

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?

Indicators for: Assessing the programmatic management of drug-resistant TB		
Indicator	Calculation	Source of information
Proportion of TB patients with results for DST for isoniazid and rifampicin	<p>Numerator: number of TB cases with DST results for <i>both</i> isoniazid and rifampicin for each risk category specified in the national policy, during the period of the assessment</p> <p>Denominator: Number of TB cases identified in each risk category during the period of the assessment</p>	<p>Data for the numerator are available from the laboratory register; data for the denominator are available from the TB treatment register and treatment card</p> <p>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</p>
Proportion of confirmed cases of MDR-TB among TB patients with specimens tested for susceptibility to isoniazid and rifampicin	<p>Numerator: number of confirmed cases of MDR-TB for each risk category specified in the national policy, during the period of the assessment</p> <p>Denominator: number of TB cases in each risk category with DST results for <i>both</i> isoniazid and rifampicin during the period of the assessment</p>	<p>Data for the numerator are available from the laboratory register; the denominator is identical to the numerator of the indicator above</p>
Proportion of confirmed cases of MDR-TB with specimens tested for susceptibility to a fluoroquinolone and second-line injectable anti-TB agents	<p>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</p> <p>Denominator: number of confirmed cases of MDR-TB during the period of the assessment</p>	<p>Data for the numerator are available from the laboratory register; the denominator is identical to the (non disaggregated) numerator of the indicator above</p>

Proportion of MDR-TB cases (presumptive or confirmed) enrolled in treatment for MDR-TB	<p>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</p> <p>Denominator: number of MDR-TB cases (presumptive or confirmed) eligible for treatment with second-line medicines during the period of the assessment</p>	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)
Proportion of patients that have no treatment alternatives for MDR-TB and receive end-of-life care	<p>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</p> <p>Denominator: number of confirmed cases of MDR-TB registered for treatment who started a treatment regimen for MDR-TB during the period of the assessment</p>	Second line of the TB treatment register

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		
Indicator	Calculation	Source of information
Proportion of pulmonary MDR-TB cases on a treatment regimen with negative culture by 6 months	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 Denominator: number of confirmed cases of MDR-TB registered and started on treatment during the period of the assessment	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
Proportion of MDR-TB cases on a treatment regimen who died by the end of month 6 of treatment	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 Denominator: number of confirmed cases of MDR-TB registered and started on treatment during the period of the assessment	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
Proportion of MDR-TB cases on a treatment regimen for MDR-TB who were lost to follow-up by month 6 of treatment	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 Denominator: number of confirmed cases of MDR-TB registered and started on treatment for MDR-TB during the period of the assessment	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

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