What we need to do to eliminate tuberculosis

- Address the social determinants of disease
- Invest in public health
- Take MDR-TB seriously
- Invest in research
- Do a better job treating latent and active TB with shorter, safer, easier regimens

* From presentation by Neil Schluger entitled “Thinking about TB elimination at home and abroad”

"Curiously, I stand before you utterly perplexed. I have spoken to a goodly number of people, and read a great deal of material, and I’m not at all sure I understand what, exactly, is required to get past the incremental response to TB."

Stephen Lewis, former UN Secretary-General’s Special Envoy for HIV/AIDS in Africa

* Stephen Lewis’ keynote address at #TB2016 in Durban, S. Africa on July 17, 2016

2017 National TB Conference, Atlanta, Georgia National TB Controllers Association
www.tbcontrollers.org
“... There is no separate financial machine behind TB as there is with PEPFAR for AIDS or the President’s Malaria Initiative for Malaria. TB is overwhelmingly funded by the Global Fund; without it, there would be a vacant pipeline. As has been noted, some 77% of funding for TB in Africa comes from the Global Fund ... however, only about 17% of the Fund's resources go to TB ... some 53% to HIV and 30% to malaria. Tuberculosis is the impoverished cousin ... a matter of some consternation since it's the infectious disease that has ascended to the status of the engine of death. One and a half million annually, and not a single death necessary. What in God's name is wrong with the world?*

*Stephen Lewis' keynote address at #TB2016 in Durban, S. Africa on July 17, 2016
Improving TB and HIV services for miners, ex-miners, and their families

- CDC working with World Bank on a $120 million/5-year effort to increase access to TB diagnostic and treatment services
- CDC project to improve TB and HIV case finding, diagnosis, treatment, and continuity of services in Mozambique, South Africa, and Swaziland

Preventing TB Overseas Pilot Study (PTOPS): Testing for LTBI and Voluntary Treatment for Vietnamese Immigrating to the U.S.

Improving clinicians ability to diagnose TB among children

- Using GeneXpert and culture to test:
  - Nasopharyngeal aspirates
  - Induced sputum
  - Gastric aspirates
  - String tests
  - Stool
  - Urine
  - Lymph node FNA
  - Blood

- Use of emerging tests (e.g., electric nose)

- What is the most feasible and sensitive combination of specimens and diagnostic tests?

Family centered approach to addressing TB/HIV in Mozambique and Uganda: bringing services to the home.
- Sensitivity approaching that of liquid culture
- Improved specificity for Rif-R
- 1hr 15min test time

Introducing the GeneXpert® Omni

- Small and Portable
- Proven Cartridge Technology
- Durable
- Low Power Consumption
- Automatic Connectivity
- Solid State
- Integrated Battery
- Projected Availability: International Q3 2017, US Q1 2018

RESISTANCE TO CHANGE?
Language shapes the terms of engagement through which people interact with health systems and medical research and, in doing so, can serve to either exclude people or empower them to participate as equal partners in their own care. Often the deleterious effects of tuberculosis discourse manifest through stigmatization, which begins when a group of people receive an undesirable label.
THANK YOU. QUESTIONS?

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone: 1-800-CDC-INFO (1-800-232-4636) / TTY: 1-888-222-5558
Visit: www.cdc.gov | Contact CDC at 1-800-CDC-INFO or www.cdc.gov/ebola

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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«90-90-90» - ambitious target aimed at ending AIDS

- 90% diagnosed
- 90% on treatment
- 90% virally suppressed

In 2020, 90% of all people living with HIV will know their HIV status.

Zero new HIV infections.
Zero discrimination.
Zero AIDS-related deaths.

Source: UNAIDS

Countries in the three TB high-burden country lists that will be used by WHO during the period 2016–2020, and their areas of overlap.

TB

MDR-TB

TB/HIV
Fig 6.5
Surveys of costs faced by patients with TB and their households: progress and plans as of August 2016

TABLE 6.2
Population attributable fractions for risk factors for TB

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Relative Risk</th>
<th>Population Attributable Fraction (High TB burden Countries)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>Tuberculosis Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>3.1</td>
<td>8.5</td>
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<tr>
<td>Alcohol misuse</td>
<td>2.0</td>
<td>4.3</td>
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<tr>
<td>Smoking</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Indoor air pollution</td>
<td>1.6</td>
<td>53</td>
</tr>
</tbody>
</table>

* Source: Lienhardt K, Castro R, Chalupa MJ, Choudhry LS, Foley K, Glouetou P, 
GLOBAL TB UPDATES

Select Projects

Piloting 3HP Among Immigrants Resettling to the United States

- Pilot feasibility study on LTBI testing and voluntary treatment at panel physician site in Ho Chi Minh City (HCMC), Vietnam
- Collaboration with UCSF, Vietnam NTP, HCMC panel site, and CDC (DGHT, DTBE, and DGMQ)
- Results will inform if LTBI testing and voluntary testing should be included as part of the US medical examination process for U.S.-bound immigrants
- Identify factors to be considered for successful scale-up and implementation of this strategy

BASICS: Breaking Cycle of Transmission in Health Facilities and HIV Clinics

- Assess TB infection control (IC) in health facilities
- Design tailored intervention package to address gaps
- Implement ongoing M&E and continuous program improvement
- Emphasize sustainable, local capacity development
- Scaling-up nationwide in Nigeria with a focus on facilities serving PLHIV
Finding and Curing Childhood TB

- In Kenya, we're working to identify the fastest, most effective way to diagnose TB in children:
  - Assessing most sensitive and specific combination of specimens and tests to accurately diagnose TB among children with and without HIV.

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

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

Finding and Curing TB in the Mining Sector

- CDC is collaborating with the World Bank and local government partners on a $120-million, five-year effort to increase access to diagnosis and treatment for miners, their families, and communities.
  - Mapping and targeting hot spots within affected communities;
  - Developing new models for active TB case finding, diagnosis, and treatment;
  - Scaling-up TB screening with a focus on miners and their families; and
  - Testing models for continuity of care and treatment adherence support.

ART Provision among Notified vs Estimated HIV+ve TB Patients in High TB/HIV Burden PEPFAR countries, 2014*
Case-finding and diagnosis among patients with TB and HIV and HIV-associated TB in Nigeria, 2014*

- TB/HIV diagnosed 16,066/yr or 16%
- Only 11,997/yr or 12% on ART

*WHO Global TB Report, 2015

Xpert MTB/RIF: Status of Rollout in Kenya

- 131 GeneXpert instruments (37% PEPFAR-supported) in 126 facilities
- PEPFAR supported implementation of 110 (64%) instruments in high TB/HIV burden counties
- Placement should take into consideration:
  - TB burden
  - Prevalence of priority populations
  - Networks for referral and results reporting
- Placement of instruments directly impacts:
  - Patient access
  - Utilization
  - Time to diagnosis and treatment

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
  - Novel treatment regimens for adults and children
  - Alternative treatment delivery (e.g. depot, transdermal)
- An effective vaccine
