rGLC/Europe: country technical support mechanism

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Moving towards 2035 EndTB Target

- Global Eng TB strategy target
  - Introduce new tools: a vaccine, a new easier prophylaxis & treatment regimen, a PoC test (-17% annual decline)
  - Acceleration of decline: 10%/year
  - Optimize use of current & new tools emerging from pipeline, pursue UHC and social protection

Regional Action Plan
2016-2020 target: -5.5%/year decrease

MDR-TB Action Plan 2011-2015: Current Regional trend: -4.5%/year

Incidence rate per 100,000

0 5 10 15 20 25 30 35 40
2015 2020 2025 2030 2035

TB-AP #1 (2016-2020)
TB-AP #2 (2021-2025)
TB-AP #3 (2026-2035)
Milestones

• Created as Advisory board on M/XDR TB for WHO EURO in 2011;
• Consisted of 11 members, with different role: clinical, laboratory, managerial, programmatic, civil society, partner/implementer organisation;
• New Chair Dr Alena Skrahina (since June 2018);
Achievements: 2010-2019

- 12 countries with GF grants
- 9 face to face & 34 virtual rGLC meetings
- rGLC mission: 126
- rGLC+NTP M&E missions: 20
- TA missions: 25
- # workshops IC, PMDT, capacity building lab: 10
rGLC/Europe meeting and w/shop on New drugs and Short Treatment Regimens
Rotation of rGLC/Europe consultants and new consultants

- Dr Alena Skrahina: Kazakhstan, Kyrgyzstan and Tajikistan;
- Dr Askar Yedilbayev: Azerbaijan and Georgia;
- Dr Elmira Gurbanova: Uzbekistan;
- Dr Inna Motrych: Turkmenistan;
- Dr Kai Blondal: Belarus and Ukraine;
- Dr Liga Kuksa: Albania, Bulgaria and Kosovo;
- Dr Natavan Alikhanova: Moldova;
- Dr Nino Lomtadze: Armenia and Romania;
- Dr Svetlana Setkina: all countries
- Dr Sven Hoffner: all countries
Complexity of truth

How many dimensions you can see?
Why we still making same recommendations?
Why recommendations are repetitive?
What could be improved?
Factors contributing to the recommendations

- NTP is asking to make it more diplomatic;
- MoH is asking to reformulate;
- Partners not happy with findings;
- Consultant is under influence of … ;
- And what we have at the end?

Source: [https://goo.gl/images/z5kdma](https://goo.gl/images/z5kdma) and [https://valueinvestasia.com/introduction-behavioral-biases-individuals-part-1/](https://valueinvestasia.com/introduction-behavioral-biases-individuals-part-1/)
Tailoring technical assistance to the needs of the countries

• How can one size fit all?
• Why not to propose different format for different TA?

2011-2015

1 million TB patients cured
2.6 million lives saved

2016-2020

1.4 million TB patients will be cured
3.1 million lives will be saved
Europe’s TB burden is among the lowest in the world, but the rates of new MDR-TB cases is the highest.

**TB incidence, WHO regions, 2017**

- AFR: 237
- AMR: 28
- EMR: 113
- EUR-53: 56
- SEAR: 226
- WPR: 94
- Global: 133

**MDR-TB incidence, WHO Regions, 2017**

- AFR: 8.6
- AMR: 1.1
- EMR: 6.0
- EUR-53: 12.0
- EUR-18HPC: 26.6
- SEAR: 9.7
- WPR: 6.0
- Global: 7.4
MDR-TB in new TB cases occurs 4 times more often in Europe than in the rest of the world.

In 2017 about **one in five** MDR-TB patients had XDR-TB.

XDR-TB is more difficult to treat than MDR-TB.

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**Extensively drug resistant TB is on the rise**

*Data for 2017 is provisional*
Only about 62% of MDR-TB patients are detected (2017 data)

77,000 drug-resistant TB cases in WHO European Region

47,697 (62%) drug-resistant TB cases detected and enrolled on treatment

26,404 (57.2%) drug-resistant TB cases started treatment in 2015 with successful outcome

MDR-TB is one of key drivers of the TB epidemic in Europe

Every 5th new TB patient and every 2nd previously TB patient are found with MDR TUBERCULOSIS

Source: WHO Europe / ECDC. Tuberculosis surveillance and monitoring in Europe 2017
Clinical Strategies to kill Mycobacteria Tuberculosis

• Block RNA synthesis
• Block DNA (replication) process
• Block ATP production
## Actions of all TB drugs

<table>
<thead>
<tr>
<th>GROUP NAME</th>
<th>ANTI-TB AGENT</th>
<th>ABBREVIATION</th>
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<tbody>
<tr>
<td><strong>Group 1. First-line oral agents</strong></td>
<td>Isoniazid</td>
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<td></td>
<td>Rifampicin</td>
<td>R</td>
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<tr>
<td></td>
<td>Ethambutol</td>
<td>E</td>
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<td></td>
<td>Pyrazinamide</td>
<td>Z</td>
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<tr>
<td></td>
<td>Rifabutin&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Rfb</td>
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<tr>
<td></td>
<td>Rifapentine&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Rpt</td>
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<td><strong>Group 2. Injectable anti-TB drugs (injectable agents or parental agents)</strong></td>
<td>Streptomycin&lt;sup&gt;2&lt;/sup&gt;</td>
<td>S</td>
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<tr>
<td></td>
<td>Kanamycin</td>
<td>Km</td>
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<tr>
<td></td>
<td>Amikacin</td>
<td>Am</td>
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<td></td>
<td>Capreomycin</td>
<td>Cm</td>
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<td><strong>Group 3. Fluoroquinolones (FQs)&lt;sup&gt;3&lt;/sup&gt;</strong></td>
<td>Levofloxacin</td>
<td>Lfx</td>
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<td></td>
<td>Merofloxacin</td>
<td>Mfx</td>
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<tr>
<td></td>
<td>Gatifloxacin&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Gfx</td>
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<td><strong>Group 4. Oral bacteriostatic second-line anti-TB drugs</strong></td>
<td>Ethionamide</td>
<td>Eto</td>
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<tr>
<td></td>
<td>Prothionamide</td>
<td>Pto</td>
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<tr>
<td></td>
<td>Cycloserine</td>
<td>Cs</td>
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<tr>
<td></td>
<td>Terizidine&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Td</td>
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<tr>
<td></td>
<td>Para-aminosalicylic acid</td>
<td>PAS</td>
</tr>
<tr>
<td></td>
<td>Para-aminosalicylate sodium</td>
<td>PAS-Na</td>
</tr>
<tr>
<td><strong>Group 5. Anti-TB drugs with limited data on efficacy and/or long term safety in the treatment of drug-resistant TB (This group includes new anti-TB agents)</strong></td>
<td>Bedaquiline</td>
<td>Bdq</td>
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<tr>
<td></td>
<td>Delamanid</td>
<td>Dla</td>
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<tr>
<td></td>
<td>Linezolid</td>
<td>Lzd</td>
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<td></td>
<td>Clofazimine</td>
<td>Cft</td>
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<td></td>
<td>Amoxicillin / clavulinate</td>
<td>Amx/Clv</td>
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<td></td>
<td>Imipenem / cilastatin&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Ipem/Clin</td>
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<td></td>
<td>Meropenem&lt;sup&gt;7&lt;/sup&gt;</td>
<td>Mpm</td>
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<tr>
<td></td>
<td>High-dose isoniazid</td>
<td>High dose H</td>
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<td></td>
<td>Thiacetazone&lt;sup&gt;8&lt;/sup&gt;</td>
<td>T</td>
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<tr>
<td></td>
<td>Clarithromycin&lt;sup&gt;9&lt;/sup&gt;</td>
<td>Clr</td>
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*TB infection is currently spreading at the rate of one person per second*

*“The single most lethal bacterial disease in the world”*
Action of the First Line TB drugs
Specific actions of the TB drugs

- ATP production
- RNA factory
- DNA factory
Key strategic directions

1. Full scale-up of rapid diagnosis
2. Rapid uptake of new medicines
3. Expanding patient- and people-centred care
4. Shorter and more effective treatment regimens
5. Research for new tools
6. Intersectoral approach to address inequities
Recent rGLC/Europe activities

• Finalized Action plan 2011 – 2015
• Endorsed Tuberculosis Action Plan for the WHO European Region 2016-2020
• Organized TA mission to all countries receiving support from TGF
• Follows up on the recent developments on End TB Strategy implementation
• Provides necessary input on treatment regimens composition and new drugs inclusion to the treatment of M/XDR TB (for all countries with GF grants)
• Providing countries with TA on new drugs introduction
• Coordinate activities with the other regional platforms, such as ELI (European Laboratory Initiative) and RCC (Regional Coordination Committee).
Work in progress

1. Strong advocacy for TB prevention and care
2. Strong partnerships, (ex)patient and civil-society involvement and empowerment
3. Adapt national strategic plans
4. Scale up intersectoral collaboration, in line with Health 2020
5. Continue exchange of good practices
6. Intercountry peer support and partnership with other projects like Challenge TB; MSF and Project HOPE leaded projects.
7. Cross border prevention and care
8. Close coordination with other Regional initiatives, TB-REP, ELI, RCC-TB, etc.
The way forward

1. Intensify country specific work on diagnosis, treatment and care with focus on M/XDR – TB prevention and management of co-infection through integrated TB/HIV health services.
2. Boost exchange of good practices
3. Scale up TB Control activities in prisons through the WHO Collaboration Center in Penitentiary
4. Foster full implementation of National TB and MDR TB Action Plans
5. Organize training on new drugs and new treatment regimens for rGLC/Europe members and consultants
Acknowledgments

• WHO Regional office for Europe: Dr Masoud Dara, Dr Andrei Dadu, Dr Pierpaolo de Colombani, Dr Martin van den Boom, Dr Soudeh Ehsani;
• Lisa Brown, Julie M. Wolf, Rafael Prados-Rosales & Arturo Casadevall, Through the wall: extracellular vesicles in Gram-positive bacteria, mycobacteria and fungi, (http://www.nature.com/nrmicro/journal/v13/n10/fig_tab/nrmicro3480_F1.html)
• Hugues Ouellet, Jonathan B. Johnston, Paul R. Ortiz de, Department of Pharmaceutical Chemistry, University of California at San Francisco, Genentech Hall, N572D, 600 16th Street, San Francisco, CA 94158-2517, (http://www.cell.com/trends/microbiology/fulltext/S0966-842X(11)00146-6)
• Matthew Vandepol, Structure and Function, (https://prezi.com/y_xsz3ugw20b/structure-and-function/)