Using the 2013 revision of definitions and reporting framework for tuberculosis: list of indicators

Version 1.0, 2014-11-21

Introduction

This document lists TB indicators that can be derived from the recording and reporting tools defined in Definitions and reporting framework for tuberculosis – 2013 revision (WHO/HTM/TB/2013.2). Geneva, World Health Organization; 2013. (http://www.who.int/tb/publications/definitions/en/).

More details on the rationale, calculation and use of these indicators are available in the following publications:

- Understanding and using tuberculosis data (WHO/HTM/TB/2014.09). Geneva, World Health Organization. 2014. (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/)
- Companion handbook to the WHO guidelines for the programmatic management of drug-resistant tuberculosis (WHO/HTM/TB/2014.11). Geneva, World Health Organization. 2014. (http://www.who.int/tb/publications/pmdt_companionhandbook/en/)
- A guide to monitoring and evaluation for collaborative TB/HIV activities: 2014 revision. Geneva, World Health Organization. 2014.

1. Indicators for all forms of TB

1.1 Detection indicators

Indicator name	TB notification rate
Definition	Number of new and relapse cases of TB that are notified per 100,000 population.
Numerator	Number of notified new and relapse TB cases during the period of assessment.
Denominator	Estimated population during the period of assessment (divided by 100 000).
Disaggregation	By type of TB case (bacteriologically confirmed / clinically diagnosed, pulmonary/ extrapulmonary), age group, sex, notification source (e.g. non-NTP facilities, prisons, community referral).
Expressed as	Cases per 100 000 population..
Data sources	Numerator: Basic management unit TB registers. Denominator: UN population division population estimates, or national population estimates (especially for sub-national population estimates).
Level	National, sub-national.
Frequency	Quarterly, annual.
Notes	Cases with unknown TB treatment history should be counted as new cases. See Chapters 1 and 2 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

Indicator name	Proportion of registered new and relapse TB patients with documented HIV status
Definition	Number of new and relapse TB patients who had an HIV test result recorded in the TB register expressed as a percentage of the number registered during the reporting period.
Numerator	Number of new and relapse TB patients who had an HIV test result recorded in the TB register during the reporting period.
Denominator	Total number of new and relapse TB patients registered in the TB register during reporting period
Disaggregation	By age group, sex.
Expressed as	%
Data sources	Basic management unit TB registers or quarterly reports on TB case registrations
Level	National, sub-national.
Frequency	Quarterly, annual.
Notes	Cases with unknown TB treatment history should be counted as new cases. See Chapter 6 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

Indicator name	Proportion of registered new and relapse TB patients with documented HIV positive status
Definition	Number of registered new and relapse TB patients who are found to be HIV-positive, expressed as a percentage of the number registered with documented HIV status during the reporting period.
Numerator	Total number of new and relapse TB patients registered during the reporting period who are documented as HIV-positive during the reporting period.
Denominator	Total number of new and relapse TB patients registered during the reporting period having a documented HIV status, positive or negative during reporting period
Disaggregation	By age group, sex.
Expressed as	%
Data sources	Basic management unit TB registers or quarterly reports on TB case registrations and quarterly reports on TB treatment outcomes.
Level	National, sub-national.
Frequency	Quarterly, annual.
Notes	Cases with unknown TB treatment history should be counted as new cases. See Chapter 6 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

1.2 Enrolment indicators

Indicator name	Co-trimoxazole preventive therapy (CPT) among HIV-positive TB patients
Definition	Proportion of HIV-positive TB patients who received (or are receiving) CPT during their TB treatment among all HIV-positive TB patients registered during the reporting period
Numerator	Number of HIV-positive TB patients receiving CPT during their TB treatment.
Denominator	Total number of HIV-positive TB patients registered during the reporting period.
Disaggregation	By age group, sex.
Expressed as	%
Data sources	Basic management unit TB registers or quarterly reports on TB case registrations and quarterly reports on TB treatment outcomes.
Level	National, sub-national.
Frequency	Quarterly, annual.
Notes	Cases with unknown TB treatment history should be counted as new cases. See Chapter 6 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

Indicator name	Proportion of HIV positive new and relapse TB patients on antiretroviral therapy (ART) during TB treatment
Definition	Number of HIV positive new and relapse TB patients who receive ART during

	TB treatment expressed as a percentage of those registered during the reporting period.
Numerator	Total number of HIV positive new and relapse TB patients started on TB treatment during the reporting period , who are already on ART or started on ART during TB treatment.
Denominator	Total number of HIV positive new and relapse TB patients registered during the reporting period.
Disaggregation	By age group, sex.
Expressed as	%
Data sources	Basic management unit TB registers or quarterly reports on TB case registrations and quarterly reports on TB treatment outcomes; Pre-ART registers and ART registers.
Level	National, sub-national.
Frequency	Quarterly, annual.
Notes	Cases with unknown TB treatment history should be counted as new cases. See Chapter 6 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

1.3 Final outcomes indicators

Indicator name	TB treatment success rate
Definition	Proportion of TB cases successfully treated (cured plus treatment completed) among all TB cases notified to the national health authorities during a specified period.
Numerator	Number of TB cases registered in a specified period who subsequently were successfully treated, excluding patients found to have drug-resistant TB and placed on second-line treatment.
Denominator	Total number of TB cases registered in the same period, excluding patients found to have drug-resistant TB and placed on second-line treatment.
Disaggregation	Primarily by bacteriological confirmation status, previous treatment history (new and relapse, previously treated excluding relapse) and HIV-status. Also by age group and sex.
Expressed as	%
Data sources	Quarterly TB treatment outcome reports
Level	National, sub-national
Frequency	Quarterly, Annual
Notes	Cases with unknown TB treatment history should be counted as new cases.

2. Indicators for drug-resistant TB

2.1 Detection indicators

Indicator number and name	1) TB patients with result for isoniazid and rifampicin drug susceptibility testing (DST)
Numerator	Number of TB cases (in each risk category) with DST result for both isoniazid and rifampicin during the period of assessment.
Denominator	Number of TB cases identified (in each risk category) during the period of assessment.
Disaggregation	By previous treatment history (new, retreatment) and each other risk category specified in the national policy.
Expressed as	Absolute numbers, proportion.
Data sources	*Numerator*: Laboratory registers; *Denominator*: Basic management unit TB registers and treatment cards. For some risk categories (e.g. contacts of MDR-TB) the information may have to be traced from elsewhere in the medical records.
Level	National, regional, district & WHO.
Frequency	6 months.
Notes	To be computed separately for patients tested for rifampicin-resistant TB (RR-TB) alone in sites using Xpert MTB/RIF. For annual reporting to WHO (absolute numbers): DST coverage stratified by new, retreatment and previous history unknown. See Chapter 5 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

Indicator number and name	2) Confirmed MDR-TB cases detected among TB patients tested for susceptibility to isoniazid and rifampicin
Numerator	Number of confirmed MDR-TB cases (in each risk category) during the period of assessment.
Denominator	Number of TB cases (in each risk category) with DST result for both isoniazid and rifampicin during the period of assessment.
Disaggregation	By new, retreatment and each other risk category specified in the national policy.
Expressed as	Absolute numbers, proportion (%).
Data sources	*Numerator*: Laboratory registers; *Denominator*: identical to the numerator of Detection Indicator 1.
Level	National, regional, district & WHO.
Frequency	6 months.
Notes	To be computed separately for patients tested for rifampicin-resistant TB (RR-TB) alone in sites using Xpert MTB/RIF. For annual reporting to WHO (absolute numbers) : RR-/MDR-TB cases stratified by new, retreatment and previous history unknown.

	See Chapter 5 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

Indicator number and name	**3) Confirmed MDR-TB cases tested for susceptibility to any fluoroquinolone and any second-line injectable**
Numerator	Number of confirmed MDR-TB cases tested for susceptibility to a fluoroquinolone and a second-line injectable anti-TB medication during the period of assessment.
Denominator	Number of confirmed MDR-TB cases during the period of assessment.
Disaggregation	None
Expressed as	Absolute numbers, proportion (%).
Data sources	*Numerator*: Laboratory registers; *Denominator*: identical to the (non-disaggregated) numerator of Detection Indicator 2.
Level	National, regional, district & WHO.
Frequency	6 months.
Notes	Patients detected with rifampicin-resistant TB (RR-TB) in sites using Xpert MTB/RIF to be included in the denominator as well as numerator. For annual reporting to WHO (absolute numbers). See Chapter 5 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

Indicator number and name	**4) Confirmed XDR-TB cases detected among MDR-TB patients tested for susceptibility to any fluoroquinolone and any second-line injectable**
Numerator	Number of confirmed XDR-TB cases during the period of assessment.
Denominator	Number of confirmed MDR-TB cases tested for susceptibility to a fluoroquinolone and a second-line injectable anti-TB medication during the period of assessment.
Disaggregation	None.
Expressed as	Absolute numbers, proportion (%).
Data sources	*Numerator*: Laboratory registers; *Denominator*: identical to the numerator of Detection Indicator 3.
Level	National, regional, district & WHO.
Frequency	6 months.
Notes	To be computed only for patients with confirmed MDR-TB, given that the XDR-TB definition requires resistance to isoniazid as well. For annual reporting to WHO (absolute numbers).

Indicator number and name	5) Interval between presumption of RR-/MDR-TB and DST results
Calculation	The duration in days between the date when the TB patient was identified as being in a risk category as per the national policy and the date of the DST results for isoniazid and rifampicin. The calculation is done on all cases with DST or Xpert MTB/RIF results (sensitive or resistant) entered in the Laboratory register during the period of assessment. The number of episodes included in the calculation should also be indicated.
Disaggregation	None.
Expressed as	Number of episodes included in the calculation; mean interval and range (min-max) in days.
Data sources	Second-line TB treatment registers; laboratory register.
Level	National, regional, district.
Frequency	6 months
Notes	In sites using Xpert MTB/RIF the date of the first result showing rifampicin resistance is used, regardless of whether the same patient was confirmed to be MDR-TB or not subsequently. Not reported to WHO. See Chapter 5 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

2.2 Enrolment indicators

Indicator number and name	1) RR-/MDR-TB cases (presumptive or confirmed) enrolled on MDR-TB treatment
Definition	Number of RR-/MDR-TB cases (presumptive or confirmed) registered and started on a prescribed MDR-TB treatment regimen during the period of assessment.
Comparator	Number of RR-/MDR-TB cases (presumptive or confirmed) eligible for treatment with second-line drugs during the period of assessment.
Disaggregation	By age group (< 15y / 15y +), sex.
Expressed as	Absolute numbers, ratio of newly enrolled to eligible
Data sources	*Number of cases started on treatment*: Second-line TB treatment registers; *Number of eligible cases*: Basic management unit TB registers and and laboratory registers.
Level	National, regional, district & WHO.
Frequency	6 months
Notes	Patients detected with rifampicin-resistant TB (RR-TB) in sites using Xpert MTB/RIF to be included in the denominator as well as numerator. For annual reporting to WHO (absolute numbers).

	See Chapter 5 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

Indicator number and name	**2) Confirmed RR-/MDR-TB cases enrolled on MDR-TB treatment regimen**
Definition	Number of confirmed RR-/MDR-TB cases registered and started on a prescribed MDR-TB treatment regimen during the period of assessment.
Comparator	Number of confirmed RR-/MDR-TB cases detected during the period of assessment
Disaggregation	By HIV-status and ART status (cases with HIV on ART / cases with HIV but not known to be on ART).
Expressed as	Absolute numbers, ratio of newly enrolled to detected cases.
Data sources	*Number of confirmed RR-/MDR-TB cases started on treatment*: Second-line TB treatment registers; *Number of confirmed RR-/MDR-TB cases*: Laboratory registers, identical to the (non-disaggregated) numerator of Detection Indicator 2 inclusive of any other RR-TB cases.
Level	National, regional, district & WHO.
Frequency	6 months.
Notes	Patients detected with rifampicin-resistant TB (RR-TB) in sites using Xpert MTB/RIF to be included in the denominator as well as numerator. For annual reporting to WHO (absolute numbers, not disaggregated). See Chapter 5 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.

Indicator number and name	**3) Confirmed XDR-TB cases enrolled on XDR-TB treatment regimen**
Definition	Number of confirmed XDR-TB cases registered and started on a prescribed XDR-TB treatment regimen during the period of assessment.
Comparator	Number of confirmed XDR-TB cases detected during the period of assessment.
Disaggregation	None
Expressed as	Absolute numbers, ratio of newly enrolled to detected cases.
Data sources	*Number of confirmed XDR-TB cases started on treatment*: Second-line TB treatment registers; *Number of confirmed XDR-TB cases*: Laboratory registers, identical to the (non-disaggregated) numerator of Detection Indicator 4.
Level	National, regional, district & WHO.
Frequency	6 months.
Notes	To be computed only for patients with confirmed XDR-TB as per definition (i.e. including resistance to isoniazid).

	For annual reporting to WHO (absolute numbers).

Indicator number and name	4) Interval between RR-/MDR-TB diagnosis and start of MDR-TB treatment
Definition	The duration in days between the date of RR-/MDR-TB confirmation and the date when the patient started a prescribed second-line drug regimen. The calculation is done on all confirmed RR-/MDR-TB cases recorded on the second-line TB treatment register during the period of assessment. If treatment was started before the confirmatory DST was reported then the interval is marked as zero days. The number of episodes included in the calculation should also be indicated.
Disaggregation	None
Expressed as	Number of episodes included in the calculation; mean interval and range (min-max) in days
Data sources	Second-line TB treatment registers.
Level	National, regional, district.
Frequency	6 months.
Notes	In sites using Xpert MTB/RIF the date of the first result showing rifampicin resistance is used, regardless of whether the same patient was confirmed to be MDR-TB or not subsequently. Not reported to WHO

2.3 Interim results indicators

Indicator number and name	1) RR-/MDR-TB cases on MDR-TB treatment regimen with negative culture by six months.
Numerator	Number of confirmed pulmonary RR-/MDR-TB cases registered and started on a prescribed MDR-TB treatment with negative results for culture in month 6 of their treatment.
Denominator	Number of confirmed RR-/MDR-TB cases registered and started on treatment for MDR-TB during the period of assessment.
Disaggregation	None.
Expressed as	Absolute numbers, proportion (%).
Data sources	Second-line TB treatment registers.
Level	National, regional, district.
Frequency	3 months.
Notes	Patients with rifampicin-resistant TB (RR-TB) in sites using Xpert MTB/RIF who are on treatment to be included in the denominator as well as numerator. Applies only to pulmonary cases; all cases included in denominator. Not reported to WHO.

Indicator number and name	2) RR-/MDR-TB cases on MDR-TB treatment regimen who died by six months.
Numerator	Number of confirmed RR-/MDR-TB cases registered and started on a prescribed MDR-TB treatment who died of any cause by the end of month 6 of their treatment.
Denominator	Number of confirmed RR-/MDR-TB cases registered and started on treatment for MDR-TB during the period of assessment.
Disaggregation	None.
Expressed as	Absolute numbers, proportion (%).
Data sources	Second-line TB treatment registers.
Level	National, regional, district.
Frequency	3 months
Notes	Patients with rifampicin-resistant TB (RR-TB) in sites using Xpert MTB/RIF who are on treatment to be included in the denominator as well as numerator. Not reported to WHO.

Indicator number and name	3) RR-/MDR-TB cases on MDR-TB treatment regimen who were lost to follow-up by six months.
Numerator	Number of confirmed RR-/MDR-TB cases registered and started on a prescribed MDR-TB treatment who were lost to follow-up by the end of month 6 of their treatment.
Denominator	Number of confirmed RR-/MDR-TB cases registered and started on treatment for MDR-TB during the period of assessment.
Disaggregation	None.
Expressed as	Absolute numbers, proportion (%).
Data sources	Second-line TB treatment registers.
Level	National, regional, district.
Frequency	3 months
Notes	Patients with rifampicin-resistant TB (RR-TB) in sites using Xpert MTB/RIF who are on treatment to be included in the denominator as well as numerator. Not reported to WHO.

Indicator number and name	4) Patients on MDR-TB treatment regimen found not to have RR-/MDR-TB.
Definition	Number of patients started on a prescribed MDR-TB treatment regimen during the period of assessment and later found not to have RR-/MDR-TB.
Disaggregation	None.
Expressed as	Absolute numbers.
Data sources	Second-line TB treatment registers.
Level	National, regional, district.
Frequency	3 months.

Notes	Not reported to WHO.

Indicator number and name	**5) Patients on XDR-TB treatment regimen found not to have XDR-TB.**
Definition	Number of patients started on a prescribed XDR-TB treatment regimen during the period of assessment and later found not to have XDR-TB.
Disaggregation	None.
Expressed as	Absolute numbers.
Data sources	Second-line TB treatment registers.
Level	National, regional, district.
Frequency	3 months.
Notes	Not reported to WHO.

2.4 Final outcomes indicators

Indicator name	**1) RR-/MDR-TB patients on an MDR-TB treatment regimen with an outcome of 'Cured'** **2) RR-/MDR-TB patients on an MDR-TB treatment regimen with an outcome of 'Treatment completed'** **3) RR-/MDR-TB patients on an MDR-TB treatment regimen with an outcome of 'Treatment failed'** **4) RR-/MDR-TB patients on an MDR-TB treatment regimen with an outcome of 'Died** **5) RR-/MDR-TB patients on an MDR-TB treatment regimen with an outcome of 'Lost to follow-up'** **6) RR-/MDR-TB patients on an MDR-TB treatment regimen with an outcome of 'Not evaluated'**
Numerator	Number of confirmed RR-/MDR-TB cases registered for MDR-TB treatment during the period of assessment assigned one of the following outcomes respectively: 1. Cured. 2. Treatment completed. 3. Treatment failed. 4. Died. 5. Lost to follow-up. 6. Not evaluated. The sum of cured + treatment completed = treatment success.
Denominator	Number of confirmed RR-/MDR-TB cases registered for treatment and starting a prescribed MDR-TB treatment regimen during the period of assessment.
Disaggregation	XDR-TB / non-XDR-TB; HIV positive cases
Expressed as	Absolute number, proportion (%).
Data sources	Second-line TB treatment registers.
Level	National, regional, district & WHO.
Frequency	Annual (calendar year).
Notes	See Chapter 5 of "Understanding and using tuberculosis data" (http://www.who.int/tb/publications/understanding_and_using_tb_data/en/) for examples of how to use this indicator.