Adopting new LTBI diagnostics at country level: perspective from Viet Nam

Nguyen Van Hung (NTP, Viet Nam)
Vietnam economic situation

Vietnam 2009: lower-middle-income country (WB: 1000 – 4000 USD per capita)
Vietnam 2031 (ADB): upper-middle-income country (WB: 8000 – 9,800 USD per capita)
All spending on healthcare services accounts for 5.8% GDP, the highest level in ASEAN
Vietnam remains a country with high TB burden, ranked 15th out of 30 countries with highest TB burden, (WHO Report 2016).

### High TB burden

<table>
<thead>
<tr>
<th>Year</th>
<th>Est. Prevalence per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>323</td>
</tr>
<tr>
<td>2012</td>
<td>218</td>
</tr>
<tr>
<td>2013</td>
<td>209</td>
</tr>
<tr>
<td>2014</td>
<td>198</td>
</tr>
</tbody>
</table>

**Annual declining prevalence: 4.6%**

### High burden of MDR TB

<table>
<thead>
<tr>
<th>MDR TB burden</th>
<th>DRS 3 (06-07)</th>
<th>DRS 4 (11-12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDR rate among new TB patients</td>
<td>2.7 %</td>
<td>4.0 %</td>
</tr>
<tr>
<td>MDR rate among retreated patients</td>
<td>19%</td>
<td>23.3</td>
</tr>
<tr>
<td>The No of MDR-TB patients among new TB patients</td>
<td>2000</td>
<td>3060</td>
</tr>
<tr>
<td>The No of MDR-TB patients among retreated patients</td>
<td>1700</td>
<td>2104</td>
</tr>
<tr>
<td>Total No of MDR-TB patients among TB patients</td>
<td>3700</td>
<td>5200</td>
</tr>
<tr>
<td>XDR-TB/MDR-TB</td>
<td></td>
<td>5.6%</td>
</tr>
</tbody>
</table>
Political commitment with adequate resources for TB care and prevention

- **BOX 1.5 HIGH-LEVEL COMMITMENT: FIRST STEPS FORWARD IN VIETNAM** When endorsing the new End TB Strategy at the WHA, Viet Nam’s representative declared that, inspired by ongoing global discussions leading to the WHA resolution, the country had already launched its post-2015 national TB strategy. This sets ambitious targets for 2020 and 2030, in line with the End TB Strategy and targets. High-level commitment was evident throughout the Viet Nam strategy’s development. First, the strategy was launched by the Deputy Prime Minister at a gathering of all stakeholders...
Vietnam TB diagnostic System

NTP: Strong and stable system for TB diagnosis

• District level: more than 700 TB units
• Provincial level: 63 (45 out of 63 provinces have established Tuberculosis and Pulmonary Diseases hospitals).
• Central Level
  – 05 Regional Hospitals: PNT, DN, CT, 71, 74
  – 01 National Hospitals: National Lung Hospital

General Health System involving in TB activity at all levels
Implementing national latent TB management services (1)

Key documentations
• WHO guidelines:

  National LTBI policy based on adaptation of
  WHO RECOMMENDATIONS FOR THE MANAGEMENT OF LTBI

  COUNTRY GROUP Resource-limited and other middle-income countries with an
  estimated TB incidence rate of more than 100 per 100 000 population

  Risk population and Clinical indications - patients

• The End TB Strategy:

  As countries adapt and implement the End TB Strategy
  includes a global target for LTBI management (ID5. LTBI
  TREATMENT COVERAGE >= 90%; ID6. CONTACT INVESTIGATION
  COVERAGE >= 90%)

• CDC: www.cdc.gov/tb;
Implementing national latent TB management services (2)

Tests for the diagnosis of latent TB

• ■ tuberculin skin tests (TST)
• ■ interferon-gamma release assays (IGRA)
  – Quantiferon –TB Gold Plus (QFT-Plus)
  – T-SPOT® TB test

Which test to use

➢ But We still need a test for incipient TB
Selecting a Test to Detect TB Infection

TST

• advantages of the TST:
  – inexpensive—costs
  – widely available
  – does not require complicated or expensive laboratory equipment.
  – staff can be easily trained.

• Disadvantages:
  – requires patient return to the clinic 2-3 days after administration of the injection,
  – results are based on observation by trained staff
  – multiple factors that can affect TST.
  – potential sources for false positives: nontuberculous mycobacterium (NTM) infection and prior BCG vaccination
  – false negatives may occur in particular patient subgroups
Selecting a Test to Detect TB Infection

IGRA

• Advantages of IGRA include the following:
  – Requires a single patient visit to conduct the test (preferred method of testing for group of people who have poor rates of return)
  – Does not cause booster phenomenon.
  – Laboratory test not affected by health care worker perception or bias.
  – Results can be available within 24 hours.
  – Unaffected by BCG and most environmental mycobacteria.

• Limitations of IGRA include the following:
  – Blood sample must be processed within 8-30 hours after collection.
  – Limited data exist on use in groups such as children younger than 5 years of age, persons recently exposed to TB, immunocompromised persons, and those who will be tested repeatedly (serial testing).
  – Significantly greater cost (including the need for specialized equipment) as compared to the TST
Implementing national latent TB management services (5)

Who should be tested for LTBI

• *Who to test*
  
  patients who are at risk for LTBI and would benefit from treatment (increased risk for developing active TB)

• *Who should NOT be tested*

  Generally, testing with TST and IGRAs should be avoided for persons at low risk for both latent infection and progression to active TB (unless they are likely to be at increased risk in the future)
Implementing national latent TB diagnosis services (6)

IGRA lab system

• District level: transferring.

• Provincial level: 63 T-SPOT® TB Labs (45 out of 63 provinces have established Tuberculosis and Pulmonary Diseases hospitals)

• Central Level: 6 QFT-Plus Labs
  – 05 Reginal Hospital: PNT, DN, CT, 71, 74
  – 01 National Hospital: National Lung Hospital (may have T-SPOT® TB lab at NLH for training)

Vietnam NTP negotiated price

Cover by Health insurance system
Implementing national latent TB management services (7)

Current implementation

**IPT Treatment**
- People living with HIV
- Household or close contacts children < 5 years
  - QI/ 2017: 1003
  - 2016: 3515 (children subject to IPT in 12 provinces/ GLF)

Next step: Expanding IPT treatment in other provinces

**LTBI Research:**
- ACT4: Enhancing the public health impact of latent TB infection diagnosis and treatment: A pragmatic cluster randomized trial
- V-QUIN TRIAL: A randomized controlled trial of levofloxacin for the prevention of multi drug-resistant tuberculosis among household contacts of patients with MDR-TB
Implementing national latent TB management services (8)

In planing:

**IGRA positive** (No symptoms or physical findings suggestive of TB disease. Chest radiograph is typically normal, respiratory specimens are smear and culture negative if done)

- patients initiating anti-tumour necrosis factor (TNF) treatment,
- patients receiving dialysis,
- patients preparing for organ or haematologic transplantation,
- patients with silicosis
Implementing national latent TB management services (9)

In planning

IGRA positive (No symptoms or physical findings suggestive of TB disease. Chest radiograph is typically normal, respiratory specimens are smear and culture negative if done)

- Household or close contacts, aged >= 5 years
- Prisoners
- Health workers working in environments with potential TB exposure
- Immigrants from high TB burden countries
- Homeless persons
- Illicit drug users
Implementing national latent TB management services (10)

In planning

**IGRA positive** (No symptoms or physical findings suggestive of TB disease. Chest radiograph is typically normal, respiratory specimens are smear and culture negative if done)

- Any contact with index case of XDR TB
- Any person who excluded from TB diagnosis among TB subspects for case finding

Thanks for attention