Framework for conducting reviews of tuberculosis programmes

Assessing the programmatic management of drug-resistant TB

a. Review the programmatic management of drug-resistant TB patients with the TB manager.

i. What is the size of MDR-TB problem locally? How many cases of MDR-TB were detected during the past year? How many patients with MDR-TB are presently being treated?

ii. What is the procedure for managing a patient suspected of having drug-resistant TB?

iii. Is there diagnostic capacity for detecting drug-resistant TB – for example, are diagnostics available? Are patients referred to other facilities designated by the national TB programme?

iv. What are the criteria for drug-susceptibility testing (DST)? Are all previously treated patients tested using DST? What proportion of specimens from new TB cases undergo DST?

v. If the basic management unit cares for patients, how are laboratory-confirmed MDR-TB patients treated? Are second-line anti-TB medicines available? Are treatment regimens aligned with national guidelines?

vi. If patients with MDR-TB are treated with second-line medicines:

   - Are any adverse effects of treatment reported on the TB treatment card?

   - Are medicines to manage adverse reactions from the second-line medicines available and free of charge? Are providers trained in how to use them?

   - Are adverse reactions reported to the national centre responsible for pharmacovigilance?

vii. If culture services are available, are follow-up cultures done on time (that is, every month during the intensive phase of treatment and the continuation phase)? Are the results recorded in the TB treatment register?

viii. What is the current policy on hospitalization?

ix. Which type of treatment is used for MDR-TB patients: hospital-based or community-based?

x. How is the treatment regimen decided for each patient? If MDR-TB
patients are treated in hospital, is there capacity to provide respiratory isolation for patients who remain culture-positive while being treated? Are TB infection-control measures in place for the isolation facilities?

xi. Are treatment outcomes evaluated, recorded and reported accurately, and do procedures follow WHO’s guidelines?

b. Are palliative and end-of-life care available for patients with MDR-TB?

What protocol is used to alleviate the physical and emotional suffering that MDR-TB patients experience as a result of the disease and its treatment?

i. What services are offered to address the mental health and spiritual needs of patients with MDR-TB or extensively drug-resistant TB (XDR-TB)?

ii. Are end-of-life services offered to patients with MDR-TB for whom there are no treatment alternatives available (for example, for patients with XDR-TB in whom treatment has failed)?

iii. Are opioids available to patients with respiratory distress caused by the disease?

iv. Are there hospices or other specialized facilities available for terminal patients with MDR-TB?
### Framework for conducting reviews of tuberculosis programmes

**Indicators for: Assessing the programmatic management of drug-resistant TB**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Calculation</th>
<th>Source of information</th>
</tr>
</thead>
</table>
| Proportion of TB patients with results for DST for isoniazid and rifampicin | Numerator: number of TB cases with DST results for both isoniazid and rifampicin for each risk category specified in the national policy, during the period of the assessment  
Denominator: Number of TB cases identified in each risk category during the period of the assessment | Data for the numerator are available from the laboratory register; data for the denominator are available from the TB treatment register and treatment card  
For some risk categories (such as contacts of patients with MDR-TB) the information may not be in the treatment card and it may have to be traced from the medical records |
| Proportion of confirmed cases of MDR-TB among TB patients with specimens tested for susceptibility to isoniazid and rifampicin | Numerator: number of confirmed cases of MDR-TB for each risk category specified in the national policy, during the period of the assessment  
Denominator: number of TB cases in each risk category with DST results for both isoniazid and rifampicin during the period of the assessment | Data for the numerator are available from the laboratory register; the denominator is identical to the numerator of the indicator above |
| Proportion of confirmed cases of MDR-TB with specimens tested for susceptibility to a fluoroquinolone and second-line injectable anti-TB agents | Numerator: number of confirmed cases of MDR-TB with specimens tested for susceptibility to a fluoroquinolone and second-line injectable medicines during the period of the assessment  
Denominator: number of confirmed cases of MDR-TB during the period of the assessment | Data for the numerator are available from the laboratory register; the denominator is identical to the (non disaggregated) numerator of the indicator above |
<table>
<thead>
<tr>
<th>Proportion of MDR-TB cases (presumptive or confirmed) enrolled in treatment for MDR-TB</th>
<th>Numerator: number of MDR-TB cases (presumptive or confirmed) registered and started on a treatment regimen for MDR-TB during the period of the assessment</th>
<th>Data for the numerator are available from the second-line TB treatment register; data for the denominator are obtained from the TB treatment register and laboratory register for culture, Xpert MTB/RIF testing(^a) and DST; for confirmed cases the date of the DST result is used; other cases are defined by the date when they are presumed to have MDR-TB (for example, patients whose treatment failed are defined when their sputum smear remains positive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of patients that have no treatment alternatives for MDR-TB and receive end-of-life care</td>
<td>Numerator: number of confirmed cases of MDR-TB registered for MDR-TB treatment during the period of the assessment and assigned to one of the six treatment outcomes(^b)</td>
<td>Second line of the TB treatment register</td>
</tr>
</tbody>
</table>

DST, drug-susceptibility testing; MDR-TB, multidrug-resistant tuberculosis.

\(^a\) Xpert MTB/RIF test manufactured by Cepheid, Sunnyvale, CA.

\(^b\) The six treatment outcomes are Cured, Treatment completed, Treatment failed, Died, Lost to follow up and Not evaluated for outcome.
Other indicators for: **Assessing the programmatic management of drug-resistant TB**

The indicators in this table are used to assess interim results, and should be considered only if the programmatic management of MDR-TB has recently been introduced.

<table>
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<th>Indicator</th>
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</tr>
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<tbody>
<tr>
<td>Proportion of pulmonary MDR-TB cases on a treatment regimen with negative culture by 6 months</td>
<td>Numerator: number of confirmed cases of pulmonary MDR-TB registered and started on a treatment regimen with negative culture results by month 6 of their treatment&lt;br&gt;Denominator: number of confirmed cases of MDR-TB registered and started on treatment during the period of the assessment</td>
<td>This indicator applies only to pulmonary cases; the denominator is all cases of MDR-TB who started treatment; this should include cases of XDR-TB started on treatment with second-line anti-TB medicines</td>
</tr>
<tr>
<td>Proportion of MDR-TB cases on a treatment regimen who died by the end of month 6 of treatment</td>
<td>Numerator: number of confirmed cases of MDR-TB registered and started on a treatment regimen who died of any cause by the end of month 6 of treatment&lt;br&gt;Denominator: number of confirmed cases of MDR-TB registered and started on treatment during the period of the assessment</td>
<td>The denominator is all cases of MDR-TB started on treatment; this should include cases of XDR-TB started on treatment with second-line anti-TB medicines</td>
</tr>
<tr>
<td>Proportion of MDR-TB cases on a treatment regimen for MDR-TB who were lost to follow-up by month 6 of treatment</td>
<td>Numerator: number of confirmed cases of MDR-TB registered and started on a treatment regimen for MDR-TB who were lost to follow-up by the end of month 6 of treatment&lt;br&gt;Denominator: number of confirmed cases of MDR-TB registered and started on treatment for MDR-TB during the period of the assessment</td>
<td>The denominator is all cases of MDR-TB started on treatment; this should include cases of XDR-TB started on treatment with second-line anti-TB medicines</td>
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</tbody>
</table>

MDR-TB, multidrug-resistant tuberculosis; XDR-TB, extensively drug-resistant tuberculosis.