Treating Patient, Not Disease: People-Centered Approach

7th TB Symposium – Ministry of Health of the Kyrgyz Republic and Médecins Sans Frontières

1-2 March, 2018, BISHKEK, KYRGYZSTAN

Global TB: Program Status and Progress towards Targets
Sevim Ahmedov
GH/ID/TB
Global TB: Program Status and Progress towards Targets

7th TB Symposium
March 2, 2018
Sevim Ahmedov, GH/ID/TB
Global TB Epidemiology: Leading Infectious Killer

Overall TB burden

10.4 million cases
1.7 million deaths

DR-TB burden

600,000 cases
250,000 deaths

TB/HIV burden

1.0 million cases
375,000 deaths

Source: Data from WHO 2017 Global TB Report
Stop Transmission -- Find the Missing Cases

The majority of missing 4.1 million cases in 7 countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Est. Incidence</th>
<th>Case Notifications</th>
<th>Missing Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>2,790,000</td>
<td>1,936,158</td>
<td>853,842</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1,020,000</td>
<td>360,565</td>
<td>659,435</td>
</tr>
<tr>
<td>Nigeria</td>
<td>407,000</td>
<td>100,433</td>
<td>306,567</td>
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<tr>
<td>Philippines</td>
<td>573,000</td>
<td>345,144</td>
<td>227,856</td>
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<tr>
<td>South Africa</td>
<td>438,000</td>
<td>244,053</td>
<td>193,947</td>
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<tr>
<td>Pakistan</td>
<td>518,000</td>
<td>366,061</td>
<td>151,939</td>
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<tr>
<td>Bangladesh</td>
<td>360,000</td>
<td>223,921</td>
<td>136,079</td>
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<tr>
<td>DR Congo</td>
<td>254,000</td>
<td>132,515</td>
<td>121,485</td>
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<tr>
<td>China</td>
<td>895,000</td>
<td>783,842</td>
<td>111,158</td>
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<tr>
<td>Tanzania</td>
<td>160,000</td>
<td>65,908</td>
<td>94,092</td>
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<td>Kenya</td>
<td>169,000</td>
<td>77,376</td>
<td>91,624</td>
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<td>Mozambique</td>
<td>159,000</td>
<td>73,470</td>
<td>85,530</td>
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<td>Ethiopia</td>
<td>182,000</td>
<td>127,407</td>
<td>54,593</td>
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<td>Burma</td>
<td>191,000</td>
<td>139,625</td>
<td>51,375</td>
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<td>Uganda</td>
<td>83,000</td>
<td>44,816</td>
<td>38,184</td>
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<td>Afghanistan</td>
<td>65,000</td>
<td>43,046</td>
<td>21,954</td>
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<td>Zambia</td>
<td>62,000</td>
<td>40,153</td>
<td>21,847</td>
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<td>Cambodia</td>
<td>54,000</td>
<td>33,736</td>
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<td>Malawi</td>
<td>29,000</td>
<td>16,959</td>
<td>12,041</td>
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<td>Zimbabwe</td>
<td>34,000</td>
<td>27,353</td>
<td>6,647</td>
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<td>South Sudan</td>
<td>18,000</td>
<td>11,364</td>
<td>6,636</td>
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<td>Uzbekistan</td>
<td>24,000</td>
<td>18,441</td>
<td>5,559</td>
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<td>Ukraine</td>
<td>39,000</td>
<td>34,088</td>
<td>4,912</td>
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<tr>
<td>Tajikistan</td>
<td>7,500</td>
<td>6,241</td>
<td>1,259</td>
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<tr>
<td>Kyrgyzstan</td>
<td>8,700</td>
<td>7,995</td>
<td>705</td>
</tr>
</tbody>
</table>

Source: National TB Program Data
Only 1 in 10 MDR-TB cases are successfully treated

MDR-TB is currently the largest share of AMR deaths

Unchecked, by 2050:

- MDR-TB will account for 75 million deaths
- MDR-TB will cost the world economy $17 trillion in lost growth

Countries are sized according to the number of incident TB cases.
Source: WHO TB Burden Estimates
Why worry about DR-TB?

The Costly Burden of Drug-Resistant TB in the U.S.

Multidrug-resistant (MDR) tuberculosis is a major health threat globally. Nearly half a million MDR TB cases are estimated to occur worldwide annually, including cases that are extensively drug-resistant (XDR). While MDR and XDR TB are relatively rare in the U.S., their treatment comes at a terrible price – it is very expensive, takes a long time to treat, disrupts lives, and has potentially life-threatening side effects.

The Outsized Financial Toll of MDR and XDR TB
Cost increases with greater resistance:

- Productivity loss during treatment, including deaths
- Direct treatment costs, including:
  - Drugs & diagnostics
  - Case management & social work
  - Housing & transportation
  - Hospitalization

$700,000
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$0

TB Treatment: 6-9 mo.

MDR TB Treatment: 20-26 mo.

XDR TB Treatment: 32 mo.

$664,000
$182,000
$482,000

$444,000
$277,000
$177,000

A Major Human Cost
Of those treated for drug-resistant TB:

- 9% Die During Treatment
- 27% Stop Working
- 73% Hospitalized
- 37% Require Home Isolation

Severe Treatment Side Effects

- Depression/ Psychosis: 19%
- Hearing Impairment: 13%
- Hepatitis: 13%
- Kidney Impairment: 11%
- Loss of Mobility: 8%
- Vision Impairment: 7%
- Seizures: 1%

Source: http://www.cdc.gov/nchhstp/newsriim(Sept 2015)
# U.S. Government TB Strategy

## A World Free of TB

### Long term outcomes
- Reduce TB incidence rate by 90% by 2035
- Reduce TB mortality rate by 95% by 2035

### Medium term outcomes
- Reduce TB incidence rate by 25%
- Maintain treatment success rate > 90%
- Successfully treat 13 million patients
- Initiate treatment for 360,000 DR-TB patients
- Provide ART for 100% of TB/HIV patients

## Objectives

- Improved access to high quality TB services
- Prevention of transmission and disease progression
- Strengthened TB platforms
- Accelerated research

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MDR-TB NAP target to initiate additional 200,000 DR patients on treatment
USAID TB Funding Trends 1998–2017

$US millions

0 50 100 150 200 250 300


USAID Programmatic Data
USAID FY16 TB Funding Allocation

- Diagnosis, treatment, care, and support of patients with TB, MDR-TB, and TB/HIV (67%)
- TB-related research (12%)
- Governance, finance, and strategic information (12%)
- Program support (9%)
National Action Plan for Combating MDR-TB
Leveraging Interagency Strengths and Innovations

- **USAID**: lead for international TB efforts to increase access to high quality, patient-centered diagnosis, treatment, and care for TB and MDR-TB
- **OGAC**: lead for international HIV/AIDS efforts, including TB/HIV
- **CDC**: conducts clinical trials and OR; strengthens surveillance and laboratory networks
- **NIAID**: conducts biomedical TB research that informs overall TB effort
- **DOD**: supports TB diagnosis and OR through international laboratories
USG Strategy: Disease Reduction in USAID TB Countries

Globally 53 million lives saved (2000 – 2016)

Result: 27% Reduction in TB incidence, 2000-2017

Result: 40% Reduction in TB deaths, 2000-2017

Source: Date from WHO Global TB Programme

Annual figures are averaged among USAID’s 22 TB countries
USG Strategy: Successfully treated TB cases in USAID countries

*In 2012, the uptake of new diagnostics led to revisions in case definitions to include all cases rather than only smear positives.*

Source: National TB Program Data
USG Strategy: MDR-TB Enrollment in USAID and NAP countries

Source: National TB Program Data
USAID TB Programmatic Approach

• Support development of five-year TB National Strategic Plans (NSP) to coordinate domestic and donor resources.

• Support evidence-based programming:
  - Introduction and scale-up of new tools, technologies, and innovative approaches to detect and treat TB
  - Assist in implementation of quality, patient-centered programs
  - Improve M&E systems

Source: Graphic from WHO 2017 Global TB Report
Leveraging the U.S. Private Sector

**USAID and JNJ partnership: $45 million**
- Increased access to BDQ will result in better outcomes
- Increased country confidence in ability to introduce new TB drugs and regimens
- Strengthen quality of MDR-TB programs
- Potential model for future drug donations for TB
- **17,000 treatments in 65 countries**

**Global donors* and Cepheid partnership**
- Concessional pricing for greater access
- Saved over $100 million already
- Reduced the price by almost 50%
- Increased access to Xpert faster

*USAID, PEPFAR, UNITAID, and BMGF
Improving access to essential quality medications: USAID’s market shaping efforts increase competition and quality; drive down prices

Source: Global TB Drug Facility
TB is curable and the response is high “value-for-money”

<table>
<thead>
<tr>
<th>No-brainers</th>
<th>Benefit per dollar spent for various development targets, $</th>
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<tbody>
<tr>
<td>Trade liberalisation</td>
<td>2,011</td>
</tr>
<tr>
<td>Access to contraception</td>
<td>120</td>
</tr>
<tr>
<td>Reducing tax evasion</td>
<td></td>
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<tr>
<td>Increasing migration</td>
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<td>Reducing stunting</td>
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<tr>
<td>Reducing tuberculosis</td>
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<tr>
<td>Reducing malaria</td>
<td></td>
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<tr>
<td>Greater pre-school access in sub-Saharan Africa</td>
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<tr>
<td>Increasing circumcision for those at risk from HIV</td>
<td></td>
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<tr>
<td>Reducing coral loss</td>
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<td>Source: Copenhagen Consensus Centre</td>
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What are the best targets to fight infectious diseases?

Reduce TB deaths by 95% and TB incidence by 90% which returns $43 for every dollar spent.

Delay artemisinin resistance greater than 1% and reduce malaria incidence by 50% between 2015 and 2025 which returns $36 for every dollar spent.

In hyper-endemic countries, attain circumcision coverage of at least 90% amongst HIV-negative adult men which returns $28 for every dollar spent.

“The economic case, put simply, is that TB treatment is low cost and highly effective, and on average may give an individual... around 20 years of additional life.”
Thank you!


@usaidgh

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