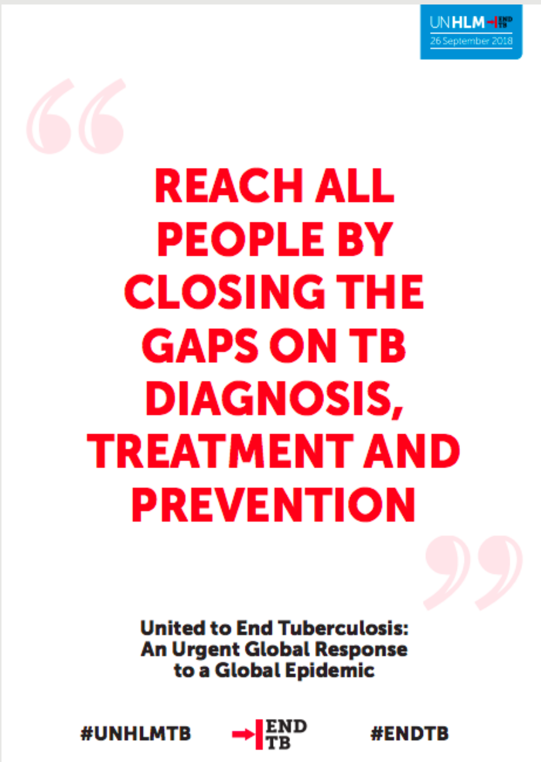
September 12, 2019

UN General Assembly High Level Meeting on Tuberculosis


UNHLM END TB
26 September 2018

REACH ALL PEOPLE BY CLOSING THE GAPS ON TB DIAGNOSIS, TREATMENT AND PREVENTION

United to End Tuberculosis: An Urgent Global Response to a Global Epidemic

#UNHLMTB END TB #ENDTB

Commit to diagnosing and treating a cumulative 40 million people by 2022 through both public and private-sector health services - including 3.5 million children and 1.5 million people with drug-resistant TB.

Global TB Case Detection Gap

From WHO Global Tuberculosis Report 2018

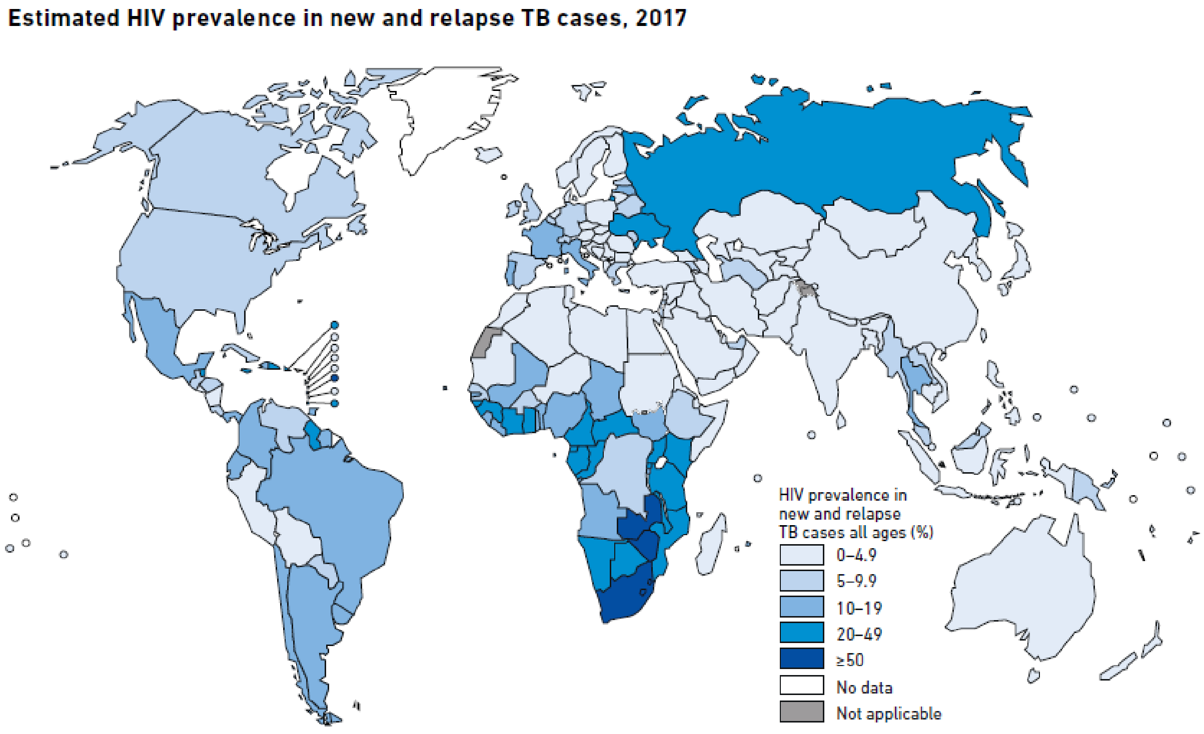
Closing the 3.6 million TB gap and reaching the TB UNGA targets

Countries need to:

- Improve demand for, and functionality of, existing diagnostic testing resources
- Simultaneously expand their TB diagnostic testing capacity
  - When compared to current investments, modeling revealed that countries would require a 4-fold increase in the number of Xpert modules and a 6-fold increase in the number of Xpert test cartridges per year in order to meet their full testing needs.
- Improve patient-centered access to diagnostic testing
  - Closer to home and community
  - At health provider or facility where they seek care
  - Integrated with other disease services like HIV

Integrated Diagnostic Networks are Important within the Context of the Epidemics

In 2017, 9% of people with TB were also living with HIV



Country	% TB/HIV
DR Congo	8%
Ethiopia	7%
Kenya	29%
Lesotho	71%
Mozambique	40%
Namibia	36%
Nigeria	14%
South Africa	60%
Cambodia	3%
India	3%
Indonesia	4%
Pakistan	1%
Philippines	1%
Vietnam	4%

From WHO Global Tuberculosis Report 2018

Integrated Diagnostic Networks

Are important because they can:

- Leverage resources across disease programs
- Increase diagnosis and treatment efficiencies for programs and patients

But they cannot –

- Jeopardize the integrity of disease-specific diagnostic goals
- Reduce timeliness of testing, reporting the result, or initiation of treatment

Programmatic Implications for Integrated TB/HIV Diagnostic Networks

	TB	HIV
Purpose of Test	Provides an initial, up-front diagnostic and drug susceptibility test result	Viral load testing: provides a post-HIV diagnosis test result
Placement of instrument	Decentralized testing is a priority for TB case detection; Diagnosis is sought at primary health care/TB clinics	Centralization to optimize utilization of high throughput instruments; Testing is referred via ART sites
Specimen transport	Can provide program and patient-relevant efficiencies but turn-around times can be long, cost prohibitive	Design of efficient, long-ranging (but possibly costly) specimen transport networks
Operational capacity	Manufacturer-defined testing capacity cannot be applied programmatically to account for system constraints and prioritization of patient access	Increased resources and mostly known patient population allow for more consistent utilization of instruments

Planning for Integrated Diagnostic Networks

HIV Viral Load and HIV/TB Lab Optimization Exercises:

- Should be designed to ensure that Xpert capacity and referral calculations for TB are as accurate as possible by including:
  - Appropriate and realistic instrument- and test-based operational assumptions
  - All persons eligible for TB testing
  - All TB Xpert, culture and drug susceptibility testing sites and patient referral sources
- Zimbabwe and Nigeria examples tomorrow

Key Takeaways

Integration of diagnostic networks

- Has to be responsive to disease burdens and level of co-morbidity
- Must not interfere with the purpose of the diagnostic test or programmatic plans, strategies or goals
- Must involve all disease programs in the design and implementation
- Must consider programmatic resources and limitations and not be dependent on one program or the other

Optimization of diagnostic networks

- Defined differently for different diseases, tests, countries, and resources/funding
- Must not become a barrier to ensure or improve access to diagnostic tests

Thank you!

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https://www.usaid.gov/what-we-do/global-health/tuberculosis