Effective collaboration for integrated HIV/TB service
Belarus experience

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NTP, Belarus

Translating the TB UN High-Level Meeting Commitments into Actions
15 – 17 May 2019, The Hague, Netherlands
TB and TB/HIV epidemiology in Belarus

<table>
<thead>
<tr>
<th>TB indicator</th>
<th>No. of patients</th>
<th>Per 100 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence</td>
<td>1916</td>
<td>20.2</td>
</tr>
<tr>
<td>Prevalence</td>
<td>4035</td>
<td>42.5</td>
</tr>
<tr>
<td>Mortality</td>
<td>242</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Previously treated

New cases

MDR-TB

Previously treated

n=1454, 2018

MDR

MDR + SLI

MDR + FQ

XDR

TB and TB/HIV epidemiology in Belarus
TB and HIV action plans for WHO Europe 2016-2020

TB action plan: activities related to HIV

1.B.3 WHO/partners, will help NTPs to develop strategies to maximize the benefits of rapid diagnostic tools for hard-to-reach and vulnerable populations (by 2017)

1.C.3 Member States (MS) will ensure the rational, safe and effective introduction of TB medicines according to the most recent WHO policy guidance (no later than 2016)

1.D.6 WHO/partners will assist MS in establishing coordination mechanisms at national/regional levels to facilitate the delivery of integrated TB & HIV services (by 2018).

1.D.2 MS will ensure that all TB patients have access to HIV counselling and testing supported by national HIV and TB guidelines (no later than 2016).

1.D.3 MS will ensure that all TB/HIV patients have access to early and monitored (as per most recent WHO recommendations) ART and CPT (no later than 2016).

HIV action plan: strategic direction related to TB

Strategic direction 3: Delivery for equity

Enabling environment and optimization of service delivery. Continuum of care also relies on the integration with other services focusing on comorbidities and related health conditions such as TB, MDR-TB and XDR-TB.
Translation of the action plans for WHO Europe on national level (1)

- Improving the legislation to ensure the sustainability of government programs for HIV / AIDS and TB
- Ensuring the effectiveness of funding measures against the spread of HIV / AIDS and TB
- Ensuring the development of the system of medical and medico-social assistance for HIV / AIDS and TB prevention, treatment, care and support
- Strengthening human resource capacity in the HIV and TB services
Translation of the action plans for WHO Europe on national level (2)

1.B.3: HIV prevention points for the risk groups (PWID, CSW, MSM)
- GF and SB
- TB "4 questions"
- referral / support for x-rays

  (infectionist and phthisiologist)

1.D.2:
- HIV test is free (but not anonymous) in any HC organization
- rapid self-testing for HIV since 2018
- points of HIV prevention for vulnerable groups
- rapid test anonymously and for free
- referral / support for confirmatory testing (not anonymous)
- MoH Order №715 (2018) - Consultative Dispensary Units (CDW) on HIV infection,
  - specialized comprehensive care for HIV patients
  - staff: infectionist, psychiatrist-narcologist, TB specialist, paramedical staff, social workers

1.D.3:
- From 01/01/2018 universal access to ARVT regardless of the number of CD4 and VL
- The national HIV clinical guidelines set the multiplicity of treatment monitoring
UNAIDS 90-90-90 Strategical target 01.04.2019

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered HIV+ cases</td>
<td>21382</td>
</tr>
<tr>
<td>On ARVT</td>
<td>16472</td>
</tr>
<tr>
<td>First line</td>
<td>14464</td>
</tr>
<tr>
<td>Second line</td>
<td>1938</td>
</tr>
<tr>
<td>Third line</td>
<td>70</td>
</tr>
<tr>
<td>Undetected VL</td>
<td>11894</td>
</tr>
</tbody>
</table>

- Estimated: 100%
- Diagnosed: 81%
- On ART: 77%
- Undetected VL: 72%
HIV IPT coverage

TB/HIV ART coverage

% 2015 2016 2017 2018 2019 (1 q)

- 848
- 1156
- 1702
- 1844
- 1385

2016 2017 2018

- 66,8%
- 77%
- 94%
Belarus success: Increase treatment success among DS-TB/HIV

DS-TB/HIV+ outcomes

2016 n=152
2015 n=134
2014 n=148
2013 n=135

DS-TB/HIV - outcomes

2016 n=2109
2015 n=2514
2014 n=2462
2013 n=1626
Belarus challenges: outcomes of MDR-TB/HIV

MDR-TB/HIV+ treatment outcomes

- 2013 n=141
- 2014 n=162
- 2015 n=157
- 2016 n=145

MDR-TB/HIV- treatment outcomes

- 2013 n=1282
- 2014 n=1681
- 2015 n=1703
- 2016 n=1346

Success | Failure | LTFU | Death | Still on treatment
Key strategic directions of NSP (TB)

1. Scale up of case finding and prophylaxis

2. Full scale-up of rapid molecular diagnostics

3. Rapid uptake of new drugs and regimens 1.C.3

4. Expanding people-centered models of care

5. Scale up TB research

Bedaquiline (June 2015)
Delamanid (June 2016)
Linezolid Clofazimine
Carbapenems,
Amoxicilline/clavulonat
MDR-TB Consilium

• Ethic Committee approval
• Careful patient selection
• Patient’s informed concern
• Designing treatment regimen in line with WHO recommendations
• Management of co-morbidities
  • HIV: ART, CD4, VL
• aDSM and Management of Adverse Events
• Adherence issues
  • DOT, VOT
  • Alcohol and drug abuse
  • Mental health problems
  • Social support issues
• Surgery issues
Cohort Event Monitoring
Active TB drug safety monitoring and management (aDSM)

Vigibase
National database of ADR

National TB register

Analysis Report Recommendations

Data analysis and database input
Implanted central venous access port system

*Expanded access to patient-centered care model and strategy to increase adherence to treatment*

HIV/MDR-TB patients
n=20
Video Observed Treatment

Expanded access to patient-centered care model and strategy to increase adherence to treatment

May 2019
Total n=779
HIV/MDR-TB
n=42
Patients’ characteristics

- June 2015 – March 2019
- N =146
- Gender 108 m/ 38 f
- Age median (range): 32 (19 – 54)
  - BDQ 75
  - DLM 51
  - BDQ+DLM 20

### Treatment regimen

<table>
<thead>
<tr>
<th>Bdq or Dlm (Bdq + Dlm)</th>
<th>Lzd</th>
<th>Cfz</th>
<th>± Lfx / Mfx</th>
<th>Am/Cm/Km</th>
<th>Cs/Trd</th>
<th>Imp(Merop) + Amx/Clv</th>
<th>Z</th>
<th>Pto/Eto</th>
<th>PAS</th>
</tr>
</thead>
</table>

### DR profile

<table>
<thead>
<tr>
<th>DR profile</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MDR-TB</td>
<td>29</td>
</tr>
<tr>
<td>MDR-TB+FQ</td>
<td>18</td>
</tr>
<tr>
<td>MDR-TB+SLI</td>
<td>40</td>
</tr>
<tr>
<td>XDR-TB</td>
<td>59</td>
</tr>
</tbody>
</table>

### TB History

- New cases
- Previously treated
  - Relapse
  - After LTFU
  - After treatment failure

<table>
<thead>
<tr>
<th>TB History</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New cases</td>
<td>69</td>
</tr>
<tr>
<td>Previously treated</td>
<td>77</td>
</tr>
<tr>
<td>Relapse</td>
<td>28</td>
</tr>
<tr>
<td>After LTFU</td>
<td>15</td>
</tr>
<tr>
<td>After treatment failure</td>
<td>34</td>
</tr>
</tbody>
</table>
HIV/MDR-TB on new regimens

6 months sputum culture conversion

- 6-month sputum culture conversion – 75%
  - Patients: n=48 (100%)

6-month sputum smear conversion – 80%

- 6-month sputum smear conversion – 80%
  - Patients: n=20 (100%)

6-month sputum culture conversion – 25%

- Patients: n=12 (25%)

Treatment outcomes

- Treatment success: 69
- Treatment failure: 4
- Death: 19
- LTFU: 8

- Treatment over: 120
- Still on Treatment: 26

0% 20% 40% 60% 80% 100%

0 1 2 3 4 5 6 7 months

Treatment success Treatment failure Death LTFU

N/E
## Intermediate aDSM data: death and causality assessment

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Causality assessment related to treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) &lt; 1 month of treatment of XDR-TB (HIV/HCV) → disease progression and dissemination, CNS involvement, lymphoma</td>
<td>Unlikely</td>
</tr>
<tr>
<td>2) &lt; 1 month of treatment of preXDR-TB/HIV/HCV → HIV and pre-XDR-TB progression, respiratory failure</td>
<td>Unlikely</td>
</tr>
<tr>
<td>3) 2 months of treatment of XDR-TB (HIV) → HIV progression → CNS involvement (meningitis, encephalitis)</td>
<td>Unlikely</td>
</tr>
<tr>
<td>4) 2 months of treatment of XDR-TB/HIV → XDR-TB progression → caseous pneumonia → respiratory failure</td>
<td>Unlikely</td>
</tr>
</tbody>
</table>
aDSM data:

*most common adverse events*
Connection of TB and HIV registers

Cross-check

Actual treatment

CPT

CD4

VL
Collaborative framework for TB, HIV, VH

Mechanisms for integrated delivery
- Coordinating body
- Joint surveillance
- Joint planning
- Joint monitoring

Reduce the burden of TB
- Case-finding
- Prevention
- Treatment
- Infection control

Reduce the burden of HIV and VH
- Testing and counselling
- Prevention
- Continuum of care
- Treatment

Developed:
Strategy on hep C elimination & Clinical guidelines on viral hepatitis
Due to national and international efforts to integrate TB and HIV services, certain success has been achieved in Belarus: in screening, diagnostics, prevention and treatment of HIV and TB
Thanks!