Changing the paradigm of Programmatic Management of Drug-resistant TB

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Republic of Moldova

- ‘Country in transition’ in Eastern Europe Regained independence after breakdown of the Soviet Union in 1991
- The territory 33.8 thousand km²
- Population density 117 people/ 1km²
- Population 4.062.787 (2014)
- GDP per capita USD 2,239 (2013)
  - Births, 12,2‰
  - The mortality rate 14‰
  - Migration - up to 30% of the population of working age
- TB is a serious issue of public health
## TB epidemic breakdown

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case notification rate, per 100 000 inhabitants</td>
<td>99</td>
<td>2014</td>
</tr>
<tr>
<td>TB Mortality, per 100 000 inhabitants</td>
<td>12</td>
<td>2014</td>
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<tr>
<td>Case detection, all form, %</td>
<td>81</td>
<td>2013</td>
</tr>
<tr>
<td>Treatment success (TB susceptible ), %</td>
<td>78</td>
<td>2013</td>
</tr>
<tr>
<td>Follow up (TB susceptible ), %</td>
<td>6</td>
<td>2013</td>
</tr>
<tr>
<td>MDR rate among new TB cases, %</td>
<td>24</td>
<td>2014</td>
</tr>
<tr>
<td>MDR rate among retreatment TB cases, %</td>
<td>62</td>
<td>2014</td>
</tr>
<tr>
<td>Treatment success (MDR TB), %</td>
<td>58</td>
<td>2012</td>
</tr>
<tr>
<td>Follow up (MDR TB), %</td>
<td>20</td>
<td>2012</td>
</tr>
</tbody>
</table>
TB incidence and mortality

Institute of Phthisiopneumology “Chiril Draganiuc”

TB incidence-rate/100000

TB mortality-rate/100000

The burden of MDR-TB is among the highest in the world.
Reasons of the high burden of MDR-TB

**High community transmission**

- Inadequate TB case finding
  - Inadequate detection (late detection)
  - Inadequate access to (rapid) diagnostics
- Inadequate treatment
  - Lack of availability of the right SLDs
  - Inadequate patient adherence

**High nosocomial transmission**

- Long hospitalization
- Inadequate IC measures
National strategy

**Improve access to TB and M/XDR-diagnosis and treatment**
- Scaling up of use of rapid diagnostics (GeneExpert, other)
- Introduction of quality assurance systems for laboratories
- Strengthening drug supply management

**Reform the TB services towards patient-centered ambulatory care models**
- Masterplan for optimal use of hospitals
- Revision of the financing mechanisms for hospital and ambulatory care
- Re-deployment of hospital staff and capacity development of PHC

**Improve integrated systems for infection control**
- Application of administrative IC measures
- Redesign of physical infrastructure for better ventilation, IV light etc.
- Implementation of a protection system for - and screening of health workers
Achievements in TB diagnosis

• Well developed TB laboratory network
• 4 laboratories of 3rd level, 59 microscopy centers, sputum collection points
• Microscopy, culture (LJ, MGIT), DST to FLD and SLD; LPA
• Specimen transportation system
• Internal and external quality assurance
• Universal coverage with culturing and DST ensured
Challenges in TB diagnosis

- Delays in full diagnosis were common

- Delays in initiation of correct treatment according to resistance profile

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contributed to:

1. Further spread of DR
2. Amplification of DR
Changing the paradigm

The goal - laboratory strengthening

• Maintain full and universal coverage with TB and MDR-TB diagnosis
• Increase the speed of diagnosing resistance
• Improve the link between diagnosis and treatment

Totally 30 Gene Xpert instruments
25 in the civilian TB services
3 in penitentiary institutions
2 in AIDS Centers.
Achievements and Challenges
based on project implementation

**Achievements**

- Increased the accessibility to rapid methods for all new suspect TB cases:
  - Decreased the time for laboratory confirmation
  - Increased the microbiological confirmation
  - Improved the correct detection of TB according the susceptibility spectrum
- Universal access to rapid method decreased the time for initiation of correct treatment
- Improved Infection Control measures

**Challenges**

- A key problem at the initial stages - slow uptake of the new technology by clinical staff (at all levels)
- To train clinicians in correct understanding and usage of laboratories results
- Universal access to rapid method contributed to enrolling a high number of patients, but treatment coverage was limited.
Achievements in TB treatment

- Universal access to treatment of I and II line
- Involvement of PHC in the TB control activities
- Introducing bonuses for PHC personnel
- Involvement of NGOs and Community TB centres in the TB control activities
- Social and treatment support to patients
Challenges in TB treatment

- Prolonged and unjustified hospitalisation.
- Higher costs of hospital care
- Significant risks of re-infection and nosocomial transmission of MDR TB
- Inadequate patient adherence
- Socio-economic impact related to patients’ long absence from the household
Changing the paradigm

- Alternatives to hospitalisation
- Enhance social and treatment support to patients
- Important role of NGOs and Community TB centres
Out-patient MDR-TB care in R. Moldova

• A study evaluated the impact of an innovative MDR-TB management model combining rapid diagnostics with OP-based MDR-TB treatment and intensified patient support from 2012 to 2014.

• 43 cases were managed as IP as per standard approach and 38 started OP with a standardized MDR-TB regimen provided by the district TB clinic and PHC facility in two districts.

Funded via unrestricted grant to the Centre for Health Policy Studies (PAS) by Otsuka.
Rezults of the study

- No major differences were found between IP and OP risk factors and clinical characteristics
- The median time to MDR-TB treatment initiation after Xpert test results was 10 days for IP vs 6 for OP
- Sputum smear conversion (median time IP vs OP) was 28 vs 42 days
- Culture conversion was 56 vs 56 days comparing IP vs OP
- Treatment outcomes (IP vs OP) were as follows:
  - cured 25.6% vs 24%
  - failed 0 vs 2
  - died 1 vs 1
  - lost to follow-up 3 vs 3
  - still on treatment 28 vs 23
- No treatment was interrupted or modified because of adverse events

**Conclusion** The study results demonstrate that OP MDR-TB care is feasible providing results not inferior to IP in Moldova, reducing the risk of nosocomial transmission and stigma. It can be expanded in other countries of the Region.
Achievements and Challenges based on project implementation

**Achievements**

- OP MDR-TB care is feasible providing results not inferior to IP
- Sputum conversion within a month was almost the same of OP and those who were hospitalised
- Combining the use of rapid methods of diagnosis and treatment in OP lead to reducing the risk of nosocomial transmission.
- Treatment OP conditions allow the patient to receive family support, reduce stigma, patient stays in family and continues the housework
- Hospitalization criteria were reviewed in national protocols

**Challenges**

- Resistance of medical personnel due to overburden and lack of proper incentives
- Initial fear of doctors to treat TB in OP conditions
- Lack of experience at PHC level in monitoring TB treatment
- Challenges in ensuring adequate nutrition and additional support in case of adverse effects (Insufficient assurance with compensated drugs)
- Frequent problem for a good treatment compliance is high alcohol consumption
- Conflict of interest related to hospitalization of patients.
OP treatment vs IP treatment, 2012-2014

- **2012**: OP treatment 614, IP treatment 4598
- **2013**: OP treatment 1188, IP treatment 3764
- **2014**: OP treatment 1385, IP treatment 3233
Next steps
development of a strategic plan

“Plan for out-patient TB care to improve treatment compliance in the Republic of Moldova”

The objectives:
1. To enhance out-patient TB care
2. To improve performance of service providers in TB control
3. To ensure an effective support in out-patient TB service provision through incentives and enablers
4. To offer education to patients and out-patient TB service providers
Thank you!