PERFORMANCE-BASED MONITORING & EVALUATION FRAMEWORK (PBMEF)

Interim PBMEF Tuberculosis Indicator Compendium

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TB DIAH
Tuberculosis Data, Impact Assessment and Communications Hub

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Interim PBMEF Tuberculosis Indicator Compendium

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Abbreviations

ACF	active case finding
ADR	adverse drug reaction
ART	antiretroviral therapy
CI	contact investigation
CBHI	community based health insurance
CQI	continuous quality improvement
CXR	chest X-ray
CY	calendar year
DR-TB	drug-resistant tuberculosis
DS-TB	drug- sensitive tuberculosis
DST	drug susceptibility testing
ETNA	End TB Now Act of 2023
FLD	first-line drug
GF	Global Fund to Fight AIDS, Tuberculosis and Malaria
HCW	healthcare worker
IGRA	interferon-gamma release assay
IP	implementing partner
IPC	infection prevention and control
IRS	indicator reference sheets
LTFU	lost to follow-up
M&E	monitoring and evaluation
MEL	monitoring, evaluation and learning
MDR-TB	multidrug-resistant tuberculosis
MOH	Ministry of Health
mWRD	molecular WHO-recommended rapid diagnostic
NGO	nongovernmental organization
NHI	national health insurance
NSP	national strategic plan
NNS	needed to screen
NNT	needed to test

NTP	National TB Program
PBMEF	Performance-Based Monitoring and Evaluation Framework
PLHIV	people living with HIV
PPRs	performance plans and reports
PSCM	procurement and supply chain management
RR	rifampicin resistance
SHI	social health insurance
SLD	second-line drug
TaT	turnaround time
TB	tuberculosis
TB DIAH	TB Data, Impact Assessment and Communications Hub
TBI	TB infection
TSR	treatment success rate
TST	tuberculin skin test
TPT	tuberculosis preventive treatment
UNHLM	United Nations High-Level Meeting
USAID	United States Agency for International Development
WHO	World Health Organization
WRD	WHO-recommended rapid diagnostic
XDR-TB	extensively drug-resistant tuberculosis

Introduction

The Performance-Based Monitoring and Evaluation Framework (PBMEF) is a key component of the United States Agency for International Development's (USAID) effort to ensure accountability for effective use of investments in tuberculosis (TB) at the global, regional, country, and project levels and accelerate progress to end the TB epidemic. The framework streamlines and prioritizes indicators for monitoring progress toward reaching global TB milestones and targets in USAID's bilaterally-supported, high-burden TB countries. The framework underpins USAID's Global TB Strategy 2023-2030 and is fully aligned with the World Health Organization (WHO) End TB Strategy 2015-2030 and the Stop TB Partnership's Global Plan to End TB 2023-2030, as well as the commitments and targets set at the United Nations High-Level Meeting (UNHLM) in 2023 on ending TB.

Why Update the PBMEF?

In 2021, the PBMEF was introduced in the publication titled *Navigating Tuberculosis Indicators: A Guide for TB Programs*. Since the initial publication date, the WHO has developed new guidelines on TB surveillance and updated the definitions of some of the "standard" TB indicators. Additionally, the UNHLM on TB has articulated a new set of bold commitments and targets, and USAID has released its new Global TB Strategy (2023-2030) with its 90-90-90 + prevention results framework and strategic objectives of reach, cure, prevent, innovate, and sustain. The End TB Now Act of 2023 (ETNA) was also introduced in the U.S. Congress which upon passing, will introduce additional and greatly expanded reporting requirements. To address these changes, the TB Data, Impact Assessment and Communications Hub (TB DIAH) is working with USAID, USAID advisors, and USAID partners through the TB Data Special Interest Group (TB SIG) to update the PBMEF. Once the revisions are completed, there will be a suite of three documents designed to outline the PBMEF and facilitate the use of the indicators. These documents are:

PBMEF TB Indicator Guide:
Includes practical guidance for selecting, using, and reporting relevant TB indicators.

PBMEF TB Indicator Compendium:
Includes a full list of TB indicators and standard indicator reference sheets (IRS).

Monitoring, Evaluation, and Learning (MEL) Plan Template and Guidance:
Includes the MEL plan template with instructions, an example of a completed sample MEL plan, and a blank template for implementing partners (IPs) to draft their own MEL plans for TB activities.

Navigating Tuberculosis Indicators: A Guide for TB Programs will still be available until the revisions are fully completed in 2024, though the information in this publication supersedes that original document for the essential indicators.

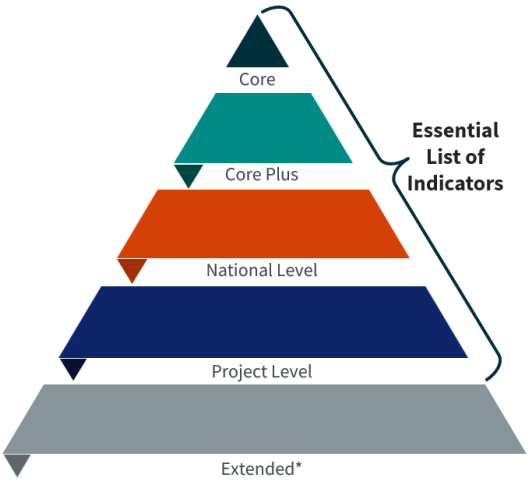
Purpose of Interim PBMEF TB Indicator Compendium

This interim document provides an updated list of PBMEF indicators organized across four levels: Core, Core Plus, National Level, and Project Level (see below for descriptions) and corresponding standard IRS for USAID staff, National TB Program (NTP) managers, monitoring and evaluation (M&E) staff, embedded TB advisors, and IPs. The publication is intended to make the Essential Indicator Lists (EILs), comprising

the Core, Core Plus, National Level, and Project Level categories of indicators, and their corresponding indicator reference sheets available as quickly as possible while the broader revision is still in progress.

Definitions of Indicator Levels

PBMEF indicators are "standard" indicators, meaning that definitions should be uniformly applied whenever the indicators are used. Standardization of indicators ensures that the data collected aligns with the intended meaning of the data elements and can be used to answer key questions and respond to specific reporting requirements. It also allows for aggregation of the results and comparison across activities, regions, or countries and provides for consistent trend analyses.



Core

The ten Core indicators provide insight into priority areas for TB programming. Core indicators should be reported at the national level on a semiannual basis (at a minimum). Subnational or project-level reporting of core indicators, as well as more frequent reporting, are encouraged at the country level to allow for more granular monitoring of performance. Age and sex disaggregations should be reported for Core indicators; additional disaggregations are provided in the IRS and should be reported when data is available. All Core indicators are aligned with standard WHO indicators, and the corresponding WHO data element name can be found in the "Data Source" section of each standard IRS.

For countries receiving USAID bilateral TB funding

All ten Core indicators are required in the Performance Plan Report (PPR) and will also be included in the TB Division's semiannual Accelerator data calls. PPR data reported for these indicators are based on calendar year (CY) periodicity, reflect national level attainment, and are aligned with the USAID congressional reporting requirements. Partners should consider these indicators, select all that are relevant to planned activities, and include them in their MEL plans and quarterly reporting. While every partner is not expected to include each of these indicators, USAID missions receiving bilateral TB funds are required to report on all ten indicators.

Core Plus

Core Plus indicators provide an additional layer of detailed data to monitor progress along with the ten Core indicators. Most of these indicators are well established and reflect key steps in specific cascades of care. These more granular data points help to provide further insight into what is driving the performance of the Core indicators and into performance against TB strategy goals at the national level.

Core Plus indicators should also be reported at the national level on a semiannual basis (at a minimum). Subnational or project-level reporting of Core Plus indicators, as well as more frequent reporting, are

encouraged at the country level to allow for more granular monitoring of performance. Age and sex disaggregations are expected for Core Plus indicators; additional disaggregations are provided in the IRS and should be reported on where data is available. Core Plus indicators are derived from data reported to the WHO, and most are aligned with standard WHO indicators. Where applicable, the corresponding WHO data element name can be found in the "Data Source" section of each standard IRS.

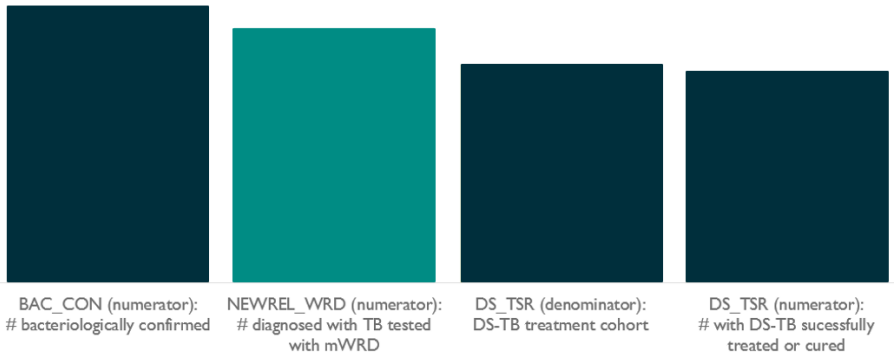
For countries receiving USAID bilateral TB funding

These indicators are not included in the PPR, but they will be included in the TB Division's semiannual Accelerator data calls. Partners should consider these indicators, select all that are relevant to planned activities, and include them in their MEL plans and quarterly reporting. While every partner is not expected to include each of these indicators, USAID missions receiving bilateral TB funds are required to report on all ten Core indicators.

National Level

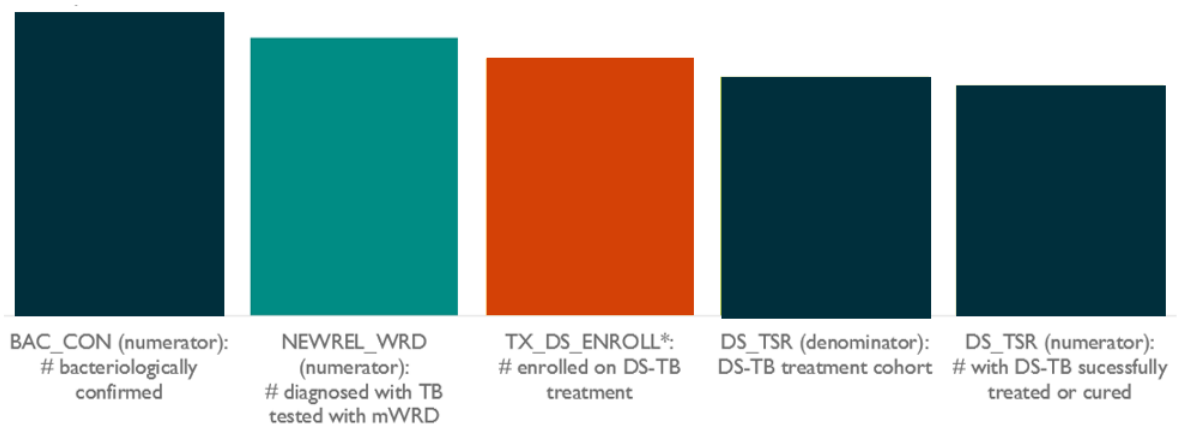
National Level indicators provide expanded details to help further explain the performance attained by the Core and Core Plus indicators. National Level indicators are recommended for measuring the contribution of TB investments toward programmatic targets at the national level. The data for these indicators are generally already generated at a national level; however, they may not be commonly analyzed or may not yet be a part of the WHO reporting process. Specific indicators added under the category include pediatric treatment success rate (TSR), percent bacteriologically confirmed in pediatrics, pediatric tuberculosis preventive treatment (TPT), and pediatric drug-resistant tuberculosis (DR-TB) notifications specifically for those ages 0–14 years to highlight challenges in this age group. The indicators that are necessary to construct a complete contact investigation (CI) cascade are also included, along with additional indicators around treatment initiation and outcomes. Data from National Level indicators allow for more detailed cascades to be built compared to cascades constructed with only Core and Core Plus indicators. For example, when looking at the drug- sensitive tuberculosis (DS-TB) diagnostic cascade with Core and Core Plus indicators, the following cascade could be constructed:

Cascade example with **Core** and **Core Plus** indicators:



With the addition of a National Level indicator, this cascade can be expanded as shown below to provide more insight to patient drop off before treatment initiation, or to do more timely analyses.

Example cascade with **National Level** indicator added:



*Note: TX_DS_ENROLL is based on the WHO indicator that reports enrollments in the same year they occur, whereas the DS_TSR denominator for cohort size is reported on a lag along with treatment outcomes.

While National Level indicators should be reported at the national level, project level data can also be reported if national level data cannot currently be generated. Age and sex disaggregations are expected for these indicators; additional disaggregations are provided in the IRS and should be reported when data is available. For indicators that are present in WHO datasets, the corresponding WHO data element name can be found in the "Data Source" section of each standard IRS.

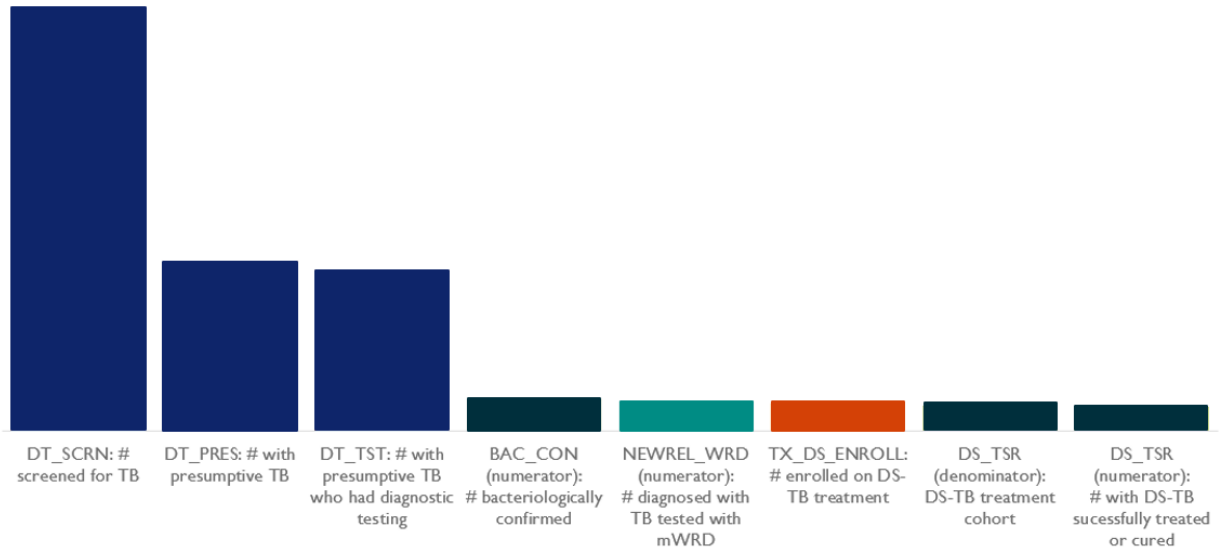
For countries receiving USAID bilateral TB funding

These indicators will not be included in the PPR and have not been included in semiannual Accelerator data calls to date. Partners should consider these indicators, select all that are relevant to planned activities, and include these in their MEL plans and quarterly reporting. Every partner is not expected to include each of these indicators. The selected indicators should be used to gain further insight into areas highlighted by data reviews such as the Accelerator calls, to aid in planning at the national level, and to fulfill reporting requirements outlined in ETNA.

Project Level

The Project Level indicators allow for an in-depth understanding of the TB epidemiology in each country and how activities are contributing to national TB objectives. Furthermore, these indicators can function to measure a project's attribution to programmatic outcomes. Specific indicators added under this category include additional information about TB infection (TBI), healthcare workers (HCWs), treatment support, laboratory turnaround times, stockouts, stigma, diabetes, and mental health. Project Level indicators also add even more detail and insight to cascade analyses. By adding Project Level indicators to the DS-TB diagnostic cascade example shown above, programs could construct the cascade below, which offers new insight into different aspects of the diagnostic cascade like screening yield, testing of people with presumptive TB, and yield of testing among these people.

Example cascade with **Project Level** indicators added:



Project Level indicators are expected to be reported at the project (activity) level, which would be at the targeted subnational level. National Level data may also be reported if it is available. Age and sex disaggregations are expected for these indicators; additional recommended disaggregations are provided in the IRS and should be reported when the data is available. For indicators that are present in WHO datasets, the corresponding WHO data element name can be found in the "Data Source" section of each standard IRS.

For countries receiving USAID bilateral TB funding

These indicators will not be included in the PPR and have not been included in semiannual Accelerator data calls to date. Partners should consider these indicators, select all that are relevant to planned activities, and incorporate these into MEL plans and quarterly reporting; every partner is not expected to include each of these indicators. Selected indicators should be incorporated into activity MELPs to help meet additional reporting requirements outlined in the End TB Now Act.

Annex 1: PBMEF Level Comparison

For countries receiving USAID bilateral TB funding

Core, Core Plus, National Level, and Project Level Indicator Category Comparison

	Core	Core Plus	National Level	Project Level
Level of reporting	National*	National*	National*	Project Level**
Included in:				
Performance Plans and Reports (PPRs)	Yes	No	No	No
Semiannual Accelerator data calls	Yes	Yes	No^	No^
Activity Monitoring, Evaluation and Learning (MEL) plans***	Yes	Yes	Yes	Yes

*Project level data may be substituted for sub national level data if national level data is unavailable

**National level data may also be reported if available

***Indicators included in MEL plans should also be used in subsequent activity reports including Annual Reports

^These data points have not been included in the Accelerator calls to date, however they may be considered for inclusion in future

Annex 2: Indicator Matrix

List of indicators with reference, title, numerator, denominator, disaggregation

Core Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Reach	DT-3	DT_RT	TB Detection Rate (Treatment Coverage)	Core	Percent of people with new and relapse TB and with unknown previous TB treatment history (all forms) who were notified during the reporting period, out of the estimated number of people with incident TB for that year. Note: This indicator is also referred to as "Treatment Coverage Rate"; the name is updated to TB detection rate here to emphasize that treatment coverage is not represented in this data. Calculation: (Numerator/Denominator) x 100	Number of people with new and relapse TB (and with unknown previous TB treatment history), all forms (bacteriologically confirmed plus clinically diagnosed, pulmonary and extra pulmonary), who were notified in the reporting period.	Estimated incidence of TB (all forms) in the same reporting period	Age (<15, 15+), sex	c_newinc divided by e_inc_num
Reach	DT-12	BAC_CON	Percent Bacteriologically Confirmed	Core	Percent of people with new and relapse pulmonary TB who are bacteriologically confirmed. Bacteriologically confirmed: Smear positive for TB or culture positive for TB or positive for TB by a World Health Organization-recommended rapid diagnostics test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM. Note: LF-LAM is included as a recommended TB test for people living with HIV (PLHIV). LF- LAM is not recommended to confirm TB in all populations and notably should not be used in outpatient settings for adults, adolescents, and children without symptoms of TB or in those with a CD4 count > 200 cells/mm3. At the time of this publication, Alere Determine™ TB LAM Ag is the only commercially available LF- LAM	Number of new and relapse bacteriologically confirmed pulmonary TB notifications (smear positive or culture positive or positive by WRD during the reporting period)	Number of people with new and relapse pulmonary TB (bacteriologically confirmed plus clinically diagnosed) during the reporting period	Age (0–4, 5–14, 15+), sex, HIV status	new_labconf plus ret_rel_labconf divided by new_clindx plus ret_rel_clindx plus new_labconf plus ret_rel_labconf

Core Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					test. Full guidance on the use of LF-LAM can be found at: www.who.int/publications/i/item/9789241550604 Calculation: (Numerator/Denominator) x 100				
Reach	CH-5	PEDS_NOTIF	Childhood TB Notifications	Core	Number of children and adolescents (0–14 years) with new and relapse TB or with unknown previous TB treatment history, all forms, who were notified in a reporting period	Number of children and adolescents (0–14 years) with new and relapse TB or with unknown previous TB treatment history, all forms, who were notified in a reporting period	N/A	Age (0–4, 5–9, 10–14), sex, HIV status	newrel_f014 plus newrel_m014 plus newrel_sexunk014
Reach	RN-1	MDR_NOTIF	RR/MDR-TB Notifications	Core	Number of people with rifampicin-resistant (RR) and multidrug-resistant (MDR) TB notified during the reporting period. RR/MDR TB: RR-TB is TB caused by Mycobacterium Tuberculosis (M. tuberculosis) strains that are resistant to rifampicin; MDR-TB strains are resistant to at least both rifampicin and isoniazid. Note: This indicator no longer includes pre-extensively drug-resistant tuberculosis (pre-XDR-TB) and extensively drug-resistant tuberculosis (XDR-TB); these data should be reported separately under the core plus indicator for XDR. Values for these indicators should not be added together. This indicator might include patients with polydrug resistant TB (PDR-TB), if they are part of the RR/MDR recording in the national database. However, if PDR-TB is reported separately, they should not be included in this analysis.	Number of people with RR-TB and MDR-TB notified during the reporting period	N/A	Age (<15, 15+), sex	conf_rr_nfqr
Reach	PR-1	PR_NOTIF	Private Sector TB Notifications	Core	Number of people with new and relapse TB of all forms (bacteriologically confirmed plus clinically diagnosed) notified by	Number of people with new and relapse TB of all forms (bacteriologically confirmed plus clinically	N/A	Age (<15, 15+), sex	priv_new_dx

Core Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					private non-national TB program (NTP) providers in the reporting period. Per the WHO's definition/ database, private non-NTP providers include private individual and institutional providers, corporate/business sector providers, mission hospitals, and other clinics or hospitals managed by nongovernmental organizations (NGOs) and faith-based organizations.	diagnosed) notified by private non-NTP providers in the reporting period			
Reach	CI-1	CON_SCRN	Percent of Contacts Screened for TB	Core	Percent of contacts of people with bacteriologically confirmed pulmonary TB (index cases) who were screened for active TB disease, among all contacts identified during the reporting period. Contact investigation (CI) is a systematic process to identify people (contacts) who were exposed to active pulmonary TB disease; assess contacts for signs or symptoms of active TB disease, provide diagnostic testing to confirm or exclude active disease or diagnose TB infection, and provide contacts with treatment for TB disease or infection. CI consists of identification of contacts, prioritization of contact at highest risk, clinical evaluation, and diagnostic testing and treatment as clinically indicated. Calculation: (Numerator/Denominator) x 100	Number of contacts of people with notified new and relapse bacteriologically confirmed pulmonary TB who were screened for active TB disease during the reporting period	Number of contacts of people with notified new and relapse bacteriologically confirmed pulmonary TB identified during the reporting period	(0–4, 5–14, 15+), sex	newinc_con_screen divided by newinc_con
Cure	SS-1	DS_TSR	DS-TB Treatment Success Rate	Core	Percent of people with new and relapse drug- sensitive tuberculosis (DS-TB) (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who were notified in a specified period that were cured or treatment	Number of people with new and relapse DS-TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary), who were registered in a specified period that	Number of people with new and relapse DS-TB (bacteriologically confirmed or clinically diagnosed,	Age (<15, 15+), sex, HIV status	newrel_succ divided by newrel_coh

Core Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					completed, among the total people with new and relapse TB who were initiated on treatment during the same reporting period (excluding those moved to RR-TB treatment cohort). Treatment outcomes are defined by the time period of initiation on treatment; e.g., "2018 cases successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019. For this reason, reports of treatment outcome data lag by one year. Calculation: (Numerator/Denominator) x 100	were cured or treatment completed	pulmonary or extrapulmonary) who initiated treatment in the same period		
Cure	RS-1	DR_TSR	DR-TB Treatment Success Rate	Core	Percentage of people with drug-resistant tuberculosis (DR-TB) (rifampicin-resistant [RR]-TB/multidrug-resistant [MDR]-TB, pre-extensively drug-resistant [pre-XDR]-TB, and extensively drug-resistant [XDR]-TB) successfully treated (cured or treatment completed) among all people with DR-TB who were initiated on treatment during the reporting period. Note: This indicator might include patients with polydrug resistant TB (PDR-TB) if they are part of the RR/MDR recording in the national database. However, if PDR-TB is reported separately, they should not be included in DR-TB TSR calculations. Treatment outcomes are defined by the time period of initiation on treatment; e.g., "2018 cohort successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2020. For this reason, reports of treatment outcome data lag by 2 years. Calculation: (Numerator/Denominator) x 100	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who were cured or treatment completed during the reporting period	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB)who were initiated on DR-TB treatment during the same reporting period	Age (<15, 15+), sex	mdr_succ plus xdr_succ divided by mdr_coh plus xdr_coh

Core Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Prevent	PT-1	TPT_ENROLL	TPT Initiations	Core	Number of people who were initiated on TB preventive treatment (TPT). This includes: (1) household and other close contacts of people with notified, bacteriologically confirmed pulmonary TB (adults, adolescents, and children <5 years), and (2) people living with HIV (PLHIV). Household contact: a person who shared the same enclosed living space as the index case for one or more nights or for frequent or extended daytime periods during the 3 months before the initiation of current treatment. "Other" close contacts will be assessed by clinical judgment or experience. In general, this may include someone who may not live in the same house as the index patient but spends considerable time there or spent time elsewhere when the index case was present. It may also be someone who the index case may have spent time in close contact in other settings such as in school or in the workplace.	Number of people who were initiated on TPT during the reporting period, which includes: Household and other close contacts of people with notified, bacteriologically confirmed TB (5 plus and children <5), and PLHIV	N/A	Age (0–4, 5–14, 15+), sex, risk group (contacts, PLHIV)	newinc_con_prevtxplus hiv_ipt_reg_all
Sustain	SN-3	SN_DOMESTICR	Percent of TB Financing Received from Domestic Sources	Core	Percent of an NTP's budget received from domestic sources during the reporting period. Calculation: (Numerator/Denominator) x 100	The amount of the NTP's budget received from domestic sources (including loans) during the reporting period (in U.S. dollars)	The amount of an NTP's budget received from all sources (domestic; the Global Fund to Fight AIDS, Tuberculosis and Malaria; USAID; and other sources) during the reporting period (in U.S. dollars)		rcvd_tot_domestic divided by rcvd_tot_sources

Core Plus Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Reach	DT-15	NEWREL _WRD	Rapid diagnostic testing at time of initial diagnosis	Core Plus	Percent of people with new and relapse TB who were tested using a WHO-recommended rapid diagnostic test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM at the time of initial TB diagnosis (regardless of test result). Calculation: (Numerator/Denominator) x 100	Number of people with new and relapse TB notified during the reporting period who were tested using a WRD: FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM (regardless of test result).	Number of people with notified new and relapse TB during the reporting period	Age (0–4, 5–14, 15+), sex, type of diagnostic test	newinc_rdx divided by c_newinc
Reach	N/A	NEWREL _DST	Percent of people with new and relapse TB with drug susceptibility testing (DST)	Core Plus	Percent of people with new and relapse pulmonary TB who have drug susceptibility testing (DST) results for 1) rifampicin, 2) isoniazid, 3) fluoroquinolones, 4) bedaquiline, and 5) linezolid Calculation: (Numerator disaggregate: DST type (1,2,3,4 or 5*)/Denominator) x 100 *Note 5 separate proportions should be calculated, one for each drug type.	Number of people with new and relapse pulmonary TB who have drug susceptibility test (DST) results for 1) rifampicin, 2) isoniazid, 3) fluoroquinolones, 4) bedaquiline, and 5) linezolid	Number of people with bacteriologically confirmed new and relapse pulmonary TB	DST type: rifampicin fluoroquinolones isoniazid-bedaquiline linezolid Age (0–4, 5–14, 15+), sex, HIV status	Components of this indicator found in WHO: Numerator: Rifampicin: r_rlt_new Isoniazid: dst_rlt_new Denominator: new_labconf plus ret_rel_labconf
Reach	N/A	RET_DST	Percent of people with previously treated TB with drug susceptibility testing (DST)	Core Plus	Percent of people with previously treated (including relapse) pulmonary TB who have DST results for 1) rifampicin, 2) isoniazid, 3) fluoroquinolones, 4) bedaquiline, and 5) linezolid Calculation: (Numerator disaggregate: DST type (1,2,3,4 or 5*)/Denominator) x 100 *Note 5 separate proportions should be calculated, one for each drug type.	Number of people with previously treated (including relapse) pulmonary TB who have drug susceptibility test (DST) results for 1) rifampicin, 2) isoniazid, 3) fluoroquinolones, 4) bedaquiline, and 5) linezolid	Number of people with bacteriologically confirmed previously treated (including relapse) pulmonary TB	DST type: rifampicin fluoroquinolones isoniazid-bedaquiline linezolid Age (0–4, 5–14, 15+), sex, HIV status	Components of this indicator found in WHO: Numerator: Rifampicin: r_rlt_ret Isoniazid: dst_rlt_ret Denominator :pulm_labconf_ret

Core Plus Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Reach	N/A	XDR_NOTIF	Pre-XDR/XDR Notifications	Core Plus	Number of people with pre-extensively drug-resistant (pre-XDR) and extensively drug-resistant (XDR) TB notified during the reporting period. Pre-XDR/XDR-TB: XDR-TB is caused by a strain of M. tuberculosis complex that is resistant to rifampicin (and may also be resistant to isoniazid) and to at least one other "Group A" drug (bedaquiline or linezolid); pre-XDR- TB meets these qualifications but is resistant to a fluoroquinolone or a "Group A" drug, but not both. Note: This indicator is reported separately from RR and MDR notifications. Values for these indicators should not be added together.	Number of people with pre-extensively drug- resistant (pre-XDR) and extensively drug-resistant (XDR) tuberculosis notified during the reporting period	N/A	Age (<15, 15+), sex	conf_rr_fqr (lab confirmed pre XDR and XDR)
Cure	RN-4	TX_DR_ENROLL	DR-TB treatment initiations	Core Plus	Number of people with laboratory-confirmed or clinically diagnosed DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who initiated treatment for DR-TB during the reporting period. RR/MDR-TB: RR-TB is TB caused by Mycobacterium Tuberculosis (M. tuberculosis) strains that are resistant to rifampicin; MDR-TB strains are resistant to at least both rifampicin and isoniazid. Pre-XDR/XDR-TB: XDR-TB is caused by a strain of M. tuberculosis complex that is resistant to rifampicin (and may also be resistant to isoniazid), and that is also resistant to at least one fluoroquinolone (levofloxacin or moxifloxacin) and to at least one other “Group A” drug (bedaquiline or linezolid); pre-XDR-TB meets these qualifications but is resistant to a fluoroquinolone or a “Group A” drug, but not both.	Number of people with laboratory-confirmed or clinically diagnosed DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who initiated treatment for DR-TB during the reporting period	N/A	Age (<15, 15+), sex, HIV status	unconf_rr_nfqr_tx plus conf_rr_nfqr_tx plus conf_rr_fqr_tx

Core Plus Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Cure	RN-7	TX_STR_ ENROLL	DR-TB "all oral" short treatment regimen initiations	Core Plus	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) initiated on “all oral” short treatment regimen during the reporting period. “Short treatment regimens” refer to regimens with a duration of 12 months or less.	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) initiated on "all oral" short treatment regimen during the reporting period	N/A	Age (<15, 15+), sex	mdr_alloral _short_tx
Cure	RN-8	TX_LTR_ ENROLL	DR-TB "all oral" longer treatment regimen initiations	Core Plus	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who initiated an “all oral” longer treatment regimen during the reporting period. "Longer treatment regimens" refer to regimens with a duration of 14 months or more, usually lasting 18–24 months.	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who initiated an “all oral” longer treatment regimen during the reporting period	N/A	Age (<15, 15+), sex	mdrxdr_allo ral_tx
Cure	RS-6	TX_DR_ ADR	Number of people with adverse reactions to DR-TB treatment	Core Plus	Number of people on DR-TB treatment (RR/MDR-TB and pre-XDR/XDR-TB) who developed at least one adverse drug reaction (ADR) to DR-TB treatment during the reporting period; this includes all people on treatment during the specified reporting period and is not related to a cohort. An ADR (sometimes referred to as an “adverse event”) is any negative medical occurrence that may present in a person with TB during treatment with a pharmaceutical product, but which does not necessarily have a causal relationship with this treatment. More information on monitoring of ADRs in DR-TB can be found here, and information on ADR grading can be found here.	Number of people on DR-TB treatment (RR/MDR-TB and pre-XDR/XDR-TB) who developed at least one ADR to DR-TB treatment during the reporting period; this includes all people on treatment during the specified reporting period and is not related to a cohort.	N/A	Age (<15, 15+), sex, type of adverse reaction (e.g., vomiting, dizziness, reduced appetite, gastritis)	mdrtx_adve rse_events
Prevent	N/A	TPT_CO N_ENRO LL	TPT initiations among contacts	Core Plus	Number of household contacts and other close contacts of people with bacteriologically confirmed, notified pulmonary TB who initiated TB preventive treatment (TPT) during the reporting period. This indicator is a subset of the	Number of adult, adolescent, and children <5 years who are household or other close contacts of people with bacteriologically confirmed, notified	N/A	Age (0–4, 5–14, 15+), sex, public vs private	newinc_con _prevtx

Core Plus Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					core indicator “TPT initiations.” "Other” close contacts will be assessed by clinical judgment or experience. In general, this may include someone who may not live in the same house as the index patient but spends considerable time there or spent time elsewhere when the index case was present. It may also be someone who the index case may have spent time in close contact in other settings such as in school or in the workplace.	pulmonary TB who initiated TPT during the reporting period			
Prevent	N/A	TPT_COMPL	TPT Completions	Core Plus	Number of contacts or other eligible people who completed TPT during the reporting period. During a given reporting period, the cohort of people who initiated TPT should be tracked to monitor the number who complete TPT. Completion data should be disaggregated by: * Household contacts aged <5 years * Household contacts 5 years and up * People living with HIV (PLHIV)	Number of contacts or other eligible people who completed TPT during the reporting period	N/A	Age (0–4, 5–14, 15+), sex, risk group (contacts, PLHIV)	newinc_con_prevtx_cmplt plus hiv_all_tpt_completed
Sustain	SN-8B	SN_TB_INSUR	Existence of a national or social health insurance system whose benefit package includes TB clinical services	Core Plus	Country has a national or social health insurance (NHI/SHI) scheme whose benefit package includes TB clinical services. National/social health insurance: forms of health insurance that are often administered by the government or a quasi-governmental agency, funded through contribution from taxes and/or employers and employees, and cover a package of services. Community based health insurance (CBHI) schemes are usually voluntary and characterized by community members pooling funds to offset the cost of healthcare. Some countries with CBHI	0 = EITHER No national/social health insurance scheme OR national/social health insurance available but DS-TB & DR-TB (diagnosis and treatment costs) are excluded 2 = National/social health insurance is available and includes diagnosis and treatment costs for DS- or DR-TB but not both 4 = National/social health insurance is available and includes	N/A	N/A	

Core Plus Indicators

Category	Previous #	Indicator _ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					schemes are adjusting the model towards integration into broader NHI/SHI schemes. For the purpose of this indicator, NHI/SHI/CBHI schemes should only be scored as being "available" if they exceed the following threshold: >50% population coverage and >2% of current health expenditure comes from pre-payment. These schemes should include diagnosis, treatment, and prevention of all forms of TB, including MDR-TB, for all populations of the country. This indicator is intended to measure whether a country is able to source funding for TB from an insurance scheme; countries with no insurance scheme should score "0" (even if TB care is free).	diagnosis and treatment costs for both DS- and DR-TB			

National Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Reach	CH-11	PEDS_BAC_CON	Percent children and adolescents (0–14 years old) with new and relapse pulmonary TB who are bacteriologically confirmed	National Level	Percent of children and adolescents (0–14 years) with new and relapse pulmonary TB who are bacteriologically confirmed. Bacteriologically confirmed: Smear positive for TB or culture positive for TB by a World Health Organization-recommended rapid diagnostics test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTime MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM. Note: This is a subset of the core indicator "Percent Bacteriologically Confirmed." Calculation: (Numerator/Denominator) x 100	Number of children and adolescents (0–14 years) with new and relapse pulmonary TB who are bacteriologically confirmed during a reporting period	Number of children and adolescents (0–14 years) with new and relapse pulmonary TB during the reporting period	Age (0–4, 5–14), sex	
Reach	CH-13	PEDS_MDR_NOTIF	MDR-TB notifications among children and adolescents (0-14 years)	National Level	Number of children and adolescents (0–14 years) with rifampicin-resistant (RR)-TB/multidrug-resistant (MDR)-TB notified during the reporting period; pre-extensively drug-resistant (pre-XDR) TB, and extensively drug-resistant (XDR) TB should not be reported in addition to the RR/MDR-TB notifications. RR/MDR-TB: is TB caused by Mycobacterium Tuberculosis (M. tuberculosis) strains that are resistant to rifampicin;	Number of children and adolescents (0–14 years) with notified RR/MDR-TB during the reporting period (both lab-confirmed and clinically diagnosed).	N/A	Age (0-4, 5-9, 10-14), sex	

National Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					MDR-TB strains are resistant to at least both rifampicin and isoniazid. Note: pre-XDR/XDR notifications should not be added to RR/MDR-TB notifications to avoid double counting of DR-TB notifications. Children who are diagnosed with pre-XDR and XDR-TB will already have been identified and recorded as having RR/MDR-TB. The number of RR/MDR-TB notifications should therefore equal the total number of DR-TB notifications.				
Reach	CI-8	DT_CI_INIT	Percent of people with notified TB with a contact investigation initiated	National Level	Percent of people with notified pulmonary TB with a contact investigation (CI) initiated. CI initiated: For the purpose of this indicator, "initiated" refers to the process of enumeration of all known contacts to an index TB case. CI will include the evaluation of those contacts to determine if any have active TB disease or TB infection (TBI) through symptom screening, diagnostic testing, chest X-ray (CXR), or clinical evaluation. Index case: Person with pulmonary TB who is notified to health authorities. Calculation: (Numerator/Denominator) x 100	Number of people with notified pulmonary TB with a CI initiated	Number of people with notified pulmonary TB during the reporting period	Age (0–4, 5–14, 15+), sex	
Reach	N/A	DT_CON_PRES	Number of contacts with presumptive TB	National Level	Number of contacts to a person with notified pulmonary TB who have	Number of contacts with presumptive TB	N/A	Age (0–4, 5–14, 15+), sex	

National Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					signs or symptoms of TB, as defined by the WHO 4 symptom screen or the NTP (i.e., have presumptive TB). Presumptive TB: a person who has one or more signs or symptoms of active TB disease and should be referred for diagnostic testing to diagnose or rule out active disease.				
Reach	CI-10	DT_CON_TST	Number of contacts who received TB diagnostic testing	National Level	Number of contacts to a person with notified pulmonary TB with signs or symptoms of TB (e.g., presumptive TB) who received diagnostic testing for TB. Diagnostic testing includes smear, culture or a World Health Organization recommended rapid diagnostics test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB- LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF- LAM.	Number of contacts to a person with notified pulmonary TB who received diagnostic testing for presumptive TB	N/A	Age (0–4, 5–14, 15+), sex	
Reach	CI-4	DT_CON_DX	Number of contacts diagnosed with active TB disease	National Level	Number of contacts diagnosed with TB disease (both bacteriologically and clinically confirmed) among all contacts who were screened for TB disease during the reporting period	Number of contacts who were diagnosed with TB disease (both bacteriologically and clinically confirmed)	N/A	Age (0–4, 5–14, 15+), sex	newinc_con_tb
Reach	CI-11	DT_CON_TX	Number of contacts who initiated TB treatment	National Level	Number of contacts diagnosed with active TB disease who initiated TB treatment	Number of contacts who initiated TB treatment	N/A	Age (0–4, 5–14, 15+), sex	
Cure	SS-2 to SS-5	TX_DS_OUT	DS-TB treatment outcomes	National Level	Number of people with DS-TB (new and relapse), all forms, with each defined	Number of people with DS-TB (new and relapse), all forms, with each defined	N/A (cohort size reported under core DS-	Age (<15, 15+), sex, HIV status, treatment	Successfully treated: newrel_succ

National Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					DS-TB treatment outcome, among the cohort of people who were initiated DS-TB treatment during a reporting period. Cohort reporting: Treatment outcomes are defined by the time of initiation on treatment; e.g., "2018 cohort successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019. For this reason, reports of treatment outcome data lag by one year.	DS-TB treatment outcome (defined below), among the cohort of people who were initiated DS-TB treatment during a reporting period. DS-TB Treatment outcomes: • Successfully treated: Cure or Completed treatment • Cure • Completed treatment • Lost to follow-up (LTFU) • Treatment failed • Died • Not Evaluated *Note: Full definitions of each outcome available in the linked indicator reference sheet*	TB TSR indicator)	outcome (defined above)	LTFU: newrel_lost Treatment failed: newrel_fail Died: newrel_died Not Evaluated: newrel_neval Definitions for DS-TB (Ch.10): https://tbksp.org/en/node/617
Cure	RS-2 to RS-5	TX_DR_OUT	DR-TB treatment outcomes	National Level	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) with each of the defined DR-TB treatment outcomes, among the cohort of people who were initiated on DR-TB treatment during a defined reporting period. Cohort reporting: Treatment outcomes are defined by the time of initiation on treatment; e.g., "2018 cohort successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019 or 2020. For this reason, reports of DR-TB treatment outcome data lag by 1–2 years.	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) with each of the treatment outcomes (defined below), among the cohort of people who were initiated on DR-TB treatment during a defined reporting period. DR-TB Treatment outcomes: • Successfully treated: Cure or Completed treatment • Cure • Completed treatment • Lost to follow-up (LTFU) • Treatment failed • Died • Not evaluated Note: Full definitions of each outcome available in the linked indicator reference sheet	N/A (cohort size reported under core TSR indicator)	Age (<15, 15+), sex, HIV status, treatment outcome	Successfully tx: mdr_succ plus xdr_succ LTFU: mdr_def plus xdr_def Treatment failed: mdr_fail plus xdr_fail Died: mdr_died plus xdr_died Not Evaluated: c_mdr_neval plus c_xdr_neval Definitions for DR-TB (Ch.10): https://tbksp.org/en/node/617

National Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Cure	N/A	PEDS_TSR	Treatment success rate in children and adolescents (0-14 years)	National Level	Percent of children and adolescents (0–14 years) who were cured or completed treatment for DS-TB among the total number of children and adolescents (0–14 years) with new and relapse TB who were initiated on treatment for DS-TB during the same reporting period (excluding those moved to DR-TB treatment cohort). Treatment outcomes are defined by the time of initiation on treatment; e.g., "2018 cohort successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019. For this reason, reports of treatment outcome data lag by one year. This indicator is a subset of the data reported in the core indicator "Treatment success rate." Calculation: (Numerator/Denominator) x 100	Number of children and adolescents (0–14) with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary), who were registered in a specified period that were cured or completed treatment	Number of children and adolescents (0–14) with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who initiated treatment in the same period.	Sex	
Cure	N/A	PLHIV_TSR	Treatment success rate among PLHIV	National Level	Percent of people living with HIV (PLHIV) with new and relapse TB among PLHIV (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who were notified in a specified period that were cured or treatment completed, among the total number of people with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who were	Number of PLHIV with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary), who were registered in a specified period that were cured or treatment completed	Number of PLHIV with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who initiated treatment in the same period	Age (<15, 15+), sex	

National Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					initiated on treatment during the same reporting period (excluding those moved to RR-TB treatment cohort). Treatment outcomes are defined by the time of initiation on treatment; e.g., "2018 cases successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019. For this reason, reports of treatment outcome data lag by one year. Calculation: (Numerator/Denominator) x 100				
Cure	N/A	TX_DS_ENROLL	DS-TB treatment initiations	National Level	Number of people with laboratory-confirmed or clinically diagnosed DS-TB who initiated treatment for DS-TB during the reporting period.	Number of people with laboratory-confirmed or clinically diagnosed DS-TB who initiated treatment for DS-TB during the reporting period	N/A	Age (<15, 15+), sex, HIV status, public or private	
Prevent	PT-7	TPT_CON_04	Number of TPT initiations among contacts <5	National Level	Number of household contacts under 5 years old of bacteriologically confirmed pulmonary new and relapse TB cases notified in the reporting period who were started on TB preventive treatment (TPT).	Number of household contacts under 5 years old of bacteriologically confirmed pulmonary new and relapse TB cases notified in the reporting period who were started on TPT.	N/A	Sex	newinc_con04_prevtx
Prevent	PT-8	TPT_PLHIV_ENROLL	Number of TPT initiations among PLHIV	National Level	Number of PLHIV who were started on TPT during the reporting period.	Number of PLHIV who were started on TPT during the reporting period.	N/A	Age (0–4, 5–14, 15+), sex	hiv_ipt_reg_all
Sustain	N/A	SN_CQI	CQI programs in place	National Level	Existence of a continuous quality improvement (CQI) platform(s) at all levels of the health system for 1) TB clinical care, 2) TB laboratory, 3) TB commodities, and 4) other whereby TB service delivery and relevant data	Existence of a continuous quality improvement (CQI) platform(s) at all levels of the health system for the following : -TB clinical care CQI program? Yes/No -TB laboratory CQI program? Yes/No	N/A	N/A	

National Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					and indicators are systematically monitored, their quality assessed, and decisions are made to address any operational problems or challenges identified.	-TB commodities CQI program? Yes/No -Other CQI? Yes/No (if yes, please describe) CQI programs may take multiple forms; one example may be regular or systematic data review and monitoring meetings that NTPs conduct at district, provincial, and national levels where problems, gaps, bottlenecks, delays, etc. that impact patient care are assessed. Impacts on patient care could include impacts on case detection, treatment outcomes, TPT completion, etc., thereby encompassing multiple steps in the TB care and prevention cascade.			
Sustain	N/A	SN_MQS	TB drugs meeting international minimum quality standards	National Level	Percent of anti-TB medicines procured locally or internationally which meet international minimum quality standards within a country. "International minimum quality standards" are defined and documented in the batch certificate. Standards and the reference organizations considered to be acceptable include WHO Prequalification of Medicines Programme (PQP)/ stringent regulatory authorities (SRAs)/ Expert Review Panel (ERP). Calculation: (Numerator/Denominator) x 100	Number of batches of anti-TB medicines procured locally or internationally for which a batch certificate showed acceptable results during the reporting period	Number of batches received of anti-TB medicines (procured during the reporting period)	N/A	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Reach	PV-1	DT_SCRN_ COMM	Number of people screened for TB disease outside of health facilities	Project Level	Number of people screened for TB disease outside of health facilities by a community health worker or other qualified person (according to national screening protocols) during the reporting period. "Outside health facility" refers to TB screening activities in the community, including in and outside household or occupational settings (e.g., as part of contact investigation). It may also refer to routine outreach, and event- or location-based screening carried out by community health workers or any other trained/qualified health personnel, for example, a community health fair or prison-based screening activity. Additionally, this term could refer to screening efforts targeted to specific populations that may not have access to facility based testing and are at high risk for TB. "Screening" is defined at a minimum as verbal screening for TB symptoms to identify people to be referred for further clinical evaluation or testing for TB disease. It may include mobile chest X-ray (CXR), an increasingly important intervention in high TB burden settings. It may also include testing for TB infection (TBI) by tuberculin skin test (TST) or interferon-gamma release assay (IGRA).	Number of people screened for TB disease outside of health facilities by a community health worker or other qualified person during the reporting period	N/A	Age (0–4, 5–14, 15+), sex, location type (e.g., workplace, prison, community outreach, school, etc.), population group (e.g., migrant, prisoner, mineworker, member of a tribal population, etc.)	
Reach	PS-1	DT_SCRN	Number of people screened for TB	Project Level	The number of people who are screened for signs or symptoms of active TB disease either by verbal screening or other methods including CXR. "Screening" is defined as verbal screening for signs and symptoms of TB which identifies persons who are symptomatic, or radiologic screening using CXR and further referral for clinical evaluation and/or diagnostic testing. Screening may also include assessment for TB infection combined with or without testing by TST or IGRA.	Number of people screened for TB during the reporting period	N/A	Age (0–4, 5–14, 15+), sex, screening method (symptoms only, CXR), location of screening (health facility, community)	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
Reach	PS-2	DT_PRES	Number of people with presumptive TB	Project Level	Number of people with presumptive TB identified during the reporting period. Presumptive TB: People who screened positive for any signs or symptoms of TB are considered to have suspected TB disease and are said to have presumptive TB; these people should receive diagnostic testing with WHO-recommended rapid diagnostics (WRD).	Number of people with presumptive TB identified during the reporting period	N/A	Age (0–4, 5–14, 15+), sex	
Reach	PS-3	DT_TST	Number of people with presumptive TB who received diagnostic testing	Project Level	Number of people with presumptive TB who received diagnostic testing to confirm or exclude active TB disease during the reporting period. Diagnostic testing for active TB disease includes smear, culture, and WHO-recommended rapid diagnostics (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR- TB, cobas® MTB (Roche), or LF-LAM.	Number of people with presumptive TB who were tested for TB during the reporting period	N/A	Age (0–4, 5–14, 15+), sex, diagnostic test type	
Reach	DT-14	DT_WRD	Number of people with presumptive TB who were tested with a rapid diagnostic test	Project Level	Number of people who screened positive with signs and symptoms of TB (i.e., presumptive TB) and who were tested with a rapid diagnostic test to confirm or exclude active TB disease during the reporting period. Rapid diagnostic testing for active TB disease includes WHO- recommended rapid diagnostics (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e	Number of people with presumptive TB who were tested for TB with a WRD during the reporting period.	N/A	Age (0–4, 5–14, 15+), sex, diagnostic test type	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					MTB (Abbott), BD MAX™ MDR- TB, cobas® MTB (Roche), or LF-LAM.				
Reach	PS-7	DT_CXR	Number of people with presumptive TB who received a chest X-ray (CXR)	Project Level	Number of people with presumptive TB who had a chest X-ray (CXR) to rule out active TB disease during the reporting period. Note: CXR may also be used as a screening approach to rule out TB in high risk populations. These instances of CXR may also be included here.	Number of people with presumptive TB who had a CXR to rule out active TB disease during the reporting period	N/A	Age (0–4, 5–14, 15+), sex	
Reach	AF-7	NNS	Number needed to screen	Project Level	The number needed to screen (NNS) is the number of people that must be screened for symptoms of active TB disease to identify one person with TB during the reporting period. "Screening" is defined at a minimum as verbal screening for TB symptoms to identify people to be referred for further clinical evaluation or testing for TB disease. It may include mobile CXR, an increasingly important intervention in high TB burden settings. Calculation: Numerator/Denominator	Number of people screened for TB in a given period	Number of people diagnosed with TB in a given period	Age, sex, setting	
Reach	AF-8	NNT	Number needed to test	Project Level	The number needed to test is the number of individuals that must be tested with a bacteriological test to identify one person with TB during the reporting period. These tests include all WHO-recommended bacteriological testing options, including: FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM. Calculation: Numerator/Denominator	Number of people with presumptive TB with a test result indicating bacteriological confirmation of TB disease during the reporting period or for a specific case finding approach	Number of people with bacteriologically confirmed TB during the reporting period or for a specific case finding approach	Age, sex, setting	
Reach	CI-8	DR_CI_INIT	Percent of people with DR-TB who had contact investigations initiated	Project Level	Percent of people with notified DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who had a contact investigation (CI) initiated. CI initiated: For the purpose of this indicator, "initiated" refers to the process of enumeration of all known contacts to an index DR-TB case. CI will include the evaluation of those	Number of people with notified DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) in the reporting period who had a CI initiated	Number of people with notified DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) during the reporting period	Age (0-4, 5-14, 15+), sex	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					contacts to determine if any have active TB disease or TB infection (TBI) through symptom screening, diagnostic testing, CXR or clinical evaluation. Index case: Person with DR-TB who is notified to health authorities. Note: This indicator is a subset of the National-Level indicator "DT_CI_INIT"				
Reach	N/A	CON_TBI_TST	Number of contacts tested for TBI	Project Level	Number of contacts of new/relapse pulmonary TB patients who were test for TBI during the reporting period (TBI testing includes tuberculin skin test [TST], interferon-gamma release assay [IGRA], and TB antigen-based skin tests [TBST]).	Number of contacts of new/relapse pulmonary TB patients who were tested for TBI during the reporting period (TBI testing includes TST, IGRA, TBST)	N/A	Age (0–4, 5–14, 15+), sex, diagnostic method (bacteriologically confirmed vs clinically diagnosed)	
Prevent	PS-6	CON_TBI_POS	Number of contacts tested positive for TBI	Project Level	Number of contacts of people with new/relapse pulmonary TB who tested positive for TB infection during the reporting period.	Number of contacts of people with new/relapse pulmonary TB who tested positive for TB infection during the reporting period	N/A	Age (0–4, 5–14, 15+), sex	
Cure	RS-7	TX_DR_SUPPORT	Percent of people on DR-TB treatment who received treatment support	Project Level	Percent of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who received nonmedical interventions or benefits, aimed at improving treatment adherence and reduction of catastrophic cost during a specified period, among people with DR-TB who were initiated on treatment during the reporting period. This may include adherence support, food assistance, psychological, educational, mental counseling, transportation reimbursement, or other social or economic support.	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who receive nonmedical interventions or benefits, aimed at improving treatment adherence and reduction of catastrophic cost during a specified period	Number of people with DR- TB who were on treatment during the same reporting period	Age (<15, 15+), sex	
Cure	SS-7	TX_DS_SUPPORT	Percent of people on DS-TB treatment who received treatment support	Project Level	Percent of people with DS-TB who received nonmedical interventions or benefits, aimed at improving treatment adherence during the reporting period. This may include adherence support, food assistance, psychological, educational, mental counseling, transportation reimbursement, or other social or economic support.	Number of people with new and relapse TB (all forms) who received any non-medical treatment support during the reporting period	Number of people with new and relapse TB (all forms) enrolled on DS-TB treatment in the same reporting period.	Age (<15, 15+), sex	
Prevent	HW-1	HCW_SCRN	Percent of HCWs screened for TB	Project Level	Percent of healthcare workers (HCWs) screened for active TB disease during the reporting period, in line with nationa policies for HCWs.	Number of HCWs screened for active TB disease in line with national policy during the reporting period	Number of HCWs who were working in the country in the clinical or	Sex, workplace setting (hospital, TB clinic, TBCI staff, OPD, ER,	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					National policy for screening of HCWs may include specific high risk settings, e.g., TB clinics, outpatient departments (OPDs), emergency room (ER), staff providing inpatient care, laboratory workers, community health workers, or community-based volunteers (CBVs) involved with mobile outreach or TBCIs. HCW: A frontline HCW who is providing direct services including TB screening, contact evaluation, diagnosis, treatment, and patient care or support.		community settings in line with national policy during the reporting period	other clinical or community setting), type of HCW (e.g., nurse, doctor, CHW/CBV), type of facility (private or public)	
Prevent	HW-6	HCW_TBI_ POS	Percent of HCWs diagnosed with TBI	Project Level	Percent of healthcare workers (HCWs) tested positive for TB infection (TBI) during the reporting period, among those who were tested for TBI. HCW: A frontline HCW who is providing direct services including TB screening, contact evaluation, diagnosis, treatment, and patient care or support.	Number of HCWs who tested positive for TBI during the reporting period	Number of HCWs who were tested for TBI during the reporting period	Sex, type of HCW (e.g., nurse, doctor, community outreach worker), type of facility (private or public), TBI diagnostic method, (e.g., TST or IGRA)	
Sustain	N/A	HCW_TRN	Percent of HCWs who received TB-related training	Project Level	Percent of healthcare workers (HCWs) trained on the use of new TB diagnostic tools (e.g., Point of care testing, TST, IGRAs, digital X-rays), new treatment therapies as they become available, or approaches to expand TB active case finding, contact investigations, and patient support during the reporting period. HCW: A frontline HCW who is providing direct services including TB screening, contact evaluation, diagnosis, treatment, and patient care or support. Trained: This can refer to in-service training or continuous professional development in TB. “In-service training” refers to any training provided to HCWs who are currently employed in the health workforce to develop or update skills relevant to their job. “Continuous professional development” refers to the requirement by licensing bodies as a condition of renewing licensure that HCWs accumulate professional credits to keep their skills updated and perform	Number of HCWs trained on the use of new TB diagnostic tools and treatment therapies, expanded TB active case finding, contact tracing, and patient support.	Number of HCWs who were working in the country during the reporting period	Sex, type of HCW (e.g., nurse, doctor, community outreach worker), training topic, type of facility (public or private)	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					to current standards.				
Reach	N/A	PR_BAC_CON	Percent bacteriologically confirmed in private sector	Project Level	Percent of new and relapse pulmonary TB notifications in the private sector that are bacteriologically confirmed. Bacteriologically confirmed: Smear positive for TB or culture positive for TB or positive for TB by World Health Organization-recommended rapid diagnostic test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM. Calculation: (Numerator/Denominator) x100	Number of new and relapse bacteriologically confirmed pulmonary TB notifications in the private sector (smear positive or culture positive or positive by WHO-recommended rapid diagnostics test (WRD) during the reporting period.	Number of new and relapse pulmonary TB notifications in the private sector (bacteriologically confirmed plus clinically diagnosed) during the reporting period.	Age (0–4, 5–14, 15+), sex	
Prevent	N/A	TPT_ADR	Number of people with adverse reactions to TPT	Project Level	Number of people on TB preventive treatment (TPT) who develop at least one adverse drug reaction (ADR) to treatment during the reporting period. An ADR (often referred to as an "adverse event") is any negative medical occurrence that presents in a person during TB preventive treatment with a WHO approved regimen that may or may not have a causal relationship with the prescribed treatment. More information on ADR and grading ADRs can be found here.	Number of people on TPT who developed at least one ADR to treatment during the reporting period	N/A	Age (0–4, 5–14, 15+), sex, type o adverse reaction (e.g., rash, nausea, vomiting, dizziness, reduced appetite, gastritis, jaundice), severity (1 = mild, 2 = moderate, 3 = severe (requiring hospitalization), 4 = life threatening, 5 = death), TPT regimen (1HP, 3HP, 3HR, 4R, 6H)	
Prevent	N/A	SN_IPC	Congregate settings with IPC	Project Level	Percent of congregate settings with infection prevention and control (IPC) measures in place. Congregate settings: A mix of institutional (non-healthcare) settings where people reside in close proximity to each other. Congregate settings include correctional facilities (prisons and jails), homeless shelters, refugee camps, army barracks, dormitories and nursing homes; data may be reported on these individual settings based on country prioritization and availability of data (WHO guidelines on	Number of congregate settings with IPC measures in place	Number of congregate settings in the given area	Congregate setting type where data is coming from (jails/prisons, homeless shelters, refugee camps, etc.)	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
					TB IPC, 2019 update) IPC measures include designated IPC focal person, IPC facility committee and plan, regularly scheduled meetings, monitoring of HCWs for TB and TBI through annual screening with TST, IGRAs, or CXR. Calculation: (Numerator/Denominator) x 100				
Reach	N/A	MH_SCRN	Percent of people diagnosed with TB and screened for mental health disorders	Project Level	Percent of people diagnosed with TB during the reporting period who are screened for mental health disorders.	Number of people with notified TB during the reporting period who were screened for mental health disorders	Number of people with notified TB during the reporting period	Age (<15, 15+), sex, mental health screening result (positive, negative)	
Cure	N/A	MH_TX	Percent of people with TB who received psychotherapeutic interventions	Project Level	Percent of people diagnosed with TB during the reporting period who received evidence-based psychotherapeutic interventions, among those who were identified as having mental health disorders.	Number of people with notified TB during the reporting period who received evidence-based psychotherapeutic interventions	Number of people with notified TB during the reporting period who were identified as having mental health disorders	Age (<15, 15+), sex, mental health disorder, type of intervention	
Cure	N/A	DM_SCRN_ POS	Percent screened positive for diabetes among people confirmed with TB	Project Level	Percent of people diagnosed with TB who were screened for diabetes before initiating TB treatment and who screened positive for diabetes. Screening for diabetes may include symptoms, e.g., polyuria, polydipsia, urine dipstick, blood glucose, or Hemoglobin A1c (HbA1c).	Number of people diagnosed with TB who screened positive for diabetes before initiating TB treatment	Number of people diagnosed with TB who were screened for diabetes	Age (<15, 15+), sex	
Reach	DT-30	TAT_SUBM IT	Turnaround time (TaT): Percent of specimens submitted to a laboratory within specified target timeframe	Project Level	Percent of specimens submitted to the laboratory for WHO- recommended rapid diagnostic (WRD) testing within a specified target TaT from collection to lab submission during the reporting period. The specified TaT should align with the National TB Program (NTP) standard for target TaTs for specimen collection, submission, testing, and reporting, which may vary from country to country. Calculation: (Numerator/Denominator) x 100	Number of specimens submitted to the laboratory for WRD testing within a specified TaT for time from collection to submission	Total number of specimens submitted to a laboratory for WRD testing during the reporting period	Type of specimens	
Reach	DT-31	TAT_TST	Turnaround time (TaT): Percent of specimens received at testing laboratory and	Project Level	Percent of specimens received at laboratories for WHO-recommended rapid diagnostic (WRD) testing and tested within specified target timeframe during the reporting period. The	Number of specimens received at the laboratory for WRD testing and tested within a specified target timeframe during the reporting period	Number of specimens receive at the laboratory for WRD testing during the reporting period	Type of specimens	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
			tested within specified target timeframe		timeframe should align with the NTP standard for target TaTs for specimen collection, submission, testing and reporting, which may vary from country to country. Calculation: (Numerator/Denominator) x 100				
Reach	DT-32	TAT_RPRT	Turnaround time (TaT) Percent of specimens tested and results report to referring facility (or provider) within specified target timeframe	Project Level	Percent of specimens tested at laboratories using a WHO-recommended rapid diagnostic (WRD) test and with results reported back to the referring facility or provider within specified target timeframe during the reporting period. The timeframe should align with the NTP standard for target TaTs for specimen collection, submission, testing, and reporting, which may vary from country to country. Calculation: (Numerator/Denominator) x 100	Number of specimens tested using a WRD with results reported to the referring facility (or provider) during the reporting period within specified target timeframe	Number of specimens tested using a WRD with results reported to the referring facility (or provider) during the reporting period	Type of specimens	
Sustain	SN-42	STKOUT_FLD	Stockout of any first-line TB treatment drugs	Project Level	Occurrence of stockout of one or more first-line drugs (FLDs) for TB treatment at any TB treatment site (i.e., Basic Management Unit) or drug storage facility during the reporting period (quarter/annual). WHO defines a stockout as the complete absence of a required drug at a storage point or delivery point for at least one day.	This is a Yes/No response for the initial part of the indicator. Only if Yes, then detailed disaggregated data should be provided: *Generic names of TB treatment drugs *Geographic locations *Treatment site/drug storage facility *Central/regional/district level	N/A	Generic names of TB treatment drugs, treatment site/drug storage facility, central/regional/district level	
Sustain	SN-43	STKOUT_SLD	Stockout of any second-line TB treatment drugs	Project Level	Occurrence of stockout of one or more second-line drug (SLD) for TB treatment at any TB treatment site or drug storage facility during the reporting period (quarter/annual). WHO defines a stockout as the complete absence of a required drug at a storage point or delivery point for at least one day.	This is a Yes/No response for the initial part of the indicator. Only if Yes, then detailed disaggregated data should be provided: *Generic names of TB treatment drugs *Geographic locations *Treatment site/drug storage facility	N/A	Generic names of TB treatment drugs, treatment site/drug storage facility, central/regional/district level	
Sustain	SN-44	STKOUT_	Stockout of TB rapid molecular	Project	Occurrence of stockout of one or more WHO-recommended rapid diagnostic	This is a Yes/No response for the	N/A	Names of TB diagnosis	

Project Level Indicators

Category	Previous #	Indicator_ short	Indicator name	PBMEF level	Definition	Numerator	Denominator	Disaggregation	WHO variables
		WRD	tests and related commodities	Level	tests or related testing commodities at any facility (e.g., Basic Management Unit) or storage facility (central or subnational) at the end of reporting period (quarter/annual). WHO defines a stockout as the complete absence of a required commodity at a storage point or delivery point for at least one day.	initial part of the indicator Only if Yes, then detailed disaggregated data should be provided: *Names of TB diagnosis commodities *Geographic locations *Diagnostic site/commodity storage facility *Central/regional/district level		commodities, locations, diagnostic site/commodity storage facility, central/regional/district level	
Sustain	SN-32A	SN_STGMA_NSP	TB stigma reduction in NSP	Project Level	TB stigma reduction is included in the NTP annual plan and/or national strategic plan (NSP) and includes 3 elements: interventions; indicators; assigned budget line. The NTP annual plan and/or NSP state that it is illegal to discriminate against anyone with TB, citing law where relevant, and includes interventions aimed at reducing stigma as a barrier to TB services; specifically: the NTP/NSP mentions activities to reduce stigma, including stigma against vulnerable populations who may already be stigmatized when accessing the health system; the NTP/NSP provides data from a stigma assessment; appropriate context-specific activities are described to respond to stigma; indicators with targets are included to reduce stigma; and a defined budget is allocated for stigma-reduction activities	Use the following scoring system: 0 = No mention of any of those 3 elements in the NTP annual plan/NSP 1 = 1 element (out of 3 elements) is included in the annual plan/NSP 2 = 2 elements (out of 3 elements) are included in the annual plan/NSP 3 = All 3 elements are included in the annual plan/NSP	N/A	N/A	
Sustain	SN-32B	SN_STGMA_ASSESS	TB stigma assessment/gap analysis available	Project Level	Stigma assessment/gap analysis conducted; the NTP annual plan or national strategic plan (NSP) mentions the findings of stigma assessment and clearly aligns the findings to TB stigma reduction activities and communication strategy. Calculation: (Numerator/Denominator) x 100	Use the following scoring system: 0 = No assessment conducted 1= Assessment conducted 2= Assessment conducted and annual plan/NSP mentions the findings of stigma assessment; communication strategy/interventions align with it and specifically mention stigma as one of the objectives of communication	N/A	N/A	

Annex 3: Standard Indicator Reference Sheets

Reference Sheets for PBMEF Core, Core-Plus, National Level and Project Level indicators

PBMEF Core Indicators: Standard Indicator Reference Sheets (IRS)

10 Core Indicators:

DT_RT: TB Detection Rate (Treatment Coverage)

BAC_CON: Percent Bacteriologically Confirmed

PEDS_NOTIF: Childhood TB Notifications

MDR_NOTIF: RR/MDR-TB Notifications

PR_NOTIF: Private Sector TB Notifications

CON_SCRN: Percent of Contacts Screened for TB

DS_TSR: DS-TB Treatment Success Rate

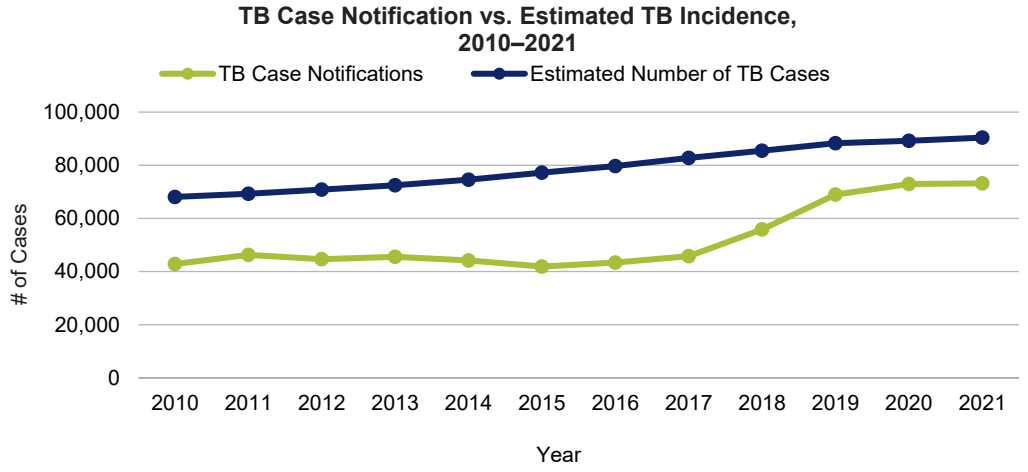
DR_TSR: DR-TB Treatment Success Rate

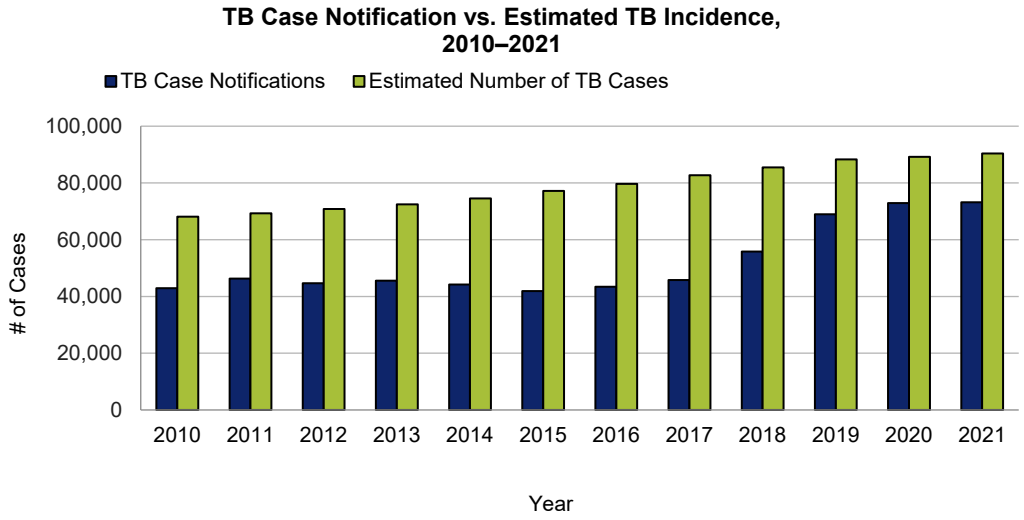
TPT_ENROLL: TPT Initiations

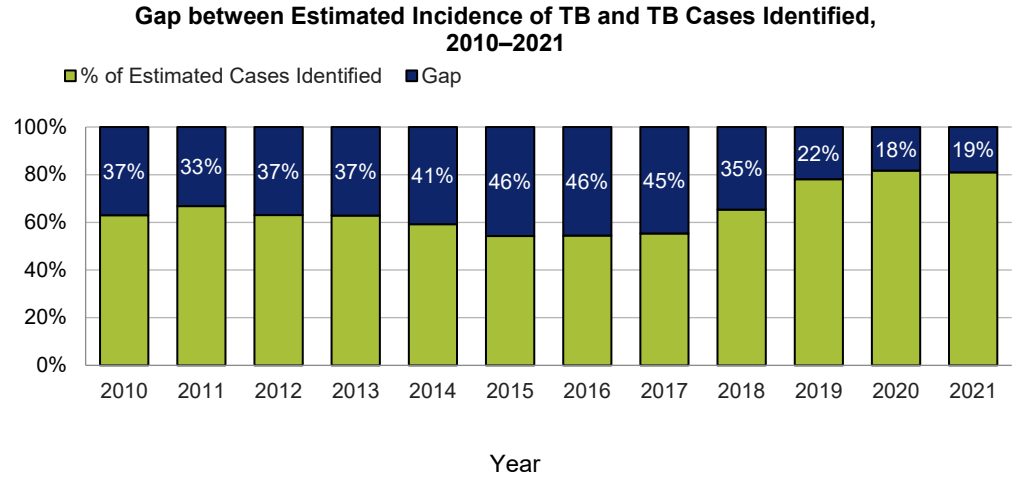
SN_DOMESTICR: Percent of TB Financing Received from Domestic Sources

Indicator name and number	**DT_RT: TB Detection Rate (Treatment Coverage)** *Previously [DT-3]*
Definition	Percent of people with new and relapse TB and with unknown previous TB treatment history (all forms) who were notified during the reporting period, out of the estimated number of people with incident TB for that year. Note: This indicator is also referred to as "Treatment Coverage Rate"; the name is updated to TB detection rate here to emphasize that treatment coverage is not represented in this data. Calculation: (Numerator/Denominator) x 100
Numerator	Number of people with new and relapse TB (and with unknown previous TB treatment history), all forms (bacteriologically confirmed plus clinically diagnosed, pulmonary and extra pulmonary), who were notified in the reporting period.
Denominator	Estimated incidence of TB (all forms) in the same reporting period.
Category	REACH
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Percent of estimated TB
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended. Performance plans and reports (PPRs) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	The numerator is reported from National TB Program (NTP) official records. *Quarterly report on TB case registration in the basic management unit.* This indicator is related to incident TB; therefore, the following category of patients should not be included in the data reported: • Treatment after failure patients (previously been treated for TB and whose treatment failed at the end of their most recent course of treatment) • Treatment after loss to follow-up patients (previously been treated for TB and were declared lost to follow-up at the end of their most recent course of treatment) • Other previously treated patients Care should be taken to properly address common issues in reporting such as patients transferring in and out of facilities. National reporting guidelines should be followed to ensure all people with TB are reported and not double counted. The denominator is available from the current World Health Organization (WHO) Global TB Report for the 30 TB high-burden countries and on the WHO country profile for all countries published on the WHO website. It is an estimation calculated annually based on a mathematical model. This is a standard WHO indicator. Referring to the WHO database, the variable for the numerator is *c_newinc* and the variable for the denominator is *e_inc_num*.

Importance	Case finding is a fundamental principle of effective TB programming. However, one-third of the people who are estimated to fall ill with TB each year are not reached with proper screening, detection, and treatment, or are under-reported. The inability to find and treat the "missing" cases hampers efforts to make further progress in TB care. This indicator measures country-level progress in finding and diagnosing people with TB. Globally, the TB detection rate was 61% in 2021, down from 71% in 2019. The COVID-19 pandemic continues to reverse gains made in access to TB diagnosis and treatment, and progress achieved in the years up to 2019 has slowed, stalled, or reversed and global TB targets are off track. The most obvious and immediate impact was a large global drop in the reported number of people newly diagnosed with TB, from a peak of 7.1 million in 2019; this fell to 5.8 million in 2020 (–18%), back to the level last seen in 2012. In 2021, there was a partial recovery, to 6.4 million (the level of 2016–2017). Overall, there is a large gap between the estimated number of people with incident TB and the number of people with new TB diagnoses reported due to a combination of under-reporting of detected TB and under diagnosis. Country national strategic plans (NSPs) for TB set annual targets for the number of TB notifications. This target will vary by country, but each country should be trying to achieve the End TB Strategy and United Nations High-Level Meeting (UNHLM) target of 90% or more case detection by 2025 to close the gap between estimated incidence and actual notifications. The USAID TB strategy (2023-2030) also sets the same target that 90% of people with incident TB are diagnosed and initiated on treatment, and specifies that at least 75% of people with TB should be tested with molecular WHO-recommended rapid diagnostic tests (mWRDs) in each USAID priority country. A high detection rate means more people with TB will be put on treatment and cured, thereby breaking the transmission by undiagnosed infectious people with TB, leading to less TB disease and death in the population. TB case detection is also used as a planning tool for the NTP. For example, forecasting TB notifications needed to meet detection targets will help in procuring sufficient TB diagnostic platform supplies and ensuring that they are available to all in need of TB diagnosis.
Data use and visualization	Reaching all people with TB with quality diagnostic services is an important goal for national and global policy makers. The numerator, total number of new and relapse TB case notifications, can be analyzed as a trend over time on its own. However, it is more powerful when compared to the estimated TB incidence to determine the magnitude of the gap between the number of people with TB expected and the number detected. Trends in TB case detection can be used to monitor progress toward achieving national targets to eliminate TB, assess access to WHO-recommended rapid diagnostics (WRDs), and identify weaknesses in recording and reporting systems. Marked changes in the trend should be reviewed in conjunction with any specific events that may have occurred (e.g., increase/decrease in active case finding, establishment of new diagnostic facilities, expanding TB services through private sector or natural disasters that disrupt TB services) and the impact of other disease outbreaks, like COVID-19. This indicator, in conjunction with other indicators, especially bacteriological confirmation and treatment success rate, will provide a picture of the cascade of TB care in the country which will help stakeholders understand the extent to which the TB program is 'losing' people with TB along the care pathway. This indicator is limited to the national level only because the denominator is a national-level estimate; however, the numerator can be collected at subnational levels. Below are examples (for illustrative purposes only) one can use when presenting this indicator. These charts provide important information but will provide more insight if viewed along with additional contextual information, including age, sex, and key program activities.







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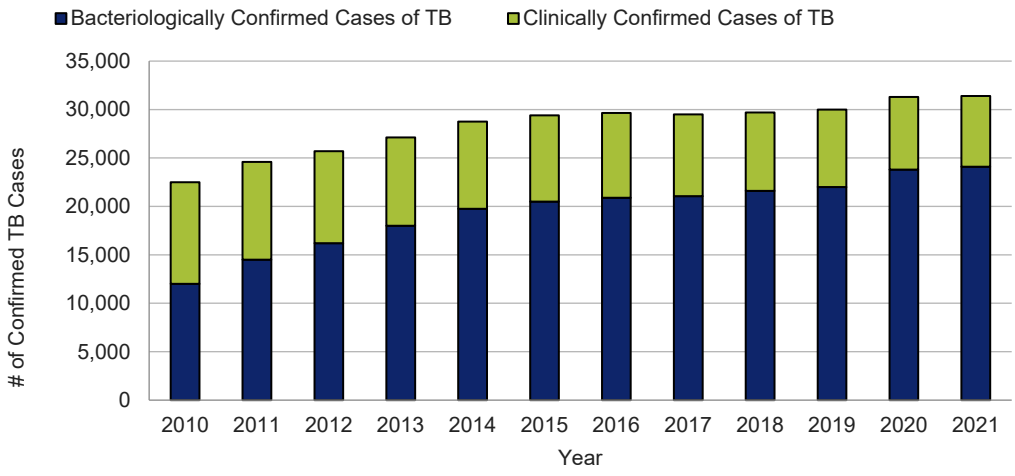
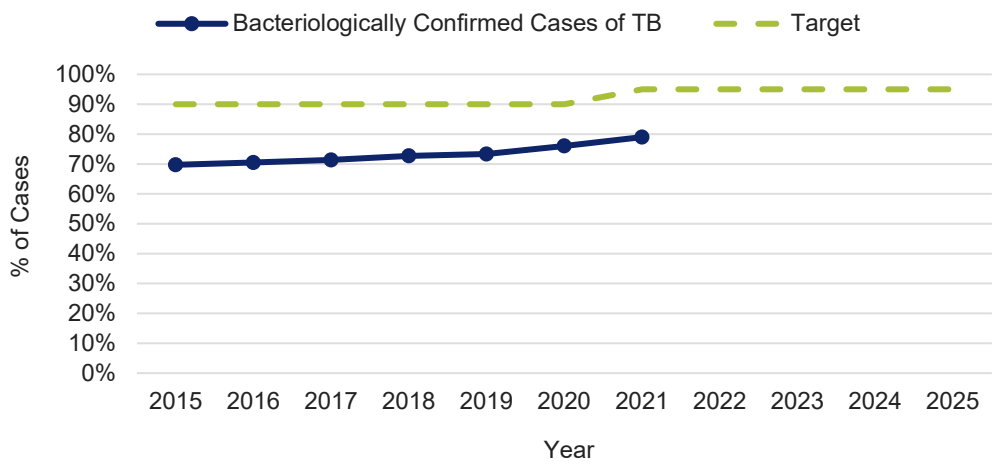
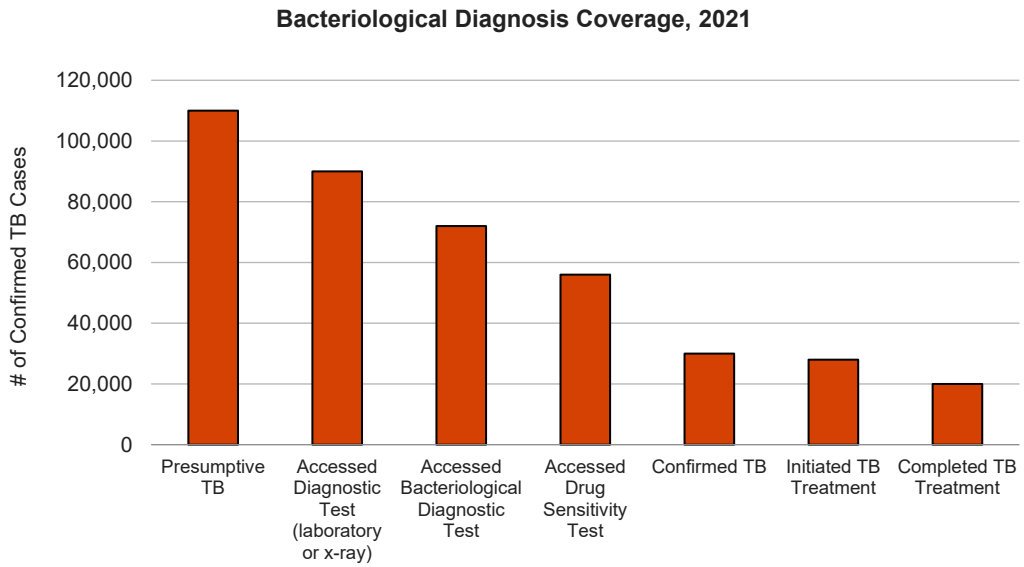
Indicator name and number	**BAC_CON: Percent Bacteriologically Confirmed** *Previously [DT-12]*
Definition	Percent of people with new and relapse pulmonary TB who are bacteriologically confirmed. Bacteriologically confirmed: Smear positive for TB or culture positive for TB or positive for TB by a World Health Organization-recommended rapid diagnostics test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM. Note: LF-LAM is included as a recommended TB test for people living with HIV (PLHIV). LF-LAM is not recommended to confirm TB in all populations and notably should not be used in outpatient settings for adults, adolescents, and children without symptoms of TB or in those with a CD4 count > 200 cells/mm3. At the time of this publication, Alere Determine™ TB LAM Ag is the only commercially available LF-LAM test. Full guidance on the use of LF-LAM can be found at: https://www.who.int/publications/i/item/9789241550604. Calculation: (Numerator/Denominator) x 100
Numerator	Number of new and relapse bacteriologically confirmed pulmonary TB notifications (smear positive or culture positive or positive by WHO-recommended rapid diagnostics test [WRD]) during the reporting period.
Denominator	Number of people with new and relapse pulmonary TB (bacteriologically confirmed plus clinically diagnosed) during the reporting period.
Category	REACH
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (0–4, 5–14, 15+), sex, HIV status
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly, monthly, or real-time basis is recommended. Performance plans and reports (PPRs) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	Both the numerator and denominator are reported from National TB Program (NTP) official records. *Quarterly report on TB case registration in the basic management unit.* This standard WHO indicator can also be calculated using data from the WHO TB database. The variables for the numerator are: *new_labconf* plus *ret_rel_labconf*. The variables for the denominator are: *new_clindx* plus *ret_rel_clindx* plus *new_labconf* plus *ret_rel_labconf*.
Importance	As countries intensify efforts to improve TB diagnosis and treatment and close case detection gaps, the percent of people with notified TB that are bacteriologically confirmed should be monitored to ensure that people are correctly diagnosed and initiated on the most effective treatment regimen as early as possible. This indicator measures the strength of the diagnostic and laboratory system, and the TB program's capacity to establish TB diagnosis by bacteriological confirmation of *Mtb*. Specifically, USAID is supporting introduction, scale up, and quality implementation of new and existing diagnostic methods, including access to WRDs in countries that receive TB funding. Globally, in 2021, only 75% of pulmonary TB was bacteriologically confirmed, an increase from 57% in 2019 and 56% in 2017. The End TB Strategy has set a target of 90% bacteriological confirmation of new TB diagnoses and 95% of relapse diagnoses by 2025. Greater efforts are needed to improve the availability and use of the most sensitive diagnostic tests for TB and to ensure that international standards for TB care are met to avoid missed diagnoses of people who have TB, overtreatment of people who do not have TB, and efficient use of resources.

Data use and visualization	A high bacteriological diagnosis coverage reflects multiple processes, including availability and access to adequate bacteriological diagnostic services (trained staff, equipment, etc.), quality of laboratory testing, and adherence to TB guidelines. Bacteriological diagnosis coverage expresses the number of people with new and relapsed bacteriologically confirmed pulmonary TB as a percentage of the total number people with new and relapsed notified pulmonary TB. This analysis can be used to identify what percent of people with pulmonary TB are laboratory confirmed compared to clinically diagnosed. As the use of WRDs is expanded to confirm all new pulmonary diagnoses, one should see an increase in bacteriological confirmation over time. By measuring bacteriological confirmation in people with new and previously treated TB, countries can track the rollout and use of WRDs. Additionally, the percent of people with bacteriological confirmation can be compared against national and global standards or targets as a proxy for measuring laboratory performance or capacity within a country. This is also an important indicator of drug susceptibility testing (DST) coverage and drug-resistant TB (DR-TB) detection, as both require bacteriological testing to have documented results for resistance to at least rifampicin. As mentioned above, the expectation is not to have 100% bacteriological confirmation; there will continue to be instances of clinically diagnosed patients. However, if the percent falls below 50% in a given setting, a review of the diagnostic tests being used and the validity of clinical diagnoses would be warranted (e.g., via a clinical audit). Low reported bacteriological diagnosis coverage may be due to several contributing factors, including gaps in referral for specimen testing, weak sample transport networks, breakdown of diagnostic platforms, stockout of consumables required for testing, and weaknesses in the system for reporting results to providers. Improved supervision and training, as well as improved supply chain and specimen transport systems, can help address these issues and improve the performance of this indicator. Below are illustrative examples one can use when presenting this indicator: **Bacteriologically Confirmed vs. Clinically Confirmed TB Cases, 2010–2021** 





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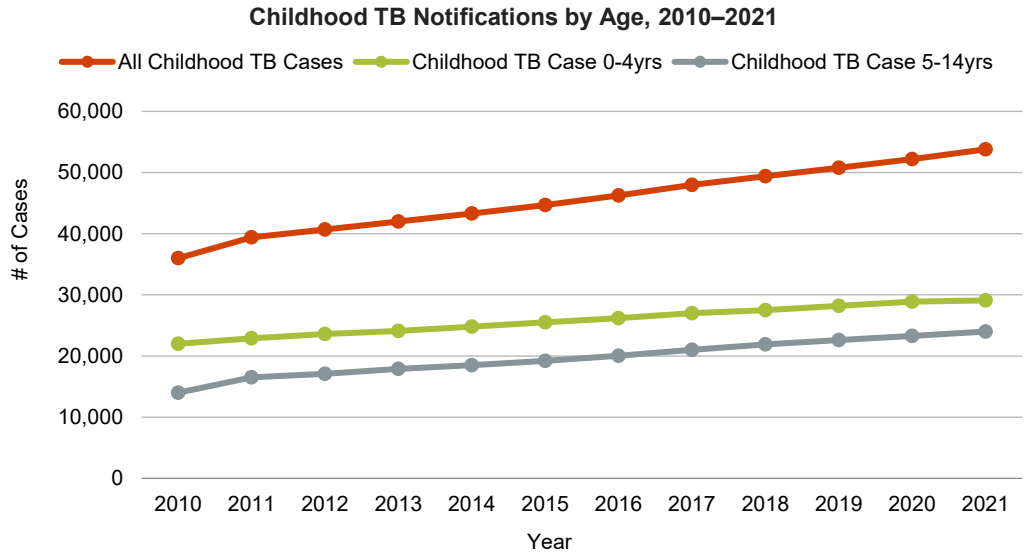
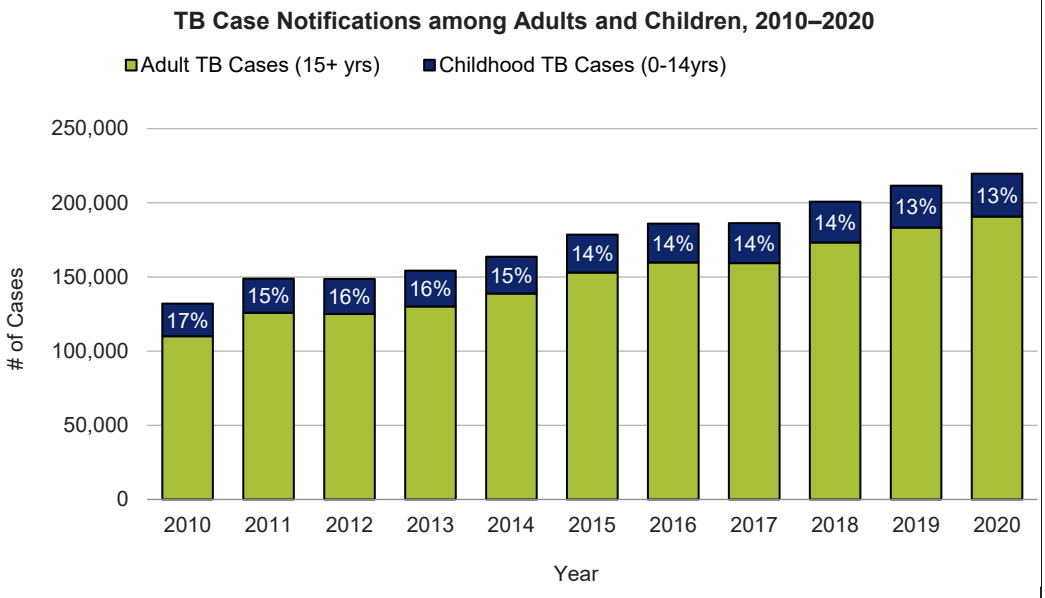
Indicator name	**PEDS_NOTIF: Childhood TB Notifications** *Previously [CH-5]*
Definition	Number of children and adolescents (0 –14 years) with new and relapse TB or with unknown previous TB treatment history, all forms, who were notified in a reporting period.
Numerator	Number of children and adolescents (0–14 years) with new and relapse TB or with unknown previous TB treatment history, all forms, who were notified in a reporting period.
Denominator	N/A
Category	REACH
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Number of children/adolescents
Data type	Integer
Disaggregate by	Age (0–4, 5–9, 10–14), sex, HIV status
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly, monthly, or real-time basis is recommended. Performance plans and reports (PPRs) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	This indicator is reported from National TB Program (NTP) official records. *Quarterly report on TB case registration in the basic management unit.* This standard WHO indicator can also be calculated using the WHO database variables: *newrel_f014* plus *newrel_m014* plus *newrel_sexunk014.*
Importance	The number of children with TB is an important indicator of recent transmission in a community. Comprehensive information about childhood TB enables NTPs to address the needs of children with TB and mobilize appropriate resources. TB is very challenging to diagnose in children due to the historical reliance on sputum, which may be difficult for children to produce without invasive procedures and may not have a high bacillary load, leading to false negatives and the limitations of diagnosing on a clinical basis only. This indicator measures TB notifications in children ages 0–14 years, which can be used to assess how well the country as a whole is providing appropriate screening and diagnosis services for children with TB. On average, among people with new TB diagnoses the percent contributed by children and adolescents is between 5%–15% in low- and middle-income countries and <10% in high-income countries. These thresholds can be used to identify major outliers where under- or overdiagnosis of TB among children may be of concern. Of the global total number of people with TB notified in 2021, 6.9% were children under 15 years old. Improvements in reaching children and adolescents are needed to reach the United Nations High-Level Meeting (UNLM) targets to provide TB diagnosis and treatment with the aim of successfully treating 3.5 million children with TB, and 115,000 children with drug-resistant TB (DR-TB) by 2022. The USAID TB strategy (2023-2030) highlighted that USAID will work to strengthen TB diagnosis in children and other vulnerable populations by increasing access to innovative rapid molecular testing and improving capacity for clinical diagnosis. Mandatory notification policies calling for collaboration between NTPs, other non-NTP public health facilities, and private sector facilities and pediatric associations will help ensure comprehensive and age-disaggregated reporting of TB notifications. This is important for monitoring progress and focusing interventions and resources for children.
Data use and visualization	Childhood TB notifications should be analyzed for trends over time and as a percentage of total notifications to assess whether or not a country is on track in terms of reaching children with TB with appropriate screening and diagnosis services. Globally, children represent about 10% of all people with TB. This varies from country to country, but a percent of children that is too low (e.g., <5%) or too high (e.g., >15%) would merit further analysis to assess under- or overdiagnosis. A low percent of childhood TB detection often indicates that providers need to improve TB screening among children and may highlight a need for changes in the diagnostic algorithm to

ensure children are referred appropriately for TB testing. A very high percent may indicate an over-reliance on clinical diagnosis and potential overtreatment of TB among children. Data analysis at subnational levels will help identify areas where children are potentially under or overdiagnosed, and this analysis can be used to prioritize efforts to expand diagnosis services such as stool-based testing and implement updated clinical algorithms included in the 2022 WHO guidelines on the management of TB among children and adolescents. Data should be reported annually at a minimum, but semiannual or quarterly reporting will improve the timeliness of data for decision making. The number of childhood TB notifications can further be broken down by age categories to show the percent of childhood TB occurring in children under 5 years of age, between 5 and 9, and children between the ages of 10 and 14 years old.

Below are examples one can use when presenting this indicator:





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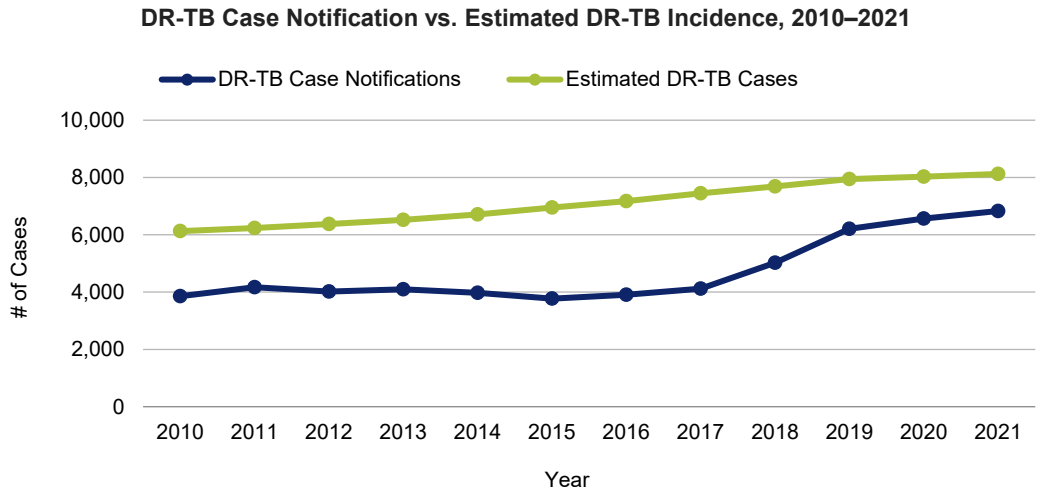
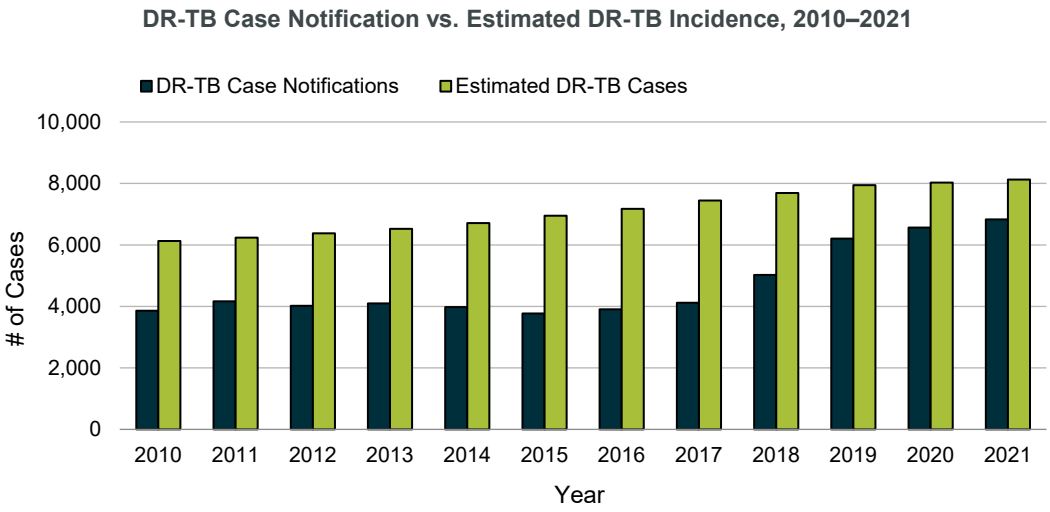
Indicator name	**MDR_NOTIF: RR/MDR-TB Notifications** *Previously [RN-1]*
Definition	Number of people with rifampicin-resistant (RR) and multidrug-resistant (MDR) TB notified during the reporting period. RR/MDR TB: RR-TB is TB caused by Mycobacterium Tuberculosis (M. tuberculosis) strains that are resistant to rifampicin; MDR-TB strains are resistant to at least both rifampicin and isoniazid. Note: This indicator no longer includes pre-extensively drug-resistant (pre-XDR) and extensively drug-resistant (XDR) TB; these data should be reported separately under the core plus indicator for XDR. Values for these indicators should not be added together. This indicator might include patients with polydrug resistant TB (PDR-TB), if they are part of the RR/MDR recording in the national database. However, if PDR-TB is reported separately, they should not be included in this analysis.
Numerator	Number of people with RR-TB and MDR-TB notified during the reporting period.
Denominator	N/A
Category	REACH
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (<15, 15+), sex
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended. Performance plans and reports (PPRs) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	This indicator is reported from National TB Program (NTP) official records. *Quarterly report on TB case registration in the basic management unit.* The WHO equivalency for this indicator is: *conf_rr_nfqr (lab confirmed RR/MDR)*
Importance	This DR-TB indicator has been modified to report pre-XDR and XDR-TB in a separate indicator. Pre-XDR/XDR notifications should not be added to RR/MDR notifications to avoid double counting of DR-TB notifications. People who are diagnosed with pre-XDR and XDR-TB will already have been identified and recorded as having RR/MDR-TB. The number of RR/MDR-TB notifications should therefore equal the total number of DR-TB notifications. Note that when assessing treatment success rate, all people on DR-TB treatment will be monitored together. Ongoing analysis of RR/MDR-TB notification data is critical to understanding transmission dynamics and to ensure accurate planning for second-line TB drugs (SLDs) and the human resources needed to manage DR-TB. These people account for a much higher percent of overall TB deaths, and the number of people with DR-TB has been increasing over time. DR-TB notification measures a country's ability to detect drug resistance among the TB-infected population and initiate people with TB on appropriate treatment. Data on DR-TB notification are also valuable for planning drug logistics and supervision. The global number of people with MDR/RR-TB notified in 2021 was 142,131 of the estimated 450,000 incident MDR/RR-TB cases that year. Closing this large detection gap will require improvements in diagnostic capacity. Point-of-care (or near point-of-care) rapid diagnostic tools that detect TB and drug resistance are the new standard of care. Early detection of resistance to rifampicin and isoniazid ensures that an appropriate drug regimen can be prescribed from the outset to increase the likelihood of treatment success, and to reduce the chance of acquiring additional resistance.

Data use and visualization	Understanding DR-TB notification trends is important to gauge the overall performance of the NTP in preventing the emergence of DR cases, either due to issues with adherence to treatment regimens or due to direct transmission of DR-TB. Drug-resistant TB notification can be analyzed on its own as a trend over time to see the total number of people with notified DR-TB within a given country. It can also be compared to the estimated incidence of DR-TB to determine the magnitude of the gap between the estimated number of people with DR-TB and those that have been detected. These gaps should also be reviewed in the context of availability of diagnostic services for DR-TB. The number of diagnostic facilities per 100,000 population can also give some indication of how accessible these services are to the population. The geographical distribution of the diagnostic facilities can help to understand the level of accessibility in different regions. Regional comparisons of this indicator could be helpful. DR-TB diagnosis and notification is an important step in the DR-TB treatment cascade. Data can also be collected at the subnational level and used to learn from the geographic distribution of cases and detect outbreaks. Data should be reported annually at a minimum but semiannual or quarterly reporting will improve the timeliness of data for decision making. Below are examples one can use when presenting this indicator:  

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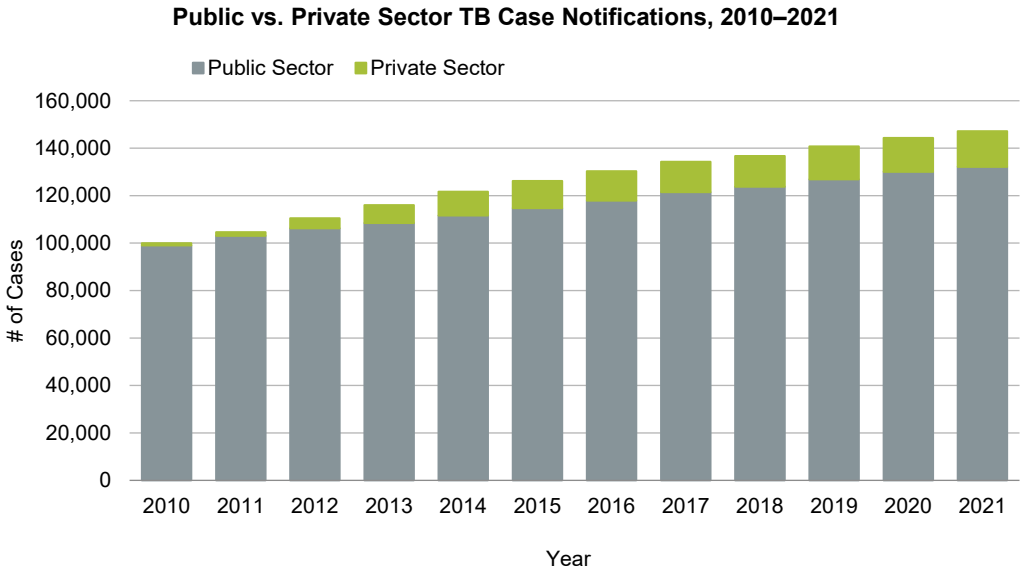
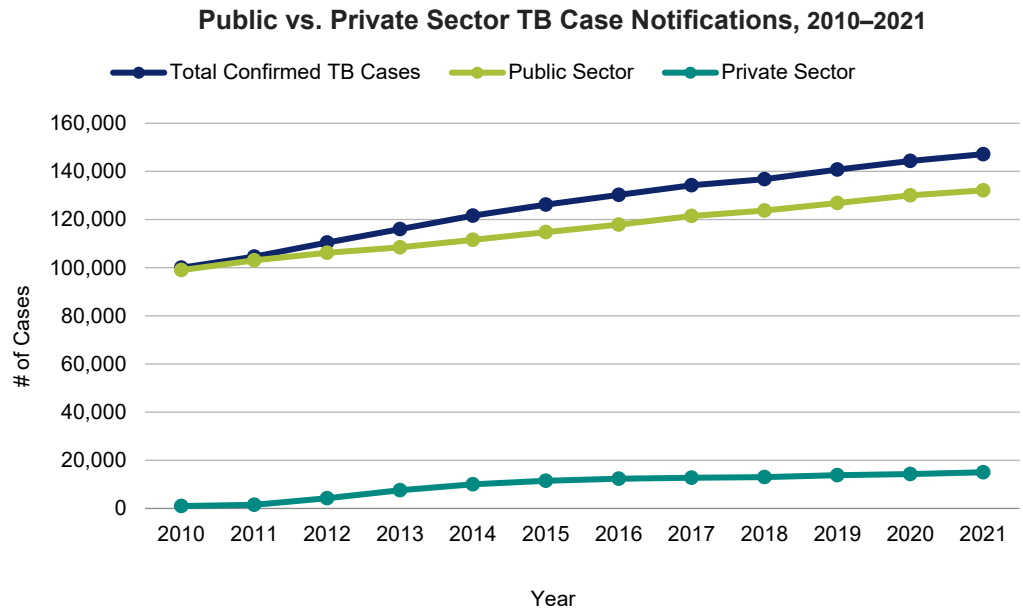
Indicator name	**PR_NOTIF: Private Sector TB Notifications** *Previously [PR-1]*
Definition	Number of people with new and relapse TB of all forms (bacteriologically confirmed plus clinically diagnosed) notified by private non-national TB program (NTP) providers in the reporting period. Per the World Health Organization's (WHO) definition/database, private non-NTP providers include private individual and institutional providers, corporate/business sector providers, mission hospitals, and other clinics or hospitals managed by nongovernmental organizations (NGOs) and faith-based organizations.
Numerator	Number of people with new and relapse TB of all forms (bacteriologically confirmed plus clinically diagnosed) notified by private non-NTP providers in the reporting period.
Denominator	N/A
Category	REACH
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (<15, 15+), sex
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended. Performance plans and reports (PPRs) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	This indicator is reported from NTP official records. Some NTPs may include private sector notifications in their quarterly report on TB case registration, but this may vary country to country. This standard WHO indicator can also be calculated using the WHO database variable priv_new_dx.
Importance	Over one-third of people estimated to have developed TB in 2021 were not detected and notified by NTPs, and there are considerable delays in people reaching a provider who could reliably diagnose their TB. Both issues can be addressed in part by engaging with private providers, since ~50% of people with TB symptoms in sub-Saharan Africa and ~75% in Asia first seek care from private providers. This indicator measures the number of TB patients notified by private providers—which is the starting point for ensuring that TB patients identified by private providers will receive quality diagnosis and care. Engaging with private sector healthcare providers is essential to achieve universal access to TB prevention and care services. Countries that have prioritized private sector engagement show increases in the contribution of the private sector to overall TB case notifications. Global and national goals in TB cannot be achieved unless private providers are engaged on a large scale. Contributions from private facilities and care providers to the total number of TB notifications should be regularly monitored. Introducing and using simplified case reporting for the private sector through electronic reporting or app-based reporting are some of the interventions to encourage private sector reporting, but intermediary agencies who can engage with diverse private providers are typically also necessary.
Data use and visualization	Private sector TB notifications can be analyzed over time and/or between subregions. They can also be compared to the total number of TB notifications to determine the percent of all TB notifications that are coming from the private sector. A further analysis of this indicator using granular data can also provide valuable insights into who these private providers are in terms of their geographic and institutional locations, as well as their share in private sector notifications. It may be possible that the majority of all private sector notifications come from just a few regular private sector institutions. Better understanding of these high and low performers may help to expand the private sector notification base. For

countries with large contributions from private providers, a richer set of standard indicators could be used to distinguish contributions from (a) private for-profit vs. private not-for-profit; (b) providers at different levels of the healthcare system (pharmacies vs. primary care vs. secondary/tertiary care); and (c) private referrals vs. private case management.

Limitations in data use include inconsistent reporting on private sector notifications from countries and non-disaggregated data on nonprofit and for-profit private providers.

Below are examples one can use when presenting this indicator:





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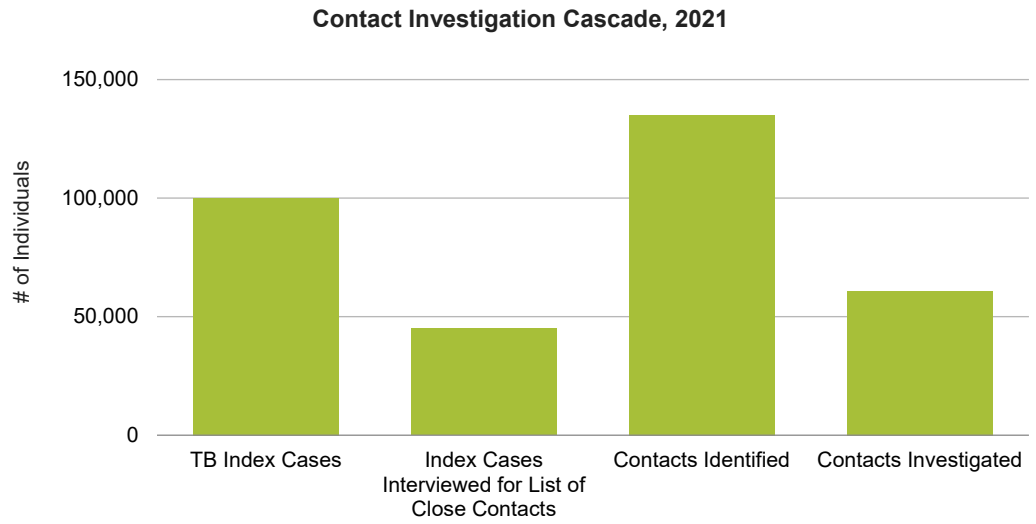
Indicator name	**CON_SCRN: Percent of Contacts Screened for TB** *Previously [CI-1]*
Definition	Percent of contacts of people with bacteriologically confirmed pulmonary TB (index cases) who were screened for active TB disease, among all contacts identified during the reporting period. Contact investigation (CI) is a systematic process to identify people (contacts) who were exposed to active pulmonary TB disease, assess contacts for signs or symptoms of active TB disease, provide diagnostic testing to confirm or exclude active disease or diagnose TB infection, and provide contacts with treatment for TB disease or infection. CI consists of identification of contacts, prioritization of contact at highest risk, clinical evaluation and diagnostic testing, and treatment as clinically indicated. Calculation: (Numerator/Denominator) x 100
Numerator	Number of contacts of people with notified new and relapse bacteriologically confirmed pulmonary TB who were screened for active TB disease during the reporting period.
Denominator	Number of contacts of people with notified new and relapse bacteriologically confirmed pulmonary TB identified during the reporting period.
Category	REACH
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Percent of contacts
Data type	Percentage
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended. Performance plans and reports (PPRs) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	This indicator is reported on National TB Program (NTP) official records, such as contact registers. If these registers do not exist, data can be collected from implementing partners (IPs) supporting CI interventions. The denominator can also be estimated by taking the estimated average household size, assuming the index cases come from different households. See indicator CI-2 for more information. This indicator was introduced in the World Health Organization (WHO) 2020 Global Data Collection Form and can be calculated using the WHO database. The variable for the numerator is *newinc_con_screen* and the denominator is *newinc_con*.
Importance	CI is an important first step both for active case finding and TB preventive treatment (TPT). CI identifies people recently exposed to TB with a high risk of developing TB disease or TB infection (TBI) and can help reduce the spread of TB in a community. As much as 5% of the contacts of people with TB can have active TB disease. This indicator measures the ability of NTPs to systematically identify and evaluate contacts of bacteriologically confirmed pulmonary TB patients for active TB and TBI. CI coverage is one of the top 10 indicators of the WHO End TB Strategy with a recommended target level of 90% by 2025. Increases in CI coverage will result in greater detection of people with TB and provision of appropriate anti-TB therapy (for people with confirmed TB) or TPT (for those without TB disease). Moreover, CI is a good public health practice and essential for tracking several infectious diseases with similar routes of transmission (such as COVID-19).
Data use and visualization	The total number of contacts identified can be compared to the number of contacts investigated to determine the gap in overall CI coverage among identified contacts. This is something that can be analyzed as a trend over time or compared between regions to better understand contact-tracing performance. Comparisons with a country's CI targets will provide the impetus to further strengthen the implementation of CI strategies within an NTP. This trend should be considered in the context

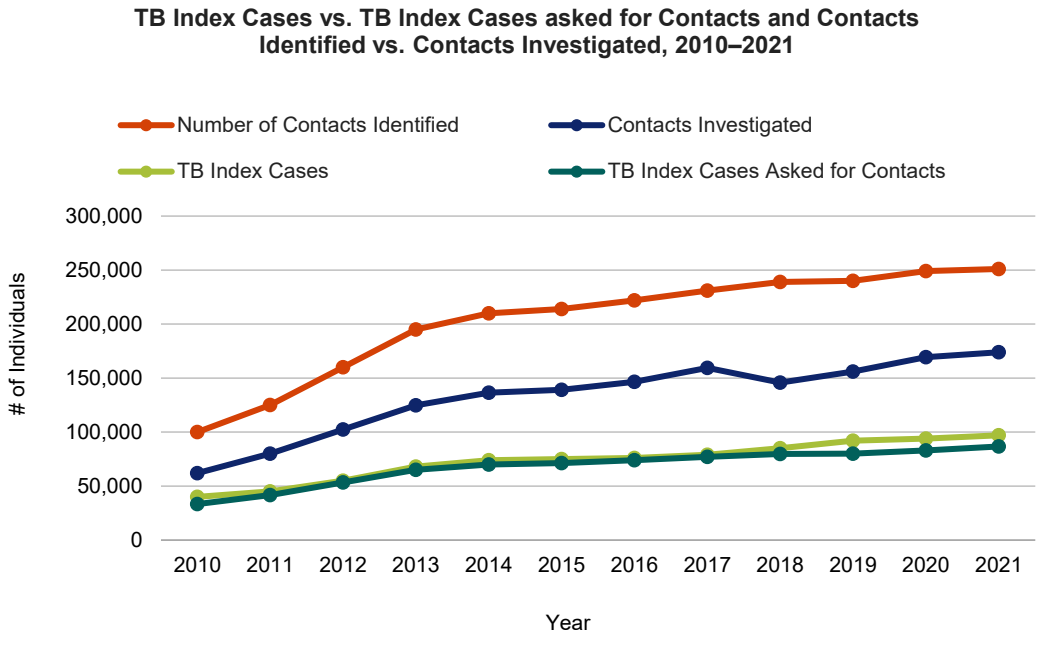
of the percentage of bacteriologically confirmed TB cases for whom contacts were identified (national level indicator “TB cases with contact investigations initiated”). For example, a country that reaches 100% CI coverage but only conducts CI for 20% of bacteriologically confirmed cases may not be performing as well as a country that achieves 75% CI coverage and conducts CI for 50% of people with bacteriologically confirmed TB.

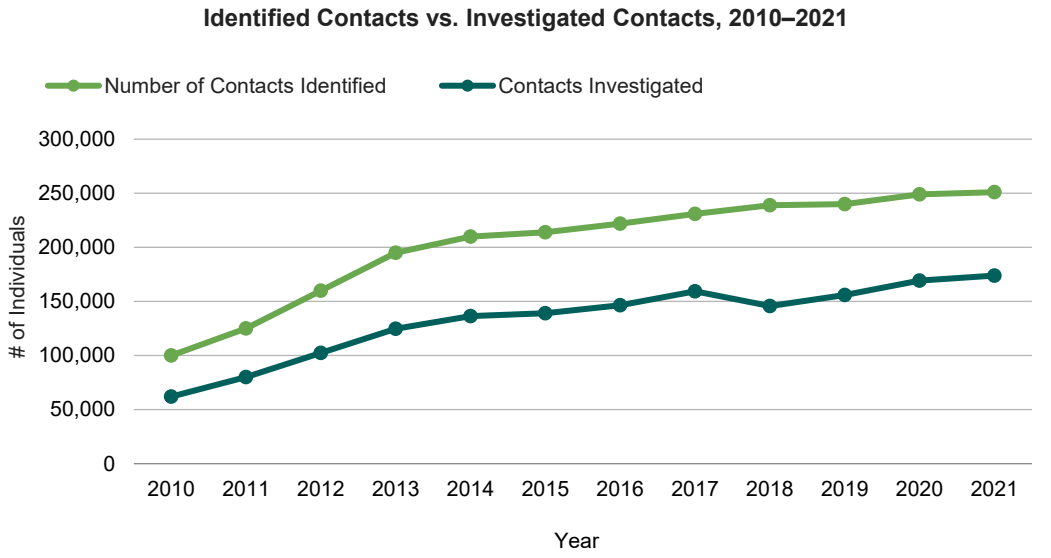
Another comparison could be made between the number of contacts investigated per index case. Charting the trend of the average number of contacts investigated per index case can also give an understanding about how effective CI efforts are.

Data on CI coverage will also help countries monitor efforts to initiate eligible contacts on TPT. For example, CI coverage among contacts data can be viewed in conjunction with the number of people with active TB detected among the contacts (contact yield) and the number of eligible contacts put on TPT. Data can also be collected at the subnational level and used to learn from the geographic distribution of contacts. Data should be reported annually at a minimum but semiannual or quarterly reporting will improve the timeliness of data for decision making.

Below are examples one can use when presenting this indicator:







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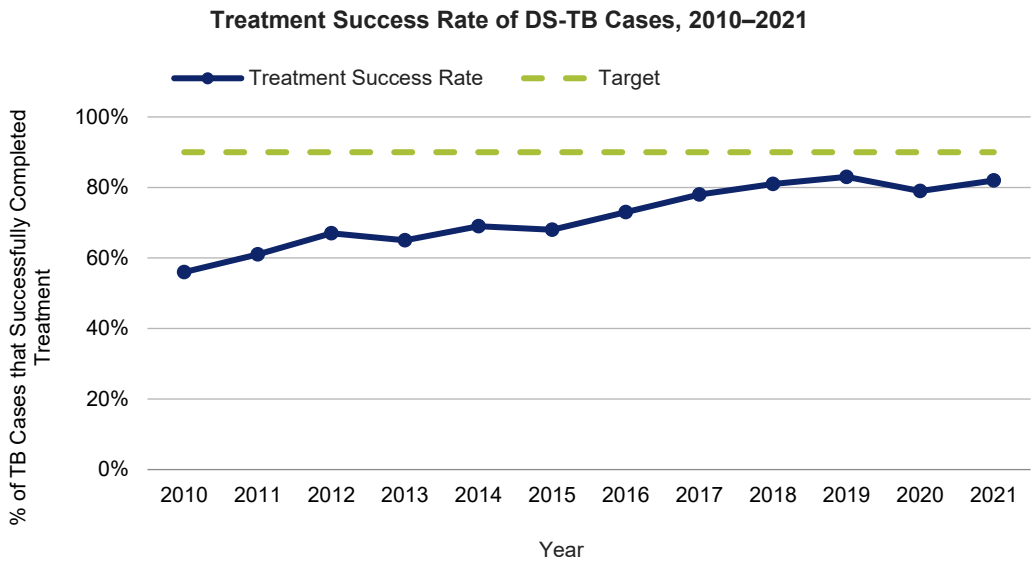
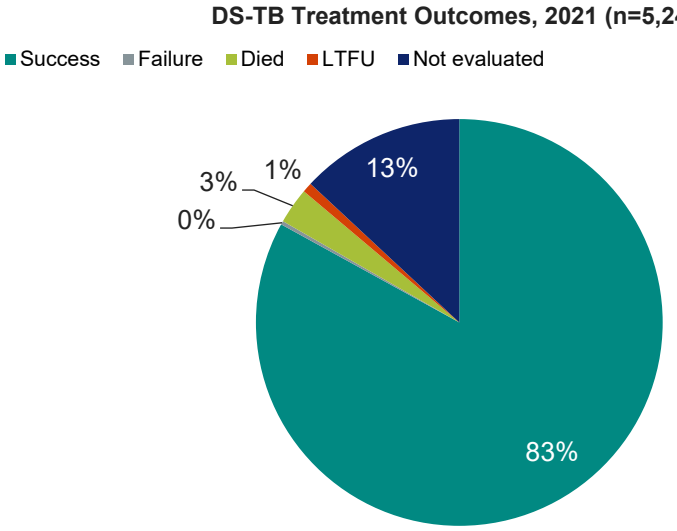
Indicator name	**DS_TSR: DS-TB Treatment Success Rate** *Previously [SS-1]*
Definition	Percent of people with new and relapse drug- sensitive tuberculosis (DS-TB) (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who were notified in a specified period that were cured or treatment completed, among the total people with new and relapse TB who were initiated on treatment during the same reporting period (excluding those moved to rifampicin-resistant (RR) treatment cohort). Treatment outcomes are defined by the time period of initiation on treatment; e.g., "2018 cases successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019. For this reason, reports of treatment outcome data lag by one year. Calculation: (Numerator/Denominator) x 100
Numerator	Number of people with new and relapse DS-TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary), who were registered in a specified period that were cured or treatment completed.
Denominator	Number of people with new and relapse DS-TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who initiated treatment in the same period.
Category	CURE
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex, HIV status
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly, monthly, or real-time basis is recommended. Performance plans and reports (PPRs) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	This indicator is reported by National TB Program (NTP) official records. *Quarterly report on TB treatment outcomes in the basic management unit* and *Form 07: Combined annual outcomes report for basic TB and for RR-/multidrug-resistant (MDR)-TB.* This standard World Health Organization (WHO) indicator can also be calculated using the WHO database. The variable for the numerator is *newrel_succ* and the denominator is *newrel_coh*.
Importance	Treatment success is an important indicator of the quality of TB services, as it measures the NTP's capacity to support patients through a complete course of treatment with a favorable outcome. Successful treatment requires a stable supply of TB medications, management of side effects, and various efforts to support people with TB so they can complete the full course of treatment. This indicator measures the successful treatment of a cohort of people with TB, which is essential to prevent the spread of the infection. The treatment success rate allows countries to monitor progress towards meeting global and national targets and to determine whether more resources are required to improve treatment outcomes by reducing death, loss to follow-up (LTFU), and the percent of people with an outcome that is not evaluated. The latest global treatment outcome data from 2020 show success rates of 95% for TB, just above the End TB Strategy target of 90% by 2025. Detecting and successfully treating a large percent of people with TB should have an immediate impact on TB prevalence and mortality. Low treatment success rates may indicate problems with the treatment regimens being administered, poor treatment management, adverse side effects, or comorbidities leading to death or LTFU. An understanding of why treatment success may be low is important to be able to implement solutions for improving patient care.
Data use and visualization	TB treatment success rate can be analyzed as a trend showing whether treatment success is stable, improving or decreasing over time, and to compare the rate to national and global treatment success rate targets. A comparison of people with TB initiated on treatment and successfully completing treatment using a cascade of care will highlight the gap in the cascade where some

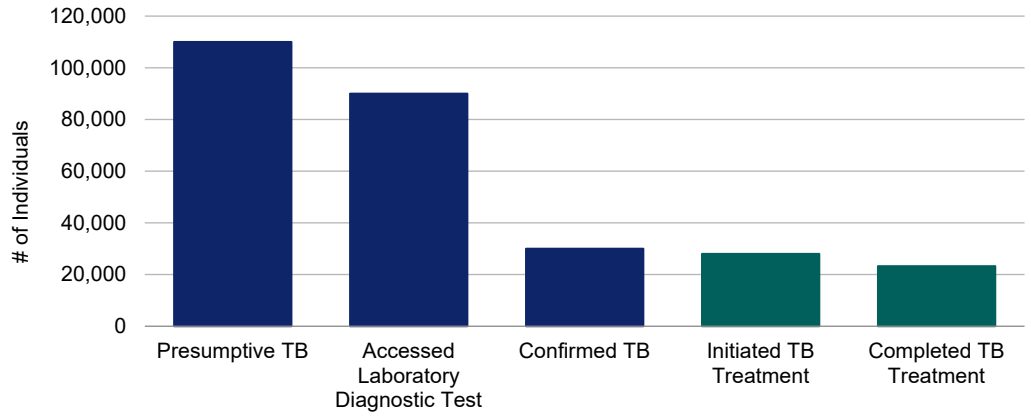
patients were lost during the treatment phase. The gap between treatment initiation and treatment success can be further broken down to understand why patients were unsuccessful with treatment (e.g., death, LTFU, treatment failure, or unknown outcomes). Treatment success rates can also be compared between DS-TB and drug-resistant TB (DR-TB) and TB/HIV, but differences in treatment outcomes among these cohorts should be interpreted with caution; differences in TB epidemiology at the national level, resistance profile, HIV program context, and other factors should be considered.

Below are examples one can use when presenting this indicator:

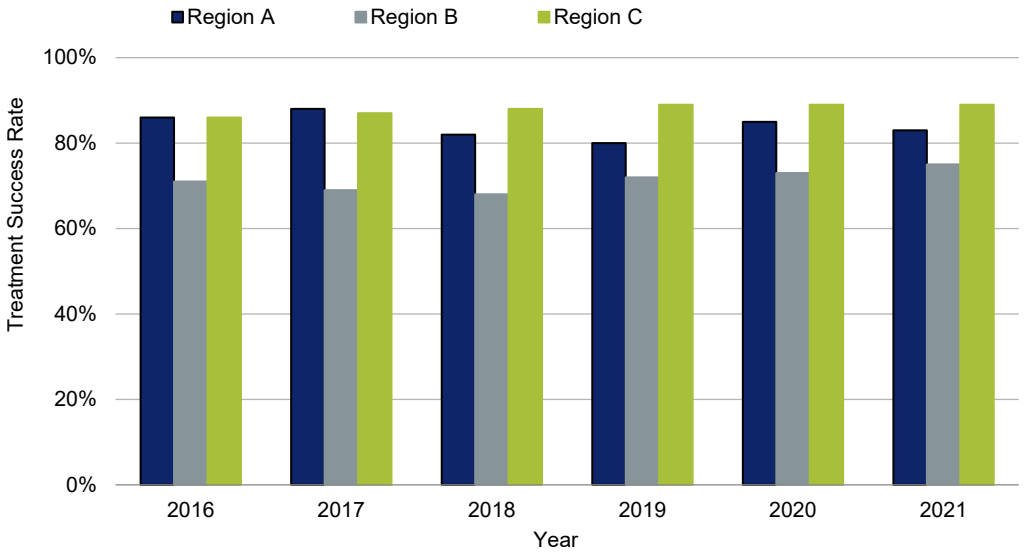




Treatment Success Highlighted within the DS-TB Cascade of Care, 2019



DS-TB Treatment Success Rates by Region, 2016–2021



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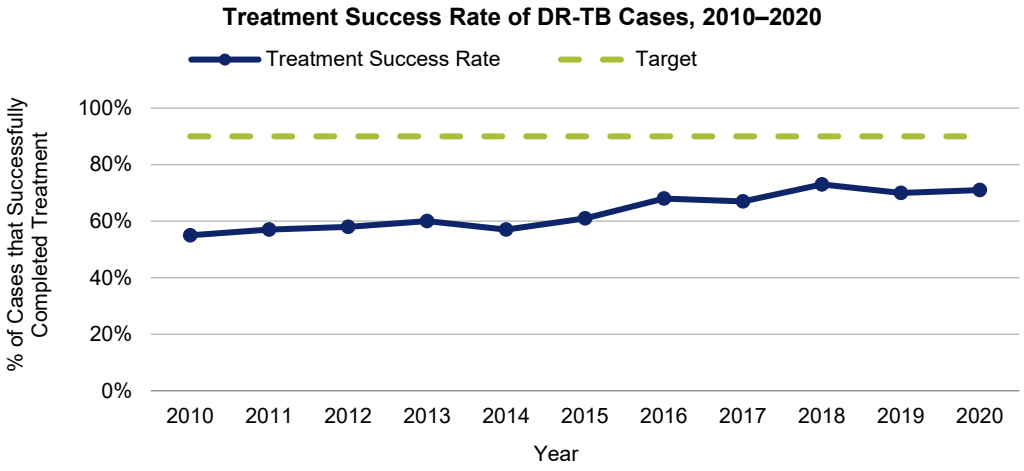
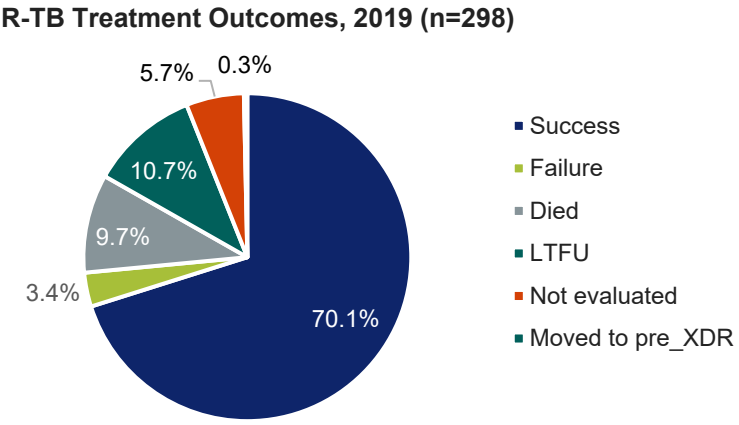
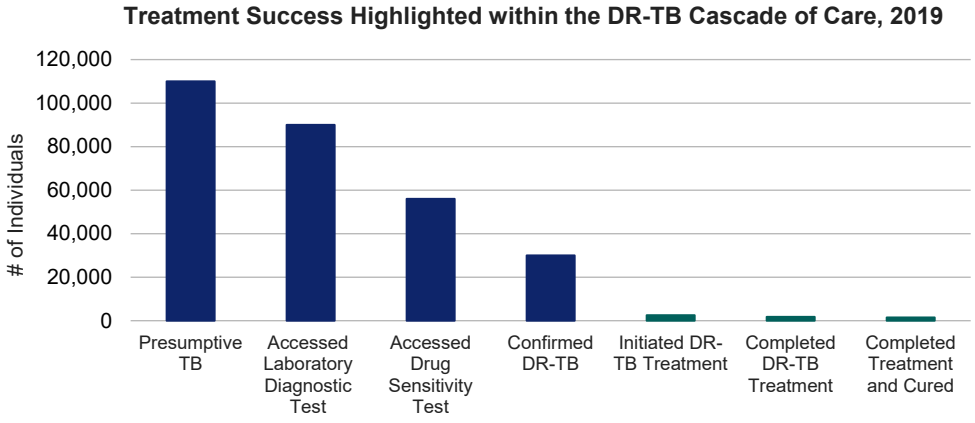
Indicator name	**DR_TSR: DR-TB Treatment Success Rate** *Previously [RS-1]*
Definition	Percentage of people with drug-resistant tuberculosis (DR-TB) (rifampicin-resistant [RR-TB]/multidrug-resistant [MDR]-TB, pre-extensively drug-resistant [pre-XDR]-TB, and extensively drug-resistant [XDR]-TB) successfully treated (cured or treatment completed) among all people with DR-TB who were initiated on treatment during the reporting period. Note: This indicator might include patients with polydrug resistant TB (PDR-TB) if they are part of the RR/MDR recording in the national database. However, if PDR-TB is reported separately, they should not be included in DR-TB TSR calculations. Treatment outcomes are defined by the time period of initiation on treatment; e.g., "2018 cohort successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2020. For this reason, reports of treatment outcome data lag by 2 years. Calculation: (Numerator/Denominator) x 100
Numerator	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who were cured or treatment completed during the reporting period.
Denominator	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who were initiated on DR-TB treatment during the same reporting period.
Category	CURE
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended. Performance plans and reports (PPRs) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	This indicator is reported by National TB Program (NTP) official records. *Quarterly report on TB treatment outcomes in the basic management unit* and *Combined annual outcomes report for basic TB and for MDR-TB/RR-TB.* This standard World Health Organization (WHO) indicator can also be calculated using the WHO database. The variable for the numerator is *mdr_succ* plus *xdr_succ* and the denominator is *mdr_coh* plus *xdr_coh.*
Importance	DR-TB treatment success measures a TB program's ability to initiate people with DR-TB on appropriate treatment and support patients throughout the entire course of DR-TB treatment. This final outcome is the most important measure of the effectiveness of the DR-TB program in terms of patient care. Therefore, it is also a performance indicator for the NTP as a whole. Although improving in some countries, the treatment success rate reported in 2021 for DR-TB globally remains low at 71% for MDR-TB/RR-TB. Access to costly drugs, poor treatment adherence, poor treatment management, adverse side effects, and comorbidities leading to death or loss to follow-up (LTFU) are all factors that contribute to low DR-TB treatment success. However, the wider use of more effective, shorter, and "all oral" DR-TB treatment regimens, as well as more patient-centered models of care, are expected to improve treatment success rates. The USAID TB strategy (2023-30) targets for 90% of people with DR-TB to be successfully treated. Improvements in DR-TB treatment success can help to reduce the overall TB mortality rate. High treatment success coupled with high treatment coverage among those diagnosed with DR-TB are both critical to interrupting transmission of DR-TB and reducing morbidity and mortality due to DR-TB in a country.

Data use and visualization	DR-TB treatment success rate can be analyzed as a trend over time and compared to national and global DR-TB treatment success rate targets. A cascade can also be constructed to highlight gaps in care where some patients could be lost. The gap between treatment initiation and treatment success can be further broken down to understand why patients were unsuccessful with treatment (e.g., death, treatment failure, moved to pre-XDR treatment, or unknown outcomes). Below are examples one can use when presenting this indicator:   

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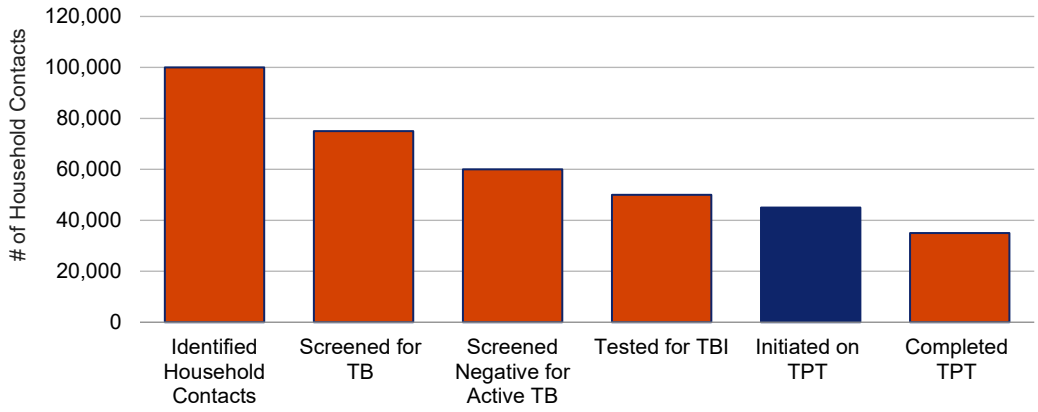
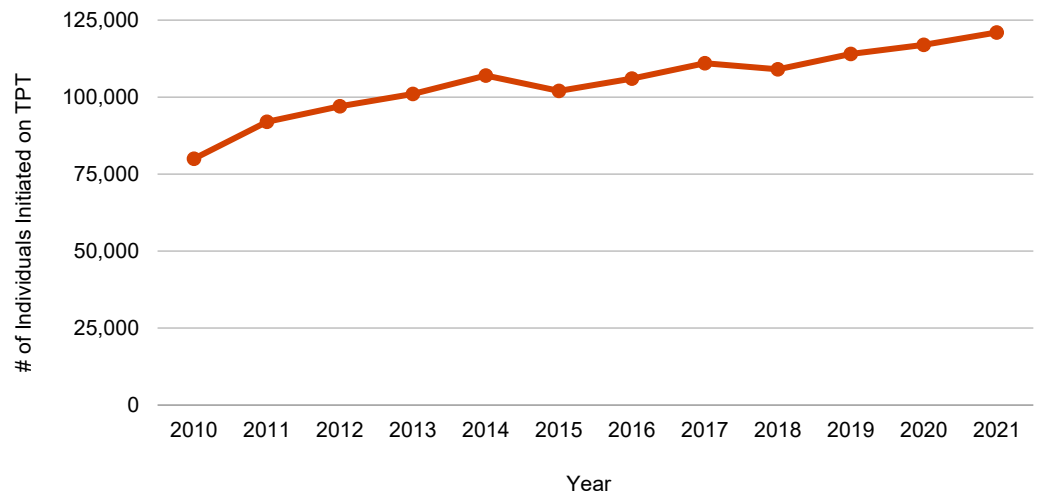
Indicator name	**TPT_ENROLL: TPT Initiations** *Previously [PT-1]*
Definition	Number of people who were initiated on TB preventive treatment (TPT). This includes: (1) household and other close contacts of people with notified, bacteriologically confirmed pulmonary TB (adults, adolescents, and children <5 years), and (2) people living with HIV (PLHIV). Household contact: a person who shared the same enclosed living space as the index case for one or more nights or for frequent or extended daytime periods during the 3 months before the initiation of current treatment. "Other" close contacts will be assessed by clinical judgment or experience. In general, this may include someone who may not live in the same house as the index patient but spends considerable time there or spent time elsewhere when the index case was present. It may also be someone who the index case may have spent time in close contact in other settings such as in school or in the workplace.
Numerator	Number of people who were initiated on TPT during the reporting period, which includes: 1) Household and other close contacts of people with notified, bacteriologically confirmed pulmonary TB (5 plus and children <5) 2) PLHIV
Denominator	N/A
Category	Prevent
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Number of people initiated on TPT
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, risk group (contacts, PLHIV)
Reporting level	All Core PBMEF indicators should be reported at the national level; data may also be reported subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended. Performance plans and reports (PPRs) reporting for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	National TB Program (NTP) official records report on this indicator. Some NTPs may include TPT initiation on the quarterly report on TB case registration or quarterly report on TB treatment outcomes, but this may vary country to country. In other settings, this data is available at the individual (case-based) levels through the NTP for contacts and the HIV/AIDS program for PLHIV. This standard WHO indicator can also be calculated using the WHO database variable: newinc_con_prevtx plus hiv_ipt_reg_all
Importance	Prevention of new TB infections (TBIs) and of progression from TBI to active disease is critical to reduce TB morbidity and mortality, and to achieve the End TB Strategy targets set for 2030 and 2035. This indicator, when measured over time, provides information on the trends in TPT scale-up and helps assess progress toward United Nations High-Level Meeting (UNHLM) targets. Additionally, the USAID TB strategy (2023-2030) has set a target to provide TPT to 30,000,000 contacts (excluding PLHIV) by 2030. TPT initiation data will help NTP managers and other stakeholders monitor TB prevention efforts among people who are exposed to TB disease and are at risk of developing TBI and progressing to TB disease. Interventions to scale up TPT to all people at risk will prevent the development of active TB disease, and thus, reduce transmission at the community level. This indicator will track the extent to which programs are achieving high TPT initiation and are likely to be reducing this source of TB burden. TPT initiation levels will also indicate the success of a country's implementation of the TPT strategy and robustness of programmatic management of TPT.

Data use and visualization	A trend analysis of this indicator can track progress over time as TPT interventions scale up. A cascade of care can also highlight the gaps between contact investigations, identifying individuals who are eligible for TPT and ensuring those who are eligible are initiated on TPT. TPT initiations can further be broken down to understand what percent of the people initiated on TPT is made up of PLHIV, contacts under 5 years of age, and contacts 5 years of age and up for reporting against UNHLM targets. More information on calculating the number of people eligible for TPT can be found in the WHO Operational Handbook on Tuberculosis: Module 1: Prevention: Tuberculosis Preventive Treatment https://www.who.int/publications/i/item/9789240002906. Below are examples one can use when presenting this indicator: **TB Preventive Treatment (TPT) Cascade among Household Contacts, 2021**  **TPT Coverage, 2010–2021** 

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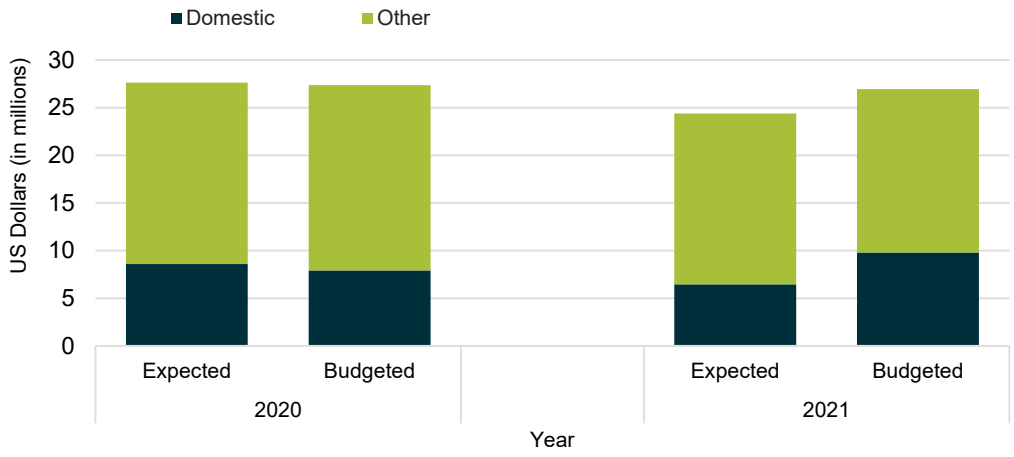
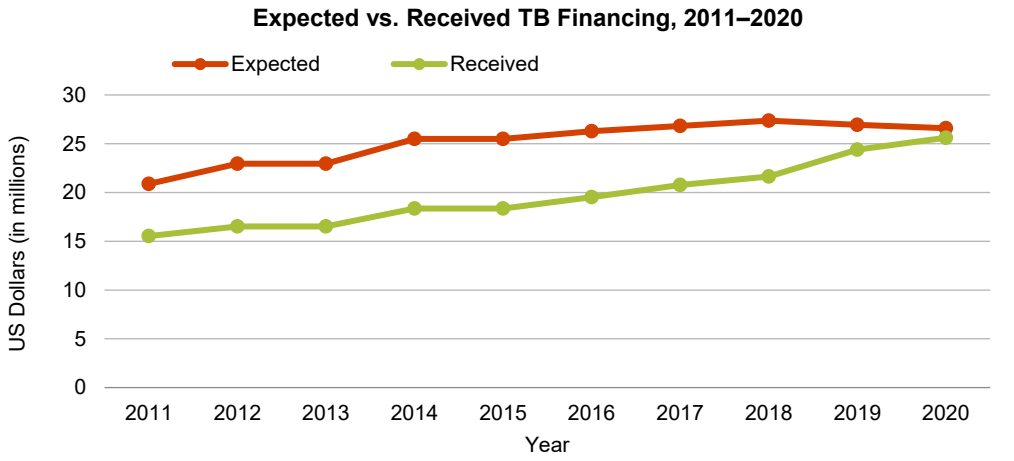
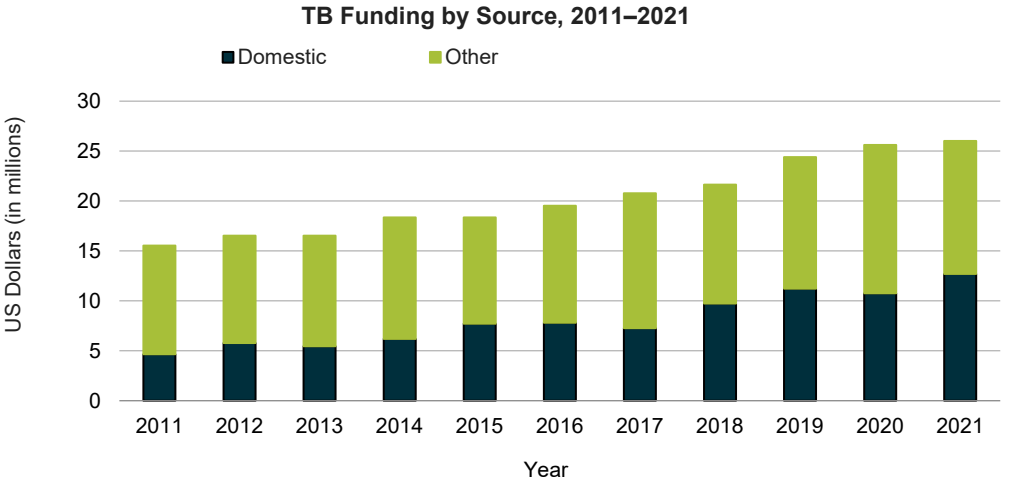
Indicator name and number	**SN_DOMESTICR: Percent of TB Financing Received from Domestic Sources** *Previously [SN-3]*
Definition	Percent of National TB Program (NTP's) budget received from domestic sources during the reporting period. Calculation: (Numerator/Denominator) x 100
Numerator	The amount of NTP's budget received from domestic sources (including loans) during the reporting period (in U.S. dollars).
Denominator	The amount of NTP's budget received from all sources (domestic, the Global Fund to Fight AIDS, Tuberculosis and Malaria, USAID, and other sources) during the reporting period (in U.S. Dollars).
Category	SUSTAIN
Indicator type	Core outcome
PBMEF level	Core
Unit of measure	Percent of funding
Data type	Percentage
Reporting level	All Core PBMEF indicators should be reported at the national level.
Reporting frequency	Annual. Performance plans and reports (PPR) for this indicator are based on calendar year (CY) periodicity to reflect national level attainment and align with the USAID congressional reporting requirements.
Data sources	NTPs report this indicator on an annual basis to the World Health Organization (WHO); where missions are not able to get a direct value from the NTP, the value included in the most recent WHO Global TB Report should be used for reporting purposes. The WHO indicator for the numerator is *rcvd_tot_domestic (funding received from domestic sources, including loans [US dollars])*, and the denominator is *rcvd_tot_sources (total funding received from all sources [US dollars])*.
Importance	A key measurement of a country's sustainability of resources is how it implements its national strategic plan (NSP). While international donor funding is still critical for low- and middle-income countries, increasing the share of funding from domestic sources is necessary for sustainability. This indicator measures the amount of funding that is expected to be mobilized from domestic sources out of all available sources. It is a good planning tool for the country to gauge how much it can and should plan to mobilize in the next budget cycle to reduce the level of dependency on international donors. According to the 2022 WHO Global TB Report, most of the USD$5.4 billion available in 2021 is from domestic sources (79% of the total). However, the high volume of funding in the BRICS group of countries (Brazil, the Russian Federation, India, China, and South Africa) influences this figure. In other low- and middle-income countries, international donor funding remains crucial. This indicator is also a measure of a national government's level of financial commitment to TB.
Data use and visualization	Percentage of received domestic financing for TB can be analyzed as a trend over time either on its own or against country and/or global targets, such as the total budget required to fund a NSP. Indeed, a comparison between the total budget required (*budget_tot*) versus the amount received *(rcvd_tot_sources*) will give a picture of the budget shortfall that the NTP faces, and therefore help in deciding domestic resource mobilization to meet those shortfalls. Further, received funds can be compared to budgeted or expected funds to highlight gaps in utilization of domestic funding either within a given year or budget cycle, or as a trend over time. Thus, analyzing the general trend of funding received from domestic sources, including loans (U.S. dollars) [*rcvd_tot_domestic*] as a percentage of expected funding from domestic sources, including loans (U.S. dollars) [*cf_tot_domestic*] can help to understand the chronic deficiency the country is facing in fulfilling its budgetary commitment to NTP. This could be reviewed in the context of overall budget shortfall/over-budgeting by comparing total funding received for all budget line items (U.S. dollars) *[rcvd_tot]* versus total budget required (U.S. dollars) *[budget_tot].* Below are examples one can use when presenting this indicator:







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PBMEF Core Plus Indicators: Standard Indicator Reference Sheets (IRS)

Core Plus Indicators:

NEWREL_WRD: Rapid diagnostic testing at time of initial diagnosis

NEWREL_DST: DST results among people with new and relapse TB

RET_DST: DST results among people with previously treated TB

XDR_NOTIF: Pre-XDR/XDR Notifications

TX_DR_ENROLL: DR-TB treatment initiations

TX_STR_ENROLL: DR-TB “all oral” short treatment regimen initiations

TX_LTR_ENROLL: DR-TB “all oral” longer treatment regimen initiations

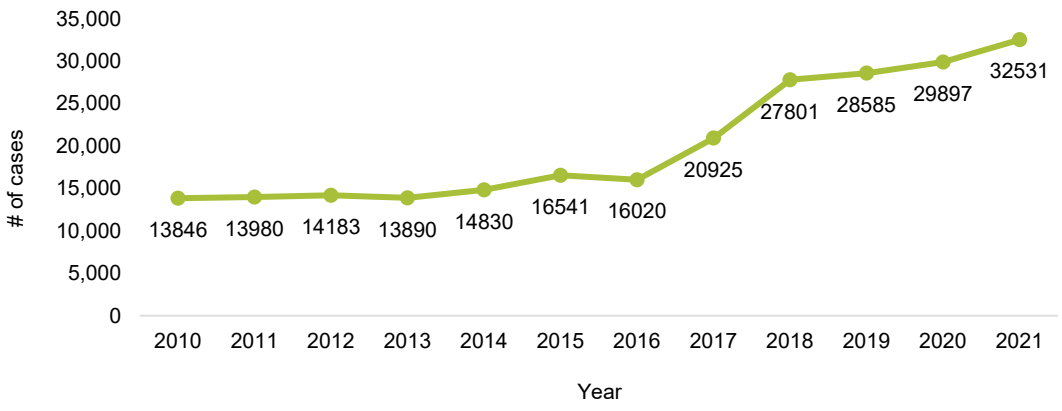
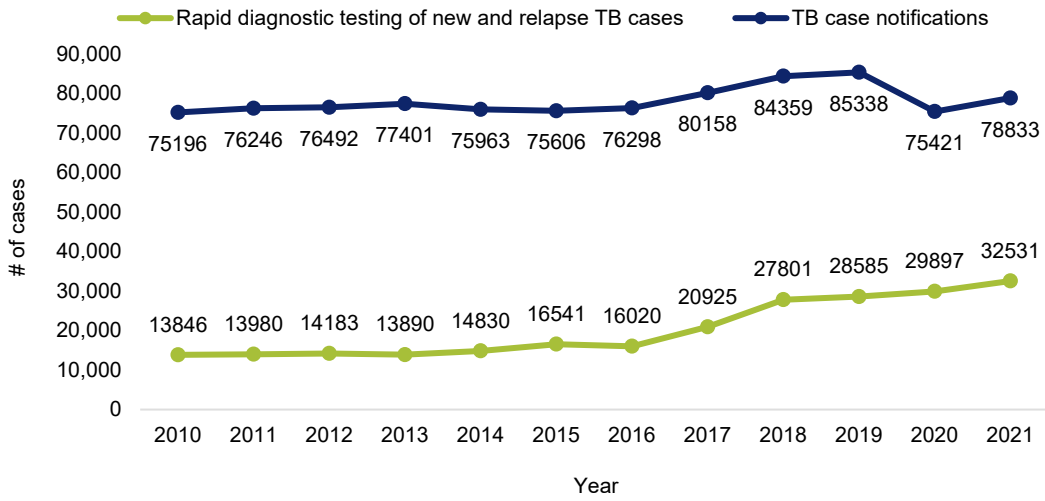
TX_DR_ADR: Number of people with adverse reactions to DR-TB treatment

TPT_CON_ENROLL: TPT initiations among contacts

TPT_COMPL: TPT Completions

SN_TB_INSUR: Existence of a national or social health insurance system whose benefit package includes TB clinical services

Indicator name	**NEWREL_WRD: Rapid diagnostic testing at time of initial diagnosis** *Previously [DT-15]*
Definition	Percent of people with notified new and relapse TB who were tested using a WHO-recommended diagnostic test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTime MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM at the time of initial TB diagnosis (regardless of test result). Calculation: (Numerator/Denominator) x 100
Numerator	Number of people with new and relapse TB notified during the reporting period who were tested using a WRD: FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*me* MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM at the time of initial TB diagnosis (regardless of test result).
Denominator	Number of people with notified new and relapse TB during the reporting period.
Category	Reach
Indicator type	Outcome
PBMEF level	Core Plus
Unit of measure	Percentage of people
Data type	Percentage
Disaggregate by	Age (0–4, 5–14, 15+), sex, type of diagnostic test
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are the basic management unit TB register and laboratory register at the health facility level and district levels. This is a standard WHO indicator and can be calculated using the WHO Global TB Programme database variable: *newinc_rdx (numerator) and c_newinc (denominator)*
Importance	As countries intensify efforts to improve TB diagnosis and treatment and close the gap between estimated and notified TB, the number and percentage of people with notified TB that are bacteriologically confirmed needs to be monitored to ensure that people are correctly diagnosed and started on the most effective treatment regimen as early as possible. This indicator measures a program's capacity to detect TB accurately and rapidly using new diagnostics and to increase the percentage of people with TB who are confirmed bacteriologically by scaling up the use of recommended diagnostics that are more sensitive than smear microscopy. The number is also important to monitor for the purposes of estimating procurement needs, especially the disaggregation by type of test. USAID's Global TB Strategy sets a goal of 90% of people with incident TB be diagnosed and initiated on treatment with a minimum of 75% of people treated with TB tested with a WHO-recommended rapid molecular diagnostic (mWRD) test in each priority country by 2030. Greater efforts are needed to improve the availability and use of the most sensitive diagnostic tests for TB and to ensure that international standards for TB care are met to avoid missed diagnoses of people who have TB, overtreatment of people who do not have TB, and efficient use of resources.

Data use and visualization	A high number of people with new and relapse TB notified and tested using a mWRD at the time of TB diagnosis reflects multiple processes, including availability and access to adequate bacteriological diagnostic services (trained staff, equipment, etc.), quality of laboratory testing, and adherence to TB guidelines. This indicator can be compared to the core indicator that measures bacteriological confirmation among all people with notified TB. As the use of mWRD is expanded to test all people with new diagnoses of pulmonary TB, one should see an increase in bacteriological confirmation over time. By measuring this indicator, countries can track the rollout and use mWRDs. Additionally, this indicator can be compared against national and global standards or targets as a proxy for measuring laboratory performance or capacity within a country. Additionally, this indicator should be reviewed in conjunction with measurements on the scale of mWRD testing among people with presumptive TB. Example of data visualizations: **Rapid Diagnostic Testing of New and Relapse TB Cases, 2010–2021**  **TB case notifications confirmed with rapid diagnostic testing vs. all TB case notifications, 2010–2021** 

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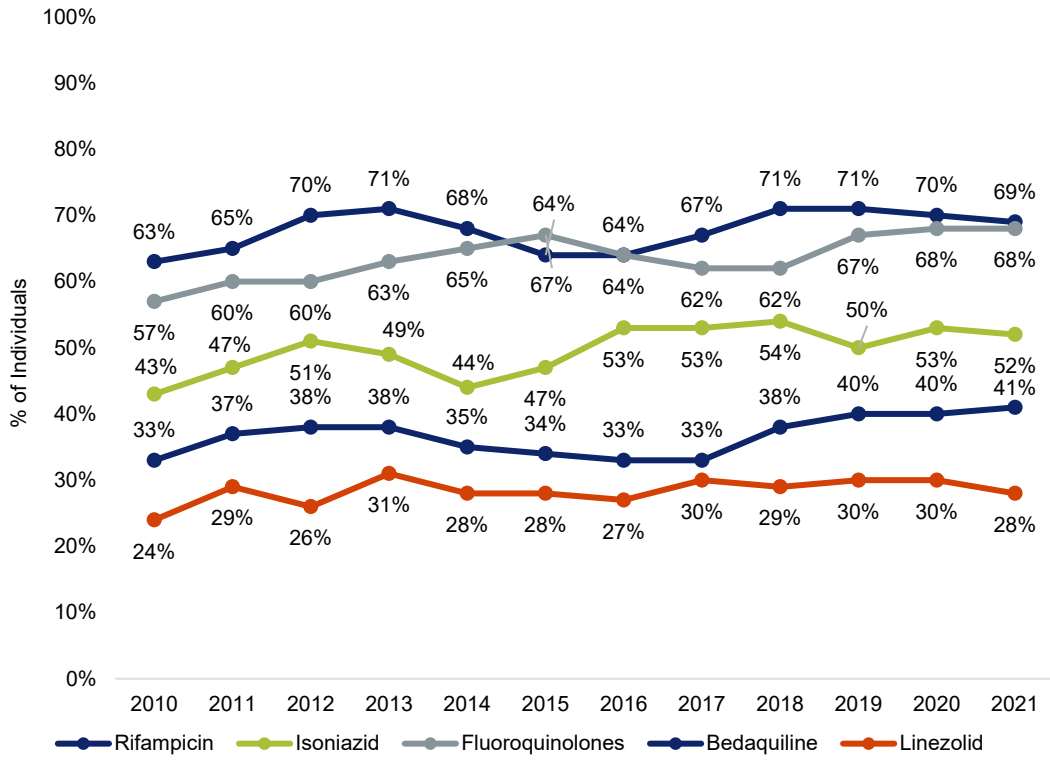
Indicator name	**NEWREL_DST: Percent of people with new and relapse TB with drug susceptibility testing (DST)**
Definition	Percent of people with new and relapse pulmonary TB who have drug susceptibility testing (DST) results for 1) rifampicin, 2) isoniazid, 3) fluoroquinolones, 4) bedaquiline, and 5) linezolid. Calculation: (Numerator disaggregate: DST type (1,2,3,4 or 5*)/Denominator) x 100 *Note 5 separate proportions should be calculated, one for each drug type.
Numerator	Number of people with new and relapse pulmonary TB who have DST results for 1) rifampicin, 2) isoniazid, 3) fluoroquinolones, 4) bedaquiline, and 5) linezolid.
Denominator	Number of people with bacteriologically confirmed new and relapse pulmonary TB.
Category	Reach
Indicator type	Outcome
PBMEF level	Core Plus
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (0–4, 5–14, 15+), sex, DST type (rifampicin, fluoroquinolones, isoniazid, bedaquiline and linezolid), HIV status
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are the basic management unit TB register and electronic management information systems at the health facility and district level. Components of this indicator can also be calculated using the WHO Global TB Programme database variables: *Numerator:* *Rifampicin: r_rlt_new* *Isoniazid: dst_rlt_new* *Denominator: new_labconf + ret_rel_labconf*
Importance	DST coverage is an important step in the drug-resistant (DR)-TB detection and treatment cascade. Drug-sensitivity testing helps to measure the magnitude of drug resistance for anti-TB medicines among people with notified TB, which is a key information for any NTP to understand the burden of DR-TB and respond accordingly. DST coverage indicates a country's ability to detect drug resistance among people with active TB disease and initiate people diagnosed with DR-TB on appropriate treatment regimens. Data on DST coverage are valuable for planning laboratory equipment and supplies as well as drug logistics and supervision. Though data for DST on all 5 drugs may not be available, countries should be working to implement this testing over time, along with accompanying data collection and reporting.

	All people with bacteriologically confirmed TB should have DST results documented for at least rifampicin to ensure that people with DR-TB are rapidly identified and placed on the correct treatment regimen in a timely manner. The denominator for this indicator only includes people with bacteriologically confirmed TB. In countries where bacteriological confirmation is low, the performance of this indicator may appear high even when DST testing among all people with TB is relatively low. In such instances, countries may want to examine this percent for clinically diagnosed as well as bacteriologically confirmed TB. Early detection of resistance to rifampicin ensures that an appropriate drug regimen can be prescribed to increase the chance of treatment success, and to reduce the chance of acquiring additional resistance. It also helps to reduce the risk of transmission of DR-TB.
Data use and visualization	This indicator flows from the core indicator of bacteriologic confirmation among people with notified pulmonary TB and provides the basis to calculate relevant indicators such as rate of positivity, type of resistance, and treatment initiation rate. It helps to track progress and investment in coverage of testing for drug resistance in order to monitor performance for early detection of DR-TB and timely initiation for care and treatment. This indicator can also be presented in a graph with the number of new bacteriologically confirmed pulmonary TB patients (pulm_labconf_new). Data can be presented and visualized using tables, charts, line graphs, etc. Example of data visualizations: **New and Relapse TB Patients with DST Results, 2010–2021** 

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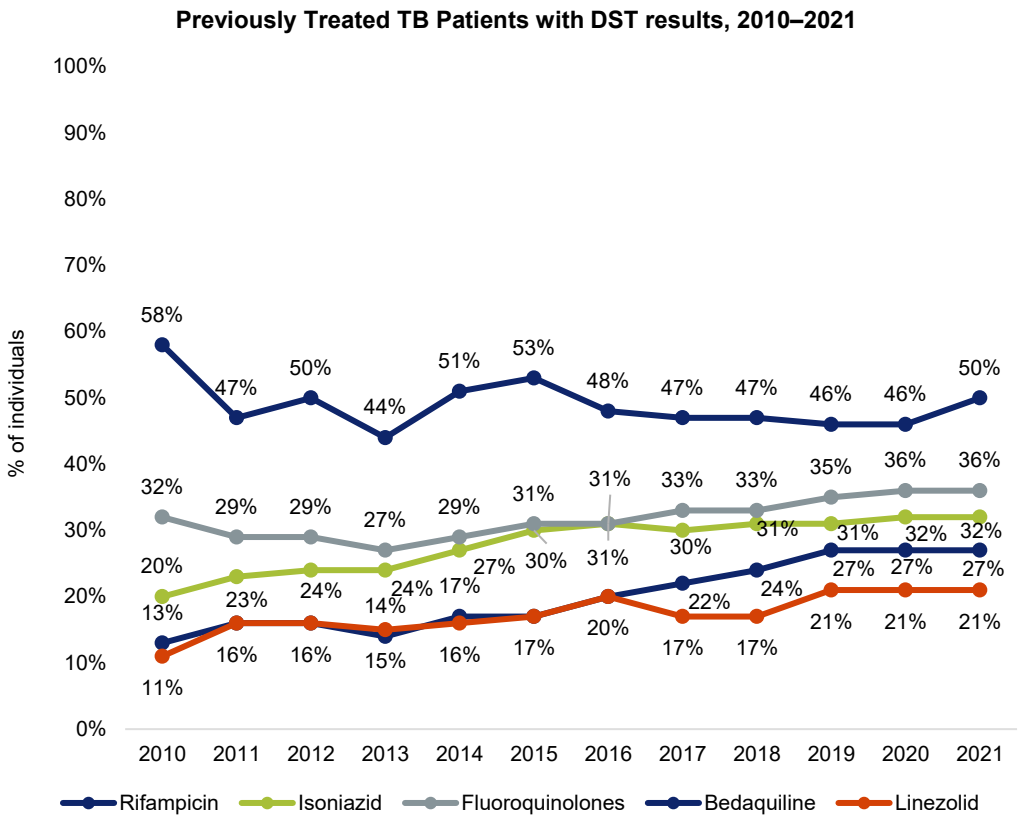
Indicator name	**RET_DST: Percent of people with previously treated TB with drug susceptibility testing (DST)**
Definition	Percent of people with previously treated (including relapse) pulmonary TB who have drug susceptibility test (DST) results for 1) rifampicin, 2) isoniazid, 3) fluoroquinolones, 4) bedaquiline, and 5) linezolid. Calculation: (Numerator disaggregate: DST type (1,2,3,4 or 5*)/Denominator) x 100 *Note 5 separate proportions should be calculated, one for each drug type.
Numerator	Number of people with previously treated (including relapse) pulmonary TB who have DST results for 1) rifampicin, 2) isoniazid, 3) fluoroquinolones 4) bedaquiline and 5) linezolid
Denominator	Number of people with bacteriologically confirmed previously treated (including relapse) pulmonary TB.
Category	Reach
Indicator type	Outcome
PBMEF level	Core Plus
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (0–4, 5–14, 15+), sex, DST type (rifampicin, fluoroquinolones, isoniazid, bedaquiline and linezolid), HIV status
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are basic management unit TB register, rifampicin-resistant (RR) and multidrug-resistant (MDR) TB register, and electronic management information systems available at the health facility and district level. Components of this indicator can also be calculated using the WHO Global TB Programme database variables*:* *Numerator:* *Rifampicin: r_rlt_ret* *Isoniazid: dst_rlt_ret* *Denominator: pulm_labconf_ret*
Importance	The risk of drug resistance is high among people with previously treated TB, particularly among those treated irregularly, or with incorrect regimens and doses. Many studies have reported that the most important risk factor for the development of drug-resistant (DR)-TB is the previous treatment of TB. Hence, DST coverage among people with previously treated TB (including relapse) provides valuable data to monitor coverage of drug-sensitivity testing for anti-TB drugs among this high-risk group. It also helps to understand the prevalence and types of drug resistance. This indicator gives the basis to conduct further cascade analysis for DR-TB diagnosis, such as linkage to laboratory, testing, rate of positivity, treatment initiation, etc. Though data for DST on all 5 drugs may not be available, countries should be working to

	implement this testing over time, along with accompanying data collection and reporting. The denominator for this indicator only includes people with bacteriologically confirmed TB. In countries where bacteriological confirmation is low, the performance of this indicator may appear high even when DST testing among all people with TB is relatively low. In such instances, countries may want to examine this percent for clinically diagnosed as well as bacteriologically confirmed TB. It is helpful for National TB Programs (NTPs) to understand the burden of drug resistance and respond accordingly to initiate people diagnosed with DR-TB on appropriate treatment. The data are valuable for planning laboratory equipment and supplies as well as drug logistics and supervision.
Data use and visualization	This indicator flows from the Core indicator of bacteriologic confirmation among people with pulmonary TB and complements the Core Plus indicators on people with new and relapse pulmonary TB who have DST results. This indicator can be used to track progress and investment in coverage of testing for drug resistance. This is helpful to monitor performance on drug resistance testing for early detection of DR-TB among people with previously treated (including relapses) pulmonary TB and timely initiation for care and treatment. Based on availability of data this can be plotted as a graph, with the number of previously treated (including relapses) which is pulm_labconf_ret and how many were tested for rifampicin resistance. Data can be presented and visualized using tables, charts, line graphs, etc.: 

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Indicator name	XDR_NOTIF: Pre-XDR/XDR Notifications
Definition	Number of people with pre-extensively drug-resistant (pre-XDR) and extensively drug-resistant (XDR) TB notified during the reporting period. Pre-XDR/XDR-TB: XDR-TB is caused by a strain of M. tuberculosis complex that is resistant to rifampicin (and may also be resistant to isoniazid), and that is also resistant to at least one fluoroquinolone (levofloxacin or moxifloxacin) and to at least one other "Group A" drug (bedaquiline or linezolid); pre-XDR-TB meets these qualifications but is resistant to a fluoroquinolone ***or*** a "Group A" drug, but not both. *Note: This indicator is reported separately from rifampicin-resistant (RR) and multidrug-resistant (MDR) notifications. Values for these indicators should not be added together.*
Numerator	Number of people with laboratory-confirmed or clinically diagnosed drug-resistant (DR)-TB (RR/MDR-TB and pre-XDR/XDR-TB) who initiated treatment for DR-TB during the reporting period.
Denominator	N/A
Category	REACH
Indicator type	Outcome
PBMEF level	Core Plus
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (<15, 15+), sex
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly basis is recommended.
Data sources	This indicator is reported from National TB Program (NTP) official records. *Quarterly report on TB case registration in the basic management unit.* The World Health Organization (WHO) equivalency for this indicator is: *conf_rr_fqr (lab confirmed pre-XDR and XDR)*
Importance	This DR-TB indicator has been modified to allow for reporting pre-XDR and XDR-TB in a separate indicator from RR/MDR-TB. Pre-XDR/XDR notifications should not be added to RR/MDR notifications to avoid double counting DR-TB notifications. People who are diagnosed with pre-XDR and XDR TB will already have been identified and recorded as having RR/MDR-TB. The number of RR/MDR-TB notifications should therefore equal the total number of DR-TB notifications, with this indicator as a subset. Note that when assessing treatment success rate, all people on DR-TB treatment will be monitored together. Ongoing analysis of DR-TB notification data is critical to understanding transmission dynamics and to ensure accurate planning for second-line TB drugs (SLDs) and the human resources needed to manage DR-TB. These people account for a much higher percent of overall TB deaths, and the number of people with DR-TB has been increasing over time. DR-TB notification measures a country's ability to detect drug resistance among the TB-infected population and initiate people with TB on appropriate treatment. Data on DR-TB notification are also valuable for planning drug logistics and supervision. Closing the large DR-TB detection gap will require improvements in diagnostic capacity. Point-of-care (or near point-of-care) rapid diagnostic tools that detect TB and drug resistance are the new standard of care. Early detection of resistance to rifampicin and isoniazid ensures that an appropriate drug regimen can be prescribed from the outset to increase the likelihood of treatment

	success, and to reduce the chance of acquiring additional resistance.
Data use and visualization	Understanding DR-TB notification trends is important to gauge the overall performance of the NTP in preventing the emergence of drug resistance, either due to issues with adherence to treatment regimens or due to direct transmission of DR-TB. Drug-resistant TB notification can be analyzed on its own as a trend over time to see the total number of people with notified DR-TB within a given country. It can also be compared to the estimated incidence of DR-TB to determine the magnitude of the gap between estimated people with DR-TB and those that have been diagnosed. These gaps should also be reviewed in the context of availability of diagnostic services for DR-TB. The number of diagnostic facilities per 100,000 population can also give some indication of how accessible these services are to the population. The geographical distribution of the diagnostic facilities can help to understand the level of accessibility in different regions. Regional comparisons of this indicator could be helpful. DR-TB diagnosis and notification is an important step in the DR-TB treatment cascade. Data can also be collected at the subnational level and used to learn from the geographic distribution of people with DR-TB and detect outbreaks. Data should be reported annually at a minimum but semiannual or quarterly reporting will improve the timeliness of data for decision making.
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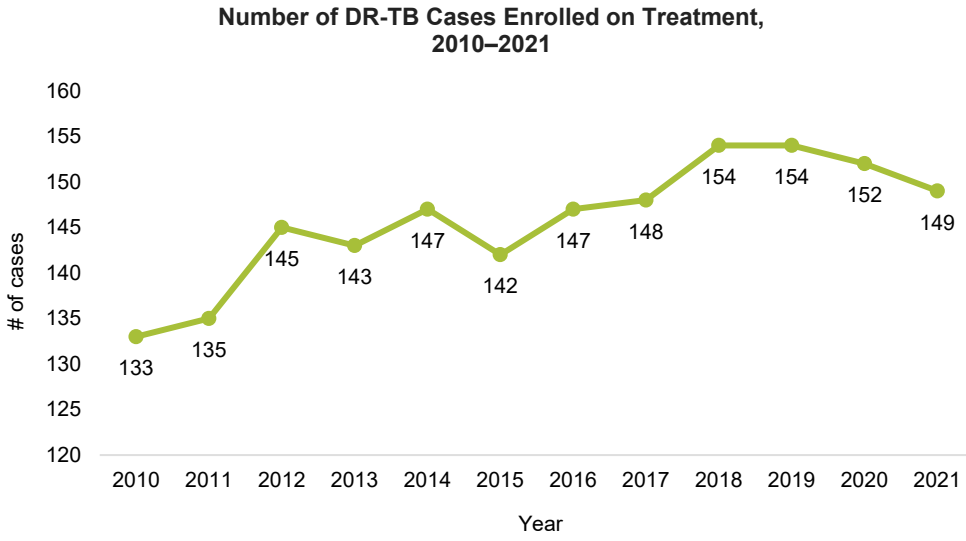
Indicator name	**TX_DR_ENROLL: DR-TB treatment initiations** *Previously [RN-4]*
Definition	Number of people with laboratory-confirmed or clinically diagnosed drug-resistant (DR) TB (rifampicin-resistant [RR] and multidrug-resistant [MDR] TB and pre-extensively drug-resistant [pre-XDR] and extensively drug-resistant [XDR] TB) who initiated treatment for DR-TB during the reporting period. RR/MDR TB: RR-TB is TB caused by Mycobacterium Tuberculosis (M. tuberculosis) strains that are resistant to rifampicin; MDR-TB strains are resistant to at least both rifampicin and isoniazid. Pre-XDR/XDR-TB: XDR-TB is caused by a strain of M. tuberculosis complex that is resistant to rifampicin (and may also be resistant to isoniazid), and that is also resistant to at least one fluoroquinolone (levofloxacin or moxifloxacin) and to at least one other "Group A" drug (bedaquiline or linezolid); pre-XDR-TB meets these qualifications but is resistant to a fluoroquinolone ***or*** a "Group A" drug, but not both.
Numerator	Number of people with laboratory-confirmed or clinically diagnosed DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who initiated treatment for DR-TB during the reporting period.
Denominator	N/A
Category	Cure
Indicator type	Outcome
PBMEF level	Core Plus
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (<15, 15+), sex, HIV status
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are basic management unit TB register, RR/MDR-TB register and electronic management information systems at the health facility and district levels. This standard World Health Organization (WHO) indicator can also be calculated using the WHO Global TB Programme database variables: *unconf_rr_nfqr_tx* plus *conf_rr_nfqr_tx plus conf_rr_fqr_tx*
Importance	This indicator on initiation of people with DR-TB on treatment measures a TB program's ability to ensure people diagnosed with DR-TB are linked to care and started on appropriate second-line drug (SLD) regimens. This is a very important measure of the effectiveness of the NTP in terms of improving access to DR-TB treatment and improving quality of patient care. This indicator measures the gap between the number diagnosed with DR-TB and the subset of those diagnosed who are initiated on DR-TB treatment. This gap is a critical measure of TB programs. The data are valuable for planning SLD procurement and prioritizing supervision. The indicator provides data for a critical step in cascade analysis for DR-TB and treatment.

Data use and visualization	This indicator can be used to track performance of the NTP in initiating people diagnosed with DR-TB on second-line treatment. It is important for guiding programmatic decisions on scale up of treatment services for management of DR-TB. It can be presented and visualized using tables, charts, line graphs, etc. This indicator can be compared to the DR-TB treatment cohort size, which is the denominator for all the DR-TB treatment outcomes (i.e. treatment success, lost-to follow-up [LTFU], etc.). The gap between the number of people initiated on DR-TB treatment and the subsequent cohort size reported can also be visualized. Example of data visualizations: 
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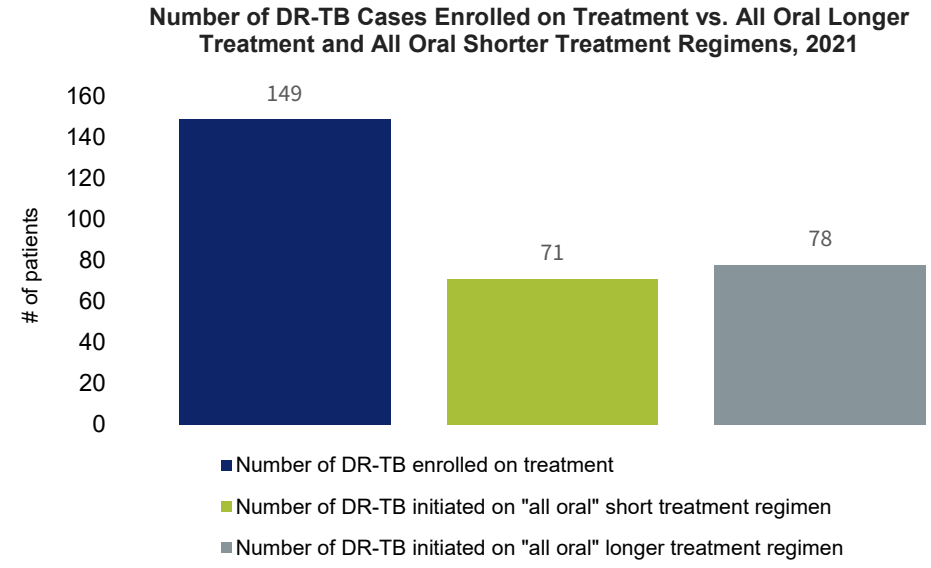
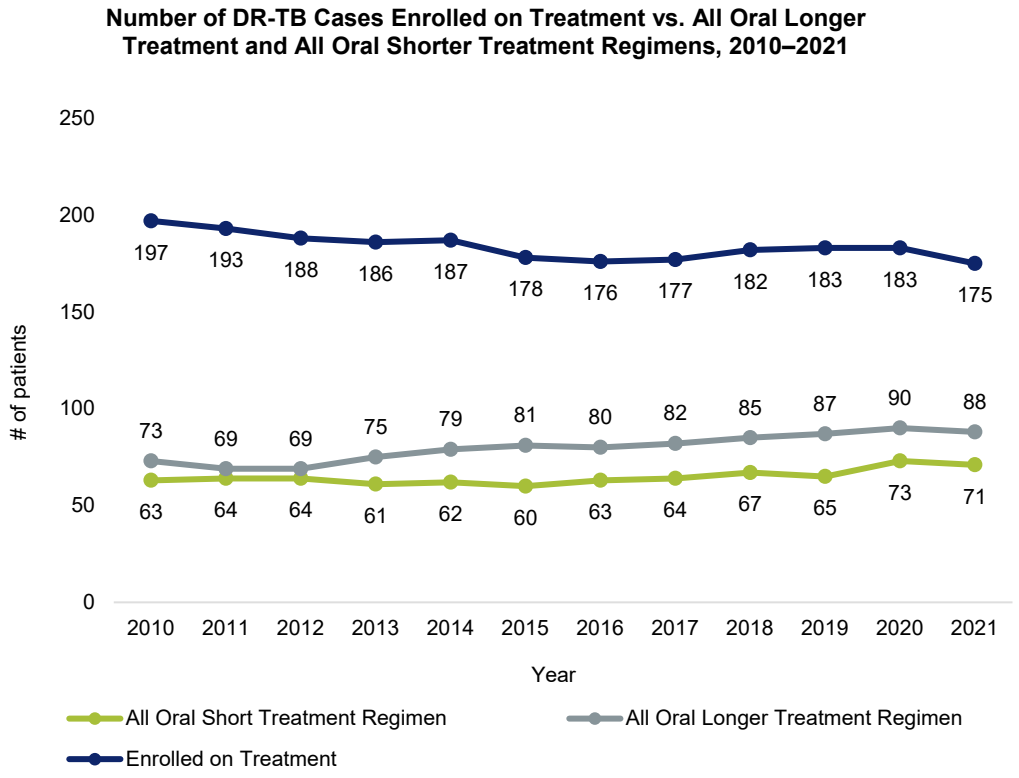
Indicator name	**TX_STR_ENROLL: DR-TB "all oral" short treatment regimen initiations** *Previously [RN-7]*
Definition	Number of people with drug-resistant (DR) TB (rifampicin-resistant [RR] and multidrug-resistant [MDR] TB and pre-extensively drug-resistant [pre-XDR] and extensively drug-resistant [XDR] TB) initiated on "all oral" short treatment regimen during the reporting period. "Short treatment regimens" refer to regimens with a duration of 12 months or less.
Numerator	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) initiated on "all oral" short treatment regimen during the reporting period.
Denominator	N/A
Category	Cure
Indicator type	Outcome
PBMEF level	Core Plus
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (<15, 15+), sex
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly basis is recommended.
Data source(s)	The data sources are basic management unit TB register, RR/MDR-TB register, and electronic management information systems at the health facility and district levels. This standard World Health Organization (WHO) indicator can also be calculated using the WHO Global TB Programme database variable: *mdr_alloral_short_tx*
Importance	This indicator helps to monitor access to the newly recommended fully oral short treatment for DR-TB. The consolidated WHO 2022 guidelines on DR-TB treatment and the associated operational handbook recommend new shorter fully oral regimen for people with MDR-TB which replaces a previously recommended shorter regimen which contained an injectable agent. The newly recommended shorter regimen is 9–11 months long and research has shown that patients find it easier to complete the regimen, when compared to the longer regimens which last up to 20 months. WHO urges all countries to enable access to fully oral DR-TB treatment regimens. It is valuable programmatic data to National TB Programs (NTPs) for monitoring the rate of initiation for all oral short treatment, drug supply chain management, and supervision.

Data use and visualization	This indicator can be used to track progress in achieving high coverage of treatment with all oral shorter treatment regimens for DR-TB. It is helpful to guide programmatic decisions for scale up of treatment for DR-TB. This indicator can be compared with the number of people with DR-TB initiated on treatment, and the number of people with DR-TB initiated on "all oral" longer treatment regimens. This data can be presented and visualized using tables, charts, line graphs, etc. Example of data visualizations:  

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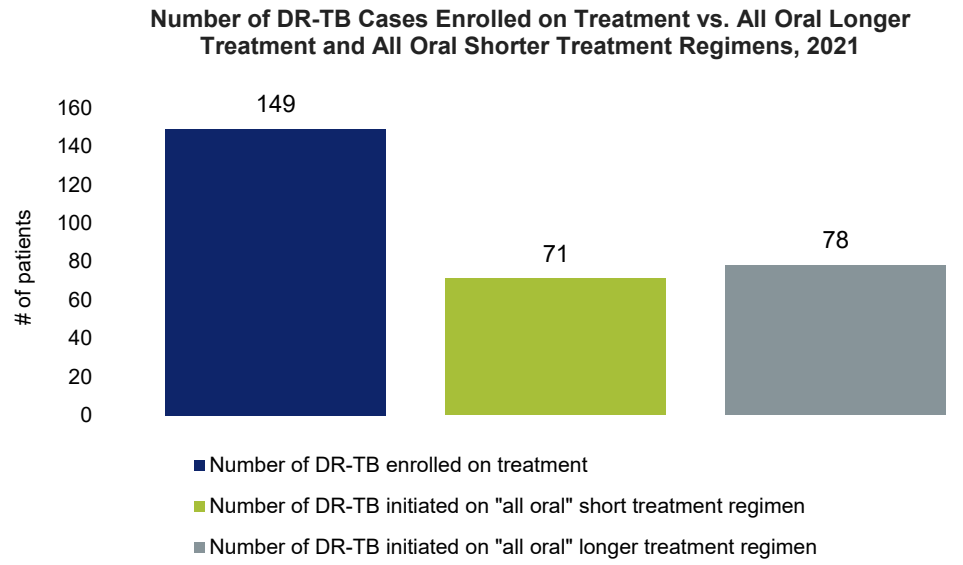
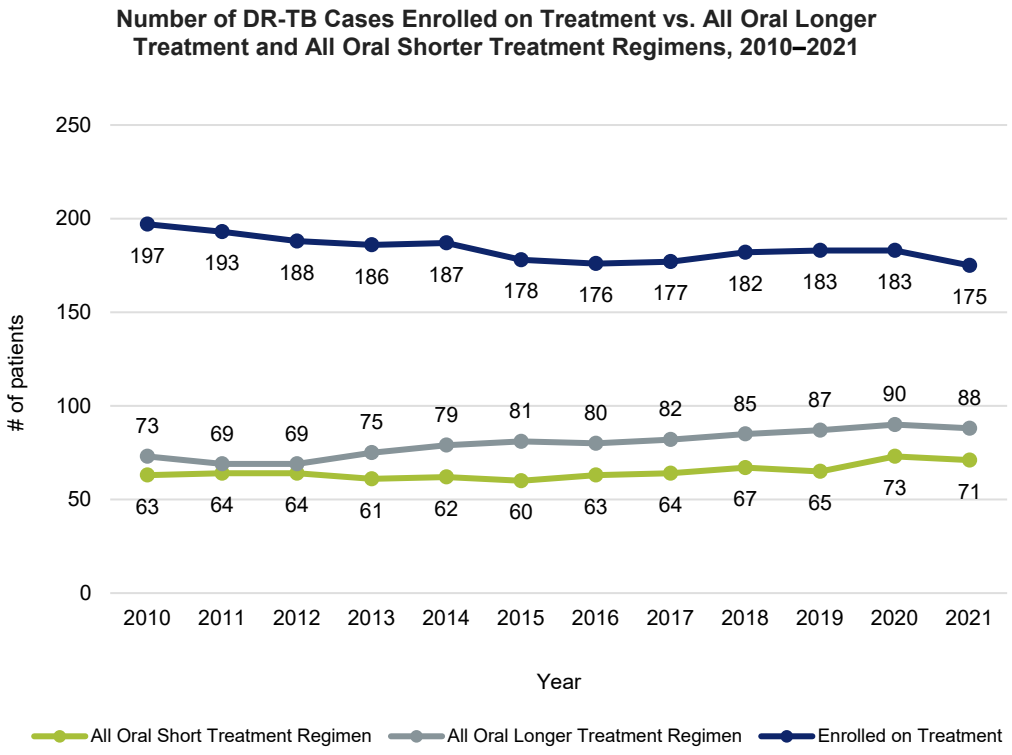
Indicator name	**TX_LTR_ENROLL: DR-TB "all oral" longer treatment regimen initiations** *Previously [RN-8]*
Definition	Number of people with drug-resistant (DR) TB (rifampicin-resistant [RR] and multidrug-resistant [MDR] TB and pre-extensively drug-resistant [pre-XDR] and extensively drug-resistant [XDR] TB) who initiated "all oral" longer treatment regimen during the reporting period. "Longer treatment regimens" refer to regimens with a duration of 14 months or more, usually lasting 18–24 months.
Numerator	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who initiated "all oral" longer treatment regimen during the reporting period.
Denominator	N/A
Category	Cure
Indicator type	Outcome
PBMEF level	Core Plus
Unit for analysis	Number of people
Data type	Integer
Disaggregate by	Age (<15, 15+), sex
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly basis is recommended.
Data source(s)	The data sources are basic management unit TB register, RR/MDR-TB register, and electronic management information systems at the health facility and district levels. This standard World Health Organization (WHO) indicator can also be calculated using the WHO Global TB Programme database variable*: mdrxdr_alloral_tx*.
Importance	This indicator provides important information for monitoring initiation of people with DR-TB on all oral longer course regimens. The WHO consolidated guidelines on DR-TB treatment signal an important departure from previous approaches to treat DR-TB, recommending fully oral regimens to be prioritized and to be the preferred option for most patients. Many countries have adopted this approach as their national policy. These data are valuable for monitoring initiation of people diagnosed with DR-TB on all oral longer treatment and for planning procurement of second-line drugs (SLDs).

Data use and visualization	This indicator can be used to track progress in achieving high rates of all oral longer treatment regimen use for people diagnosed with DR-TB. It is helpful to guide programmatic decisions for scale up of treatment for DR-TB. This indicator can be compared with the number of people with DR-TB who were initiated on treatment, and the number of people with DR-TB initiated on "all oral" shorter treatment regimens. It can be presented and visualized using tables, charts, line graphs, etc. Example of data visualizations:  

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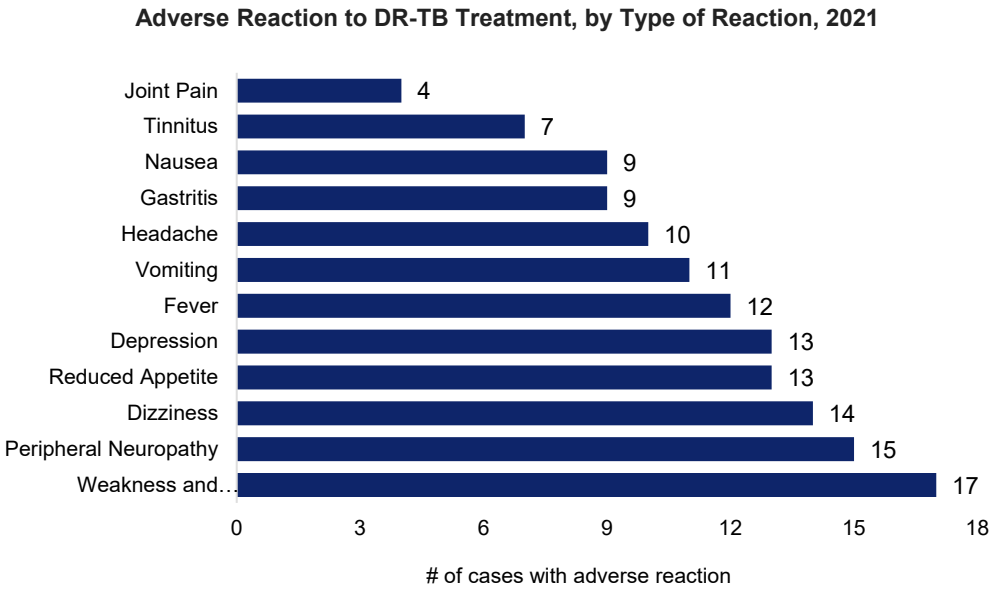
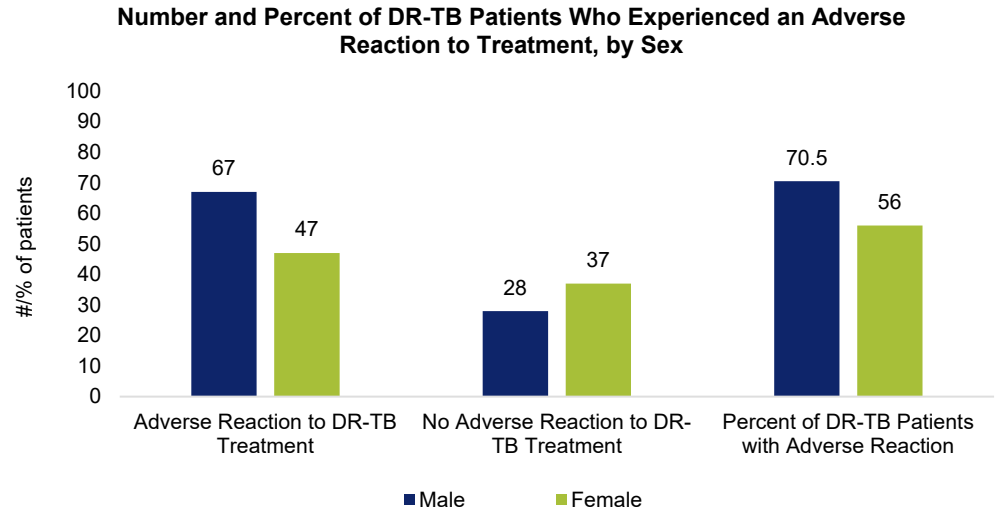
Indicator name	**TX_DR_ADR: Number of people with adverse reactions to DR-TB treatment** *Previously [RS-6]*
Definition	Number of people on drug-resistant (DR) TB treatment (rifampicin-resistant [RR] and multidrug-resistant [MDR] TB and pre-extensively drug-resistant [pre-XDR] and extensively drug-resistant [XDR] TB) who developed at least one adverse drug reaction (ADR) to DR-TB treatment during the reporting period; this includes all people on treatment during the specified reporting period and is not related to a cohort. An ADR (sometimes referred to as an "adverse event") is any negative medical occurrence that may present in a person with TB during treatment with a pharmaceutical product, but which does not necessarily have a causal relationship with this treatment. More information on monitoring of ADRs in DR-TB can be found here, and information on ADR grading can be found here.
Numerator	Number of people on DR-TB treatment (RR/MDR-TB and pre-XDR/XDR-TB) who developed at least one ADR to DR-TB treatment during the reporting period; this includes all people on treatment during the specified reporting period and is not related to a cohort.
Denominator	N/A
Category	Cure
Indicator type	Outcome
PBMEF level	Core Plus
Unit for analysis	Number of people
Data type	Integer
Disaggregate by	Age (<15, 15+), sex, type of adverse reaction (e.g., vomiting, dizziness, reduced appetite, gastritis)
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly basis is recommended.
Data source(s)	The data sources are the basic management unit TB register, RR/MDR-TB register, and electronic management information systems at the health facility and district levels. This standard World Health Organization (WHO) indicator can also be calculated using the WHO Global TB Programme database variable: mdrtx_adverse_events
Importance	Monitoring ADRs can help health programs with preventing and managing ADRs, relieve patient suffering, and improve treatment outcomes. ADRs can lead to TB patients interrupting treatment before completion, and can thus contribute to avoidable morbidity, drug-resistance, treatment failure, reduced quality of life, or even death. Therefore, it is important that adverse reactions be monitored in TB patients undergoing treatment, especially those with DR-TB, who often take regimens combining new or repurposed medicines for which the safety profile is incomplete. Systematically gathering this data assists with drug safety monitoring and the ability to detect, manage, and report suspected or confirmed drug toxicities. Unlike other monitoring activities inherent to TB programs, TB programs have not consistently monitored adverse reactions to treatment in the past. Once monitoring of this aspect of TB

	treatment becomes mainstream, it is expected that its value will extend beyond the individual patient monitored to benefit other patients from improved knowledge of the medicines tracked as well as endowing programs with a robust mechanism to enable the introduction of future TB treatments at an accelerated pace.
Data use and visualization	Number of people on DR-TB treatment who developed an ADR can be analyzed as a trend showing whether adverse reactions for DR-TB patients are improving or getting worse over time.  The data may also be analyzed by sex to see if males or females are disproportionately affected. In the example shown below, it appears that a much higher percent of males being treated for DR-TB experience adverse reactions than females (70.5% versus 56%, respectively): 

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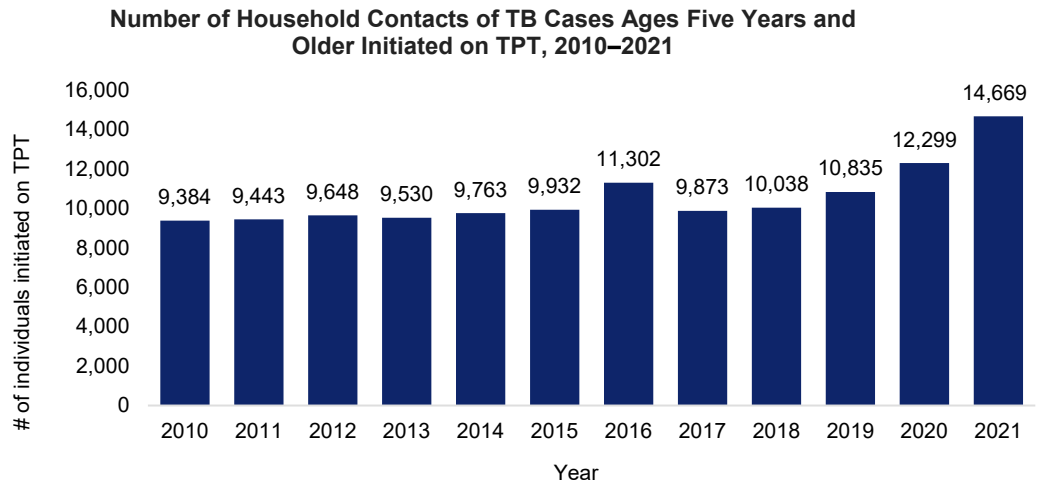
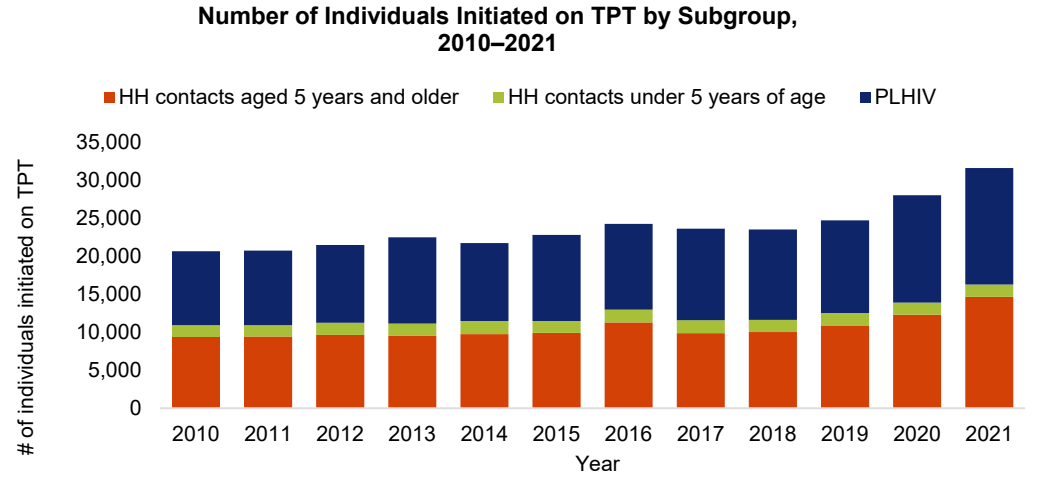
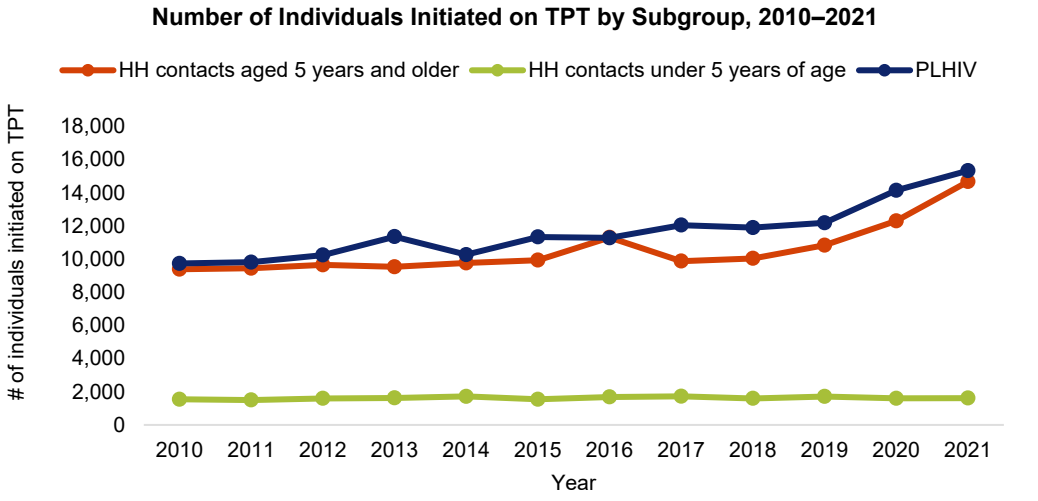
Indicator name	TPT_CON_ENROLL: TPT initiations among contacts
Definition	Number of household contacts and other close contacts of people with bacteriologically confirmed, notified pulmonary TB who initiated TB preventive treatment (TPT) during the reporting period. This indicator is a subset of the core indicator “TPT initiations.” “Other” close contacts will be assessed by clinical judgment or experience. In general, this may include someone who may not live in the same house as the index patient but spends considerable time there or spent time elsewhere when the index case was present. It may also be someone who the index case may have spent time in close contact in other settings such as in school or in the workplace.
Numerator	Number of adult, adolescent, and children <5 years who are household or other close contacts of people with bacteriologically confirmed, notified pulmonary TB who initiated TPT during the reporting period.
Denominator	N/A
Category	Prevent
Indicator type	Outcome
PBMEF level	Core Plus
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, public vs. private
Reporting level	All Core Plus indicators should be reported at the national level; data may also be collected subnationally for more granular monitoring.
Reporting frequency	This indicator should be reported on a semiannual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources for this indicator may vary country to country. In some settings, data will be found in basic management unit TB registers, TPT register, community health worker contact investigation (CI) registers, or electronic management systems at the health facility and district level. This standard World Health Organization (WHO) indicator can also be calculated by using the WHO Global TB Programme Database variables: newinc_con_prevtx
Importance	Understanding the specifics of TPT coverage within a given country/region is key for National TB Programs (NTPs) to monitor and manage TB prevention efforts. This indicator is a drilled down view into the core indicator, TPT Coverage (PT-4). While many TPT efforts and activities focus on children under 5 years of age or people living with HIV (PLHIV), this indicator functions to specifically look at TPT coverage of adults and children ages 5 years and older. This is particularly important as many countries expand their guidelines for TPT to expand coverage beyond the traditional risk groups of children under 5 years of age and PLHIV.
Data use and visualization	This indicator can be visualized with basic graphs to show trends in TPT coverage of adults and children ages 5 years and older over time. It could also be plotted against other subgroups (children under 5 years of age, PLHIV, etc.) to demonstrate the breakdown of TPT coverage among all people initiated on TPT within a given reporting period. Example of data visualizations:







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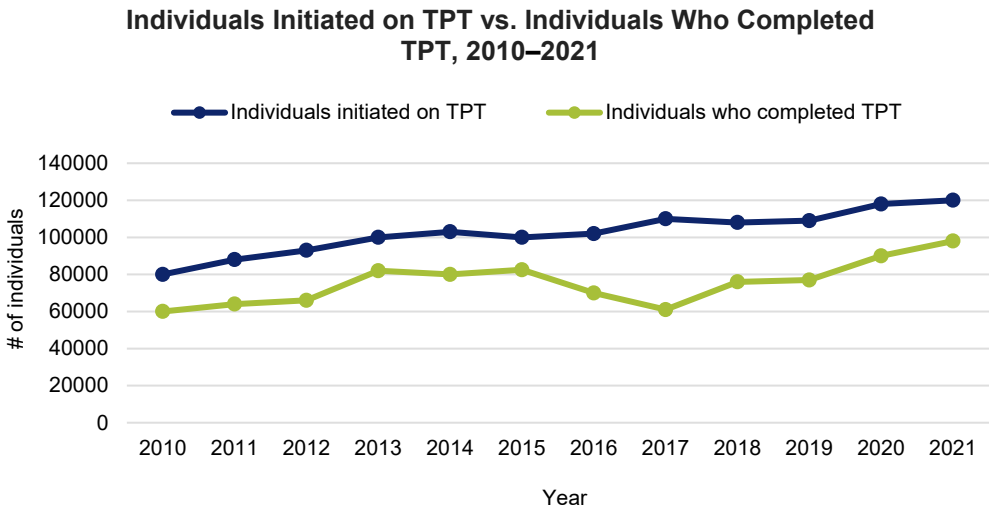
Indicator name	TPT_COMPL: TPT Completions
Definition	Number of contacts or other eligible people who completed TB preventive treatment (TPT) during the reporting period. During a given reporting period, the cohort of people who initiated TPT should be tracked to monitor the number who complete TPT. Completion data should be disaggregated by: 1.) Household contacts ages <5 years 2.) Household contacts 5 years and up 3.) People living with HIV (PLHIV)
Numerator	Number of contacts or other eligible people who completed TPT during the reporting period.
Denominator	N/A
Category	Prevent
Indicator type	Outcome
PBMEF level	Core Plus
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, risk group (contacts, PLHIV)
Reporting level	Core Plus indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources for this indicator may vary country to country. In some settings, data will be found in the TB register, TPT register, antiretroviral therapy (ART) register, or electronic management systems at the health facility and district level. This indicator can be calculated using a standard (World Health Organization) WHO indicator that can be calculated using the WHO Global TB Programme Database variable name: *newinc_con_prevtx_cmplt + hiv_all_tpt_completed*
Importance	Successful completion of TPT for eligible people is a performance indicator for TPT scale up. TPT is one of the key interventions with targets set at the United Nations High-Level Meeting (UNHLM) and recommended by the WHO to achieve the End TB Strategy targets. It is also a component of the USAID strategy to provide TPT to 30 million people by 2030. This indicator, along with the number of people who initiate TPT, measures country-level progress toward meeting targets set in a country's national strategic plan (NSP) or aligned with the UNHLM targets. Historically, TPT initiation was the only TB prevention indicator recorded by National TB Programs. In the past several years, however, the global community has made a concerted effort to monitor TPT outcomes and the completion of TPT. A person's level of protection from a course of TPT depends on the extent to which they are able to complete a full course of TPT. Therefore, it is important to monitor this indicator together with TPT initiations to ensure that a high percent of people who initiated TPT complete their treatment.

Data use and visualization	This indicator is 1 of 4 indicators reported to the U.S. Congress as required on an annual basis. See *Report to Congress on the Prevention of Tuberculosis*. Monitoring this indicator in the TPT cascade is a measure of impact and identifies where in the cascade there are gaps in screening, testing for TB infection (TBI), and initiating or completing TPT. Example charts/graphs: • TB preventive treatment cascade • Trends over time comparisons by subpopulations 
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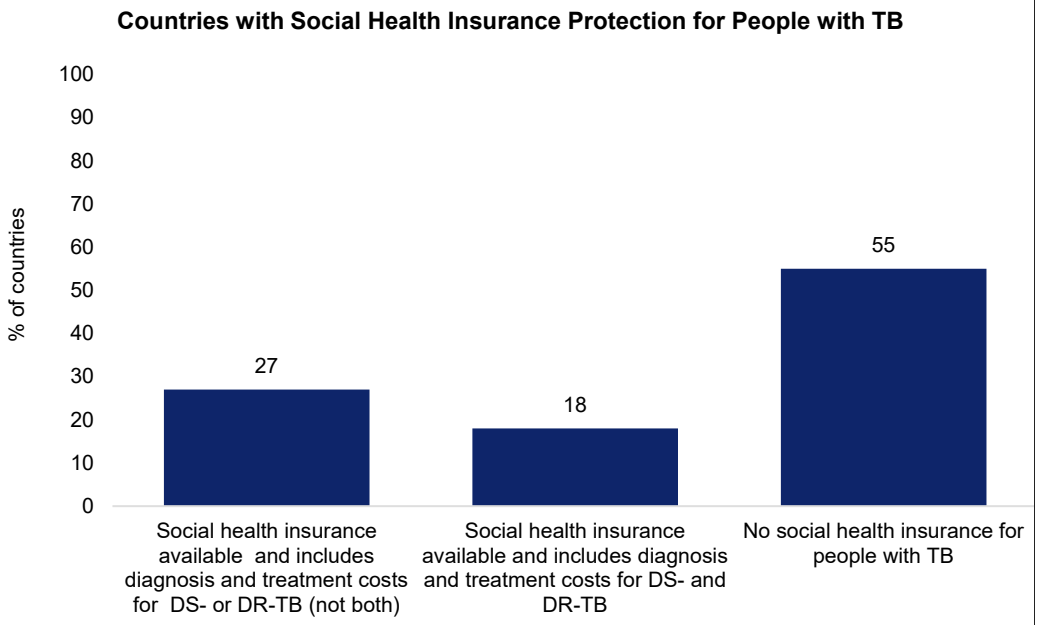
Indicator name	**SN_TB_INSUR: Existence of a national or social health insurance system whose benefit package includes TB clinical services** *Previously [SN-8B]*
Definition	Country has a national or social health insurance (NHI/SHI) scheme whose benefit package includes TB clinical services. NHI/SHI: forms of health insurance that are often administered by the government or a quasi-governmental agency, funded through contribution from taxes and/or employers and employees, and cover a package of services. Community based health insurance (CBHI) schemes are usually voluntary and characterized by community members pooling funds to offset the cost of healthcare. Some countries with CBHI schemes are adjusting the model towards integration into broader NHI/SHI schemes. For the purpose of this indicator, NHI/SHI/CBHI schemes should only be scored as being "available" if they exceed the following threshold: >50% population coverage and >2% of current health expenditure (CHE) comes from prepayment. These schemes should include diagnosis, treatment, and prevention of all forms of TB, including multidrug-resistant (MDR) TB, for all populations of the country. This indicator is intended to measure whether a country is able to source funding for TB from an insurance scheme; countries with no insurance scheme should score "0" (even if TB care is free).
Numerator	0 = EITHER No NHI/SHI scheme OR NHI/SHI insurance available but drug- sensitive (DS) TB and drug-resistant (DR) TB (diagnosis and treatment costs) are excluded 2 = NHI/SHI is available and includes diagnosis and treatment costs for DS- or DR-TB but not both 4 = NHI/SHI insurance is available and includes diagnosis and treatment costs for both DS- and DR-TB
Denominator	N/A
Category	Sustain
Indicator type	Output
PBMEF level	Core Plus
Unit of measure	Score between 0–4
Data type	Integer
Disaggregate by	N/A
Reporting level	All Core Plus indicators should be reported at the national level.
Reporting frequency	This indicator should be reported on an annual basis at a minimum.
Data source(s)	The data sources for this indicator may include a country's NHI/SHI Policy and Benefits Package. Key informant interviews with the National TB Program (NTP) may also be conducted if further review is needed.

Importance	High medical costs and lack of health insurance can contribute to catastrophic out of pocket expenditure as a result of active TB disease. Inclusion of clinical TB services (i.e., diagnostic and treatment services) in NHI/SHI schemes should help to reduce out of pocket costs for people on TB treatment. Medical care is necessary and essential in the course of people's lives, and care is increasingly expensive worldwide. However, health insurance covers all or some costs of care and protects patients or clients from very high expenses that may prevent them from seeking medical care. Studies show that insured people are more likely than uninsured people to have regular curative health care and to have routine preventive care. Those people without health insurance coverage often delay seeking needed care and find services difficult to afford.
Data use and visualization	This indicator complements the following indicators to provide a more complete picture of social support protections and health insurance schemes that support people with TB: • Country has social protection schemes available for TB patients • Percent of people with TB covered by insurance • Percent of people on DS-TB treatment who receive TB care package • Percent of people on DR-TB treatment who receive TB care package Example of data visualizations: 

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PBMEF National Level Indicators: Standard Indicator Reference Sheets (IRS)

National Level Indicators:

PEDS_BAC_CON: Percent children and adolescents (0–14 years) bacteriologically confirmed

PEDS_MDR_NOTIF: MDR-TB notifications among children and adolescents (0-14 years)

DT_CI_INIT: Percent of people with notified TB with a contact investigation initiated

DT_CON_PRES: Number of contacts with presumptive TB

DT_CON_TST: Number of contacts who received TB diagnostic testing

DT_CON_DX: Number of contacts diagnosed with active TB disease

DT_CON_TX: Number of contacts who initiated TB treatment

TX_DS_OUT: DS-TB treatment outcomes

TX_DR_OUT: DR-TB treatment outcomes

PEDS_TSR: Treatment success rate in children and adolescents (0–14 years)

PLHIV_TSR: Treatment success rate among PLHIV

TX_DS_ENROLL: DS-TB treatment initiations

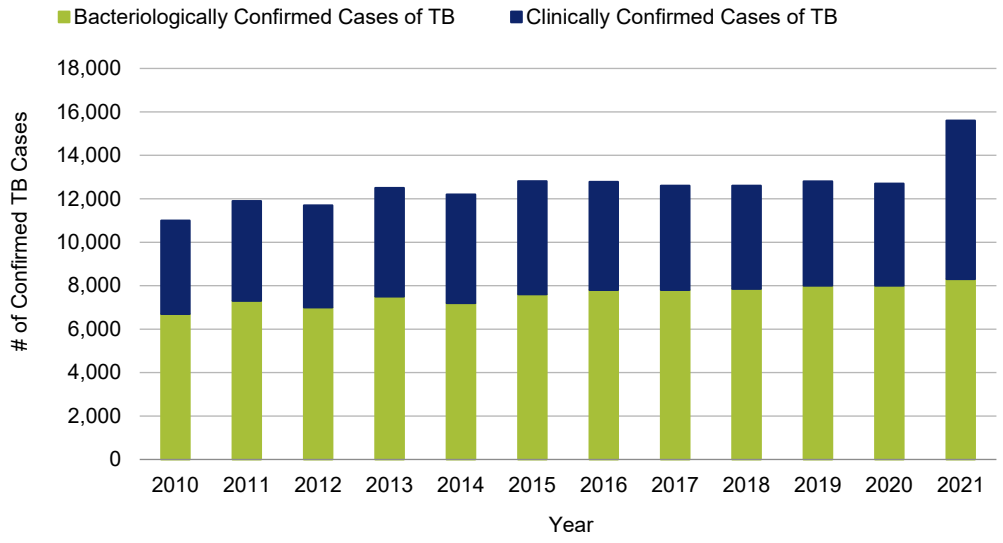
TPT_CON_04: Number of TPT initiations among contacts <5

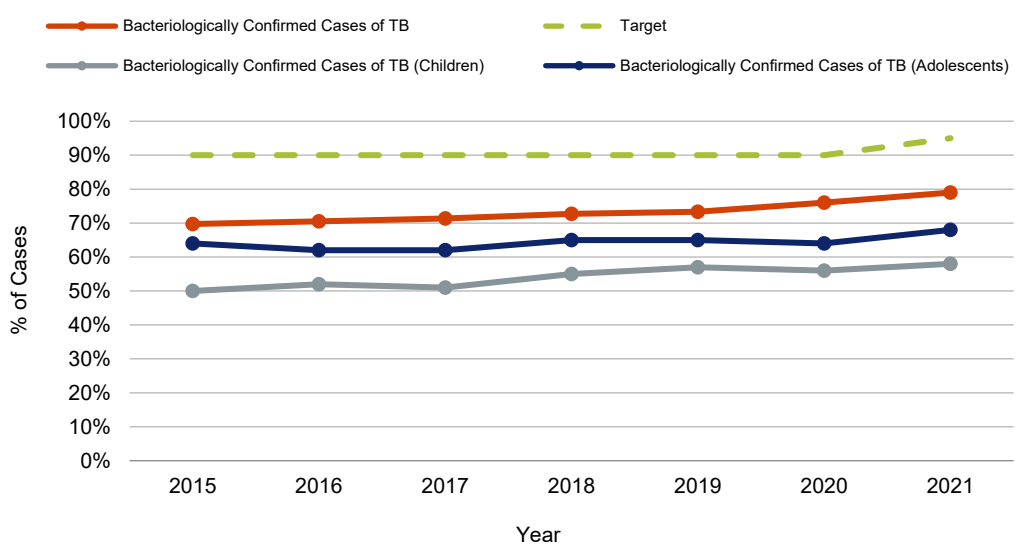
TPT_PLHIV_ENROLL: Number of TPT initiations among PLHIV

SN_CQI: CQI programs in place

SN_MQS: TB drugs meeting international minimum quality standards

Indicator name	**PEDS_BAC_CON: Percent children and adolescents (0–14 years) bacteriologically confirmed** *Previously [CH-11]*
Definition	Percent of children and adolescents (0–14 years) with new and relapse pulmonary TB who are bacteriologically confirmed. Bacteriologically confirmed: Smear positive for TB or culture positive for TB or positive for TB by a World Health Organization-recommended rapid diagnostics test (WRD) such as FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTime MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM. Note: This is a subset of the core indicator "Percent Bacteriologically Confirmed." Calculation: (Numerator/Denominator) x 100
Numerator	Number of children and adolescents (0–14 years) with new and relapse pulmonary TB who are bacteriologically confirmed during a reporting period.
Denominator	Number of children and adolescents (0–14 years) with new and relapse pulmonary TB during the reporting period.
Category	Reach
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (0–4, 5–14), sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	Data sources may include the TB register, laboratory register, and electronic management information systems at the health facility and district level.
Importance	According to 2022 WHO consolidated guidelines on tuberculosis (Module 5: Management of tuberculosis), the recommended initial diagnostic test in children and adolescents with signs or symptoms of pulmonary TB is either a WRD (FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM) for TB and rifampicin-resistance detection in sputum, gastric aspirate, nasopharyngeal aspirate and stool, rather than smear microscopy/culture and phenotypic DST and LF-LAM test (as a point-of-care test) for TB among children and adolescents (0–14 years) living with HIV. Of note, stool-based testing should be done using the Ultra cartridge on the Xpert platform which can detect trace amounts of *M.tb* (which should be interpreted as positive for children).

	Improvements in reaching children and adolescents are needed to reach the United Nations High-Level Meeting (UNHLM) targets to provide TB diagnosis and treatment with the aim of successfully treating 3.5 million children with TB and 115,000 children with drug-resistant (DR) TB by 2022. Recent advances in TB diagnosis for children, such as use of stool-based testing, will allow for more frequent bacteriological confirmation of TB among this population, which has traditionally been clinically diagnosed. These advances are important for avoiding overdiagnosis of TB based on symptoms only and for timely identification of DR-TB. National TB Programs that have prioritized TB diagnosis in children under 14 years old have begun piloting and scaling up these new approaches with USAID support, so monitoring changes in the indicator will allow stakeholders to determine whether or not they are being implemented well.
Data use and visualization	As new diagnostic approaches for childhood TB diagnosis are piloted and scaled up in high burden countries, this indicator should increase over time. This indicator can be analyzed as a trend over time and can be visualized in comparison to clinically diagnosed children and adolescents (0–14 years). It can also be compared to childhood and adolescent TB detection. Although the new diagnostic approaches are expected to improve bacteriological confirmation for children with TB, 40% to 50% of children with TB will continue to be diagnosed clinically due to suboptimal specificity. Low bacteriological diagnosis coverage among children and adolescents 0–14 years may be due to several contributing factors, including over-reliance on clinical diagnosis by the healthcare providers, gaps in referral for specimen testing with providers who are not familiar with new approaches such as stool-based testing, weak sample transport networks, breakdown of diagnostic platforms, stockout of consumables required for testing, and weaknesses in the system for reporting results to providers. Improved supervision and training, as well as improved supply chain, can help address these issues and improve performance on this indicator. **Bacteriologically Confirmed vs. Clinically Confirmed TB Cases in Children and Adolescents (0–14 years), 2010–2021** 



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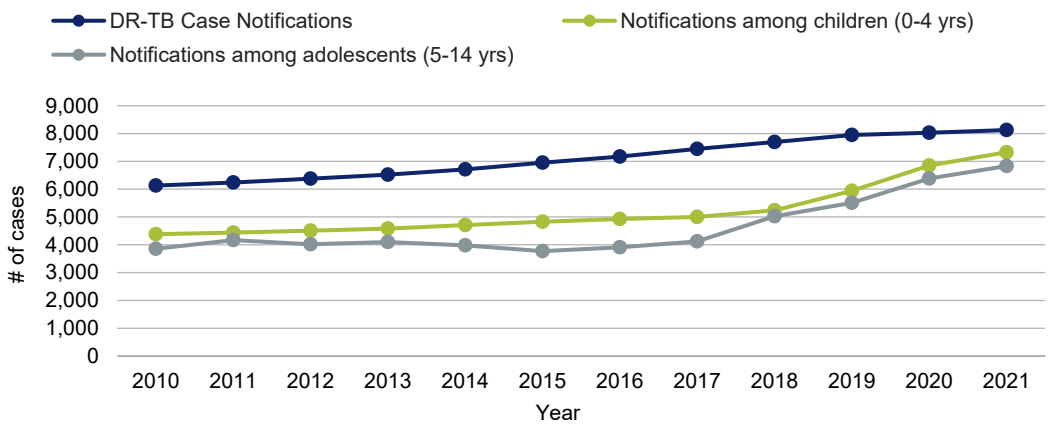
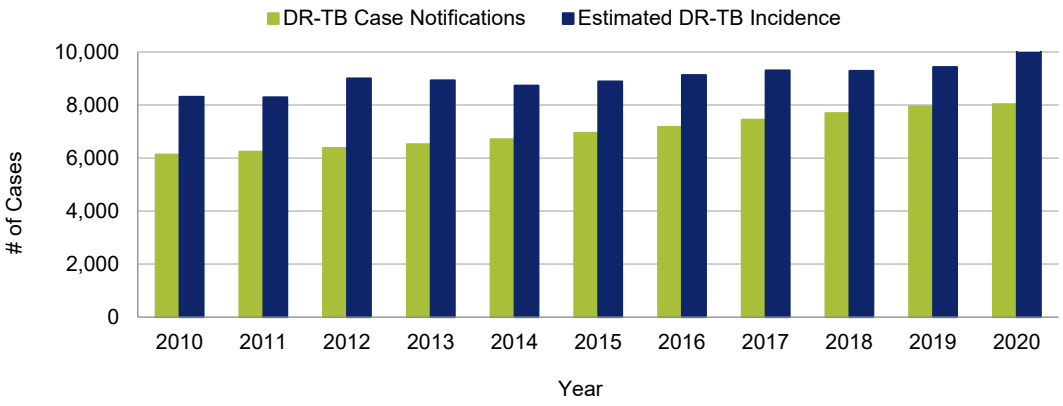
Indicator name	**PEDS_MDR_NOTIF: MDR-TB notifications among children and adolescents (0–14 years)** *Previously [CH-13]*
Definition	Number of children and adolescents (0–14 years) with rifampicin-resistant (RR) and multidrug-resistant (MDR) TB notified during the reporting period; pre-extensively drug-resistant (pre-XDR) and extensively drug-resistant (XDR) TB should not be reported in addition to the RR/MDR-TB notifications. RR/MDR TB: RR-TB is TB caused by Mycobacterium Tuberculosis (M. tuberculosis) strains that are resistant to rifampicin; MDR-TB strains are resistant to at least both rifampicin and isoniazid. Note: pre-XDR/XDR notifications should not be added to RR/MDR-TB notifications to avoid double counting of DR-TB notifications. Children who are diagnosed with pre-XDR and XDR-TB will already have been identified and recorded as having RR/MDR-TB. The number of RR/MDR-TB notifications should therefore equal the total number of DR-TB notifications.
Numerator	Number of children and adolescents (0–14 years) with notified DR-TB during the reporting period (both lab-confirmed and clinically diagnosed).
Denominator	N/A
Category	Reach
Indicator type	Outcome
PBEMF level	National Level
Unit of measure	Number of children and adolescents
Data type	Integer
Disaggregate by	Age (0–4, 5–9, 10–14), sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	Data sources may include the TB register, RR/MDR-TB register, or laboratory information and electronic medical record systems (LIMS, EMR) available at the health facility and district level.
Importance	Understanding the burden of DR-TB in children is key for any National TB Program (NTP) to respond accordingly. Researchers have estimated that between 25,000 and 32,000 children develop MDR-TB every year. MDR-TB, a form of TB that is resistant to 2 of the most potent anti-TB drugs (rifampicin and isoniazid), is a major contributor to antimicrobial resistance. Children acquire DR-TB mainly through transmission from household and/or close contact with an infectious adult or adolescent with MDR-TB. The diagnosis of DR-TB can be challenging, especially in young children, as they cannot easily produce a sputum sample for bacteriological testing, and because tests lack sensitivity to detect the low number of bacilli in samples of children. The World Health Organization (WHO) now recommends the use of less invasive, non-

	sputum based, samples to test with rapid molecular diagnostics, to confirm the diagnosis of RR-TB, such as stool and naso-pharyngeal aspirates. Child and adolescent DR-TB notification measures a country's ability to detect drug resistance among children (0–14 years) who have TB disease. Data on DR-TB child and adolescent notifications are also valuable for planning second-line drug (SLD) procurement and prioritizing supervision. Child-friendly SLD formulations are difficult to manufacture; supply at a global level is fragile. Thus, accurate data on the number of children and adolescents notified with DR-TB is especially critical for ensuring the medications are available.
Data use and visualization	Child and adolescent DR-TB notifications can be analyzed as a trend over time to show the total number of children with TB detected within a given country. The number of child and adolescent DR-TB notifications can further be broken down by age categories to show the percent of children and adolescents with DR-TB occurring in children under 5 years of age and children between the ages of 5 and 14. Childhood and adolescent DR-TB notifications can be compared to the total number of DR-TB notifications within a country to see what percent of people who have DR-TB are children. Data can also be collected at the subnational level and used to learn from the geographic distribution of children with DR-TB; for example, to identify outbreaks of DR-TB. Data should be reported annually at a minimum but semiannual or quarterly reporting will improve the timeliness of data for decision making. Example charts/graphs: **DR-TB Case Notification among Children and Adolescents, 2010–2021**  **DR-TB Case Notification vs. Estimated DR-TB Incidence among Children and Adolescents, 2010–2021** 

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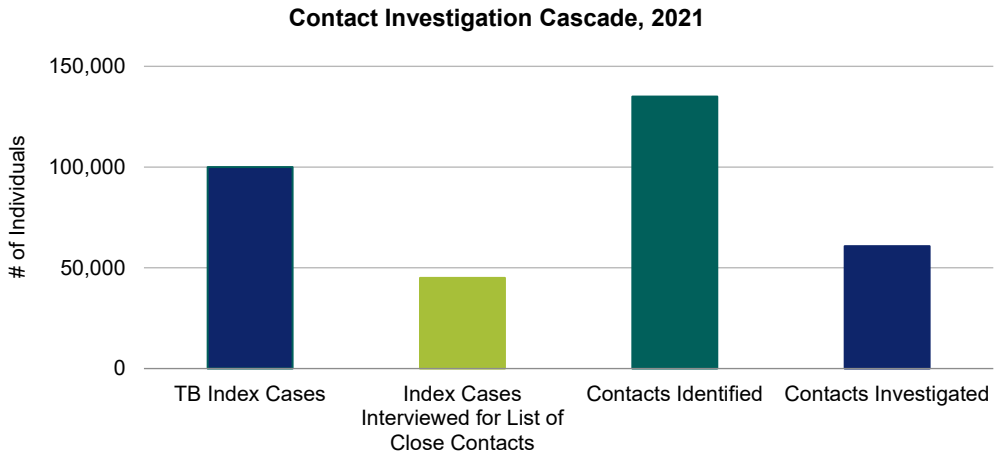
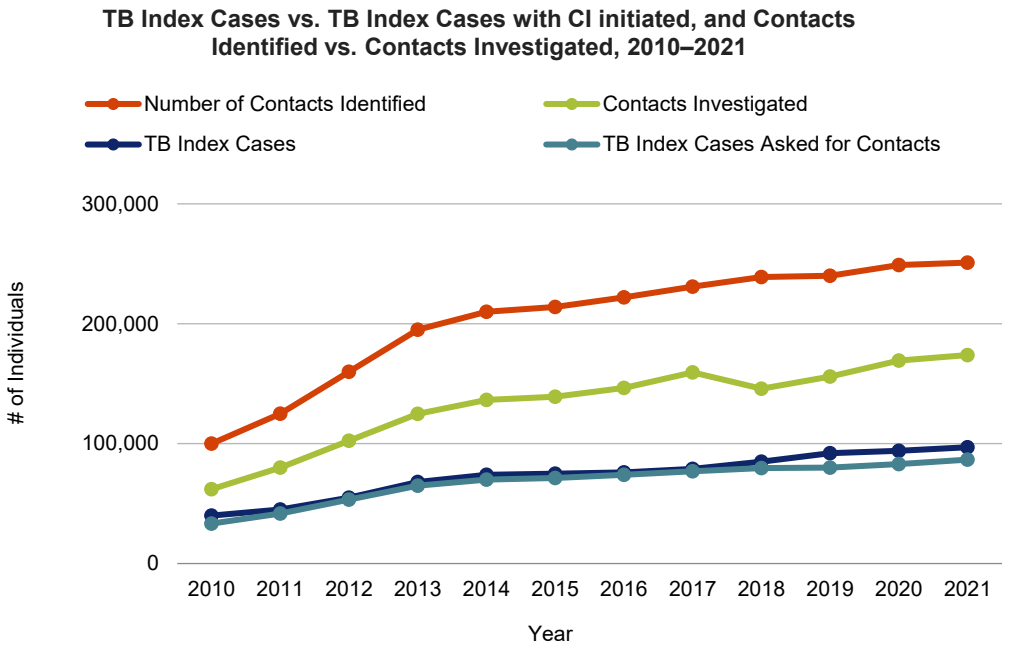
Indicator name	**DT_CI_INIT: Percent of people with notified TB with a contact investigation initiated** *Previously [CI-8]*
Definition	Percent of people with notified pulmonary TB who had a contact investigation (CI) initiated. CI initiated: For the purpose of this indicator, "initiated" refers to the process of enumeration of all known contacts to an index TB case. CI will include the evaluation of those contacts to determine if any have active TB disease or TB infection (TBI) through symptom screening, diagnostic testing, chest X-ray (CXR), or clinical evaluation. Index case: Person with pulmonary TB who is notified to health authorities.
Numerator	Number of people with notified pulmonary TB with a CI initiated.
Denominator	Number of people with notified pulmonary TB during the reporting period.
Category	Reach/Prevent
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Percent of people with TB
Data type	Percentage
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly, monthly, or weekly basis is recommended.
Data source(s)	Data sources include the TB register, CI register, laboratory testing register, and electronic management information systems available at the health facility and district level.
Importance	CI will reduce TB transmission in the community through early identification and treatment of people with active TB disease and identification and initiation of TPT for people with TBI. A World Health Organization (WHO) guideline review found an effective CI yield of 3.4% (95% CI: 2.9,3.8) among contacts to bacteriologically confirmed (bac+) index cases, 3.9% (95% CI: 2.5, 5.4) among contacts <5 years old, 3.7% (95% CI: 2.4, 5.3) among MDR/XDR contacts, and 11.6% (95% CI: 8.2,15.4) among contacts who were also HIV infected. [2022 WHO consolidated guidelines on tuberculosis. Module 2: screening – systematic screening for tuberculosis disease. pg. 17] This indicator provides data to identify gaps in the first step of CI service delivery.
Data use and visualization	The percent of people with TB with CI initiated (the number of people with notified TB who had a CI initiated divided by the total number of people with notified TB) provides a measure of how thoroughly programs are conducting CI activities. When analyzed over time, it can identify gaps and opportunities to find unrecognized people with TB. This is the first step in the CI cascade. Broader CI cascade analyses can be used to identify 'hot spots' for drug- sensitive (DS) TB and drug-resistant (DR) TB in the community and trends over time to determine the number of contacts needed to screen (NNS) or the number of contacts needed to test (NNT) to find a new

case. They can also provide information to understand contact-tracing performance and yield in health facilities and across subnational levels to guide implementation and planning for scale up.

Example charts/graphs:

- CI cascade
- Trends over time of percent of people with notified TB who have a CI initiated comparisons
- Scatterplot comparing coverage of people with TB with CI done and CI completed for contacts identified





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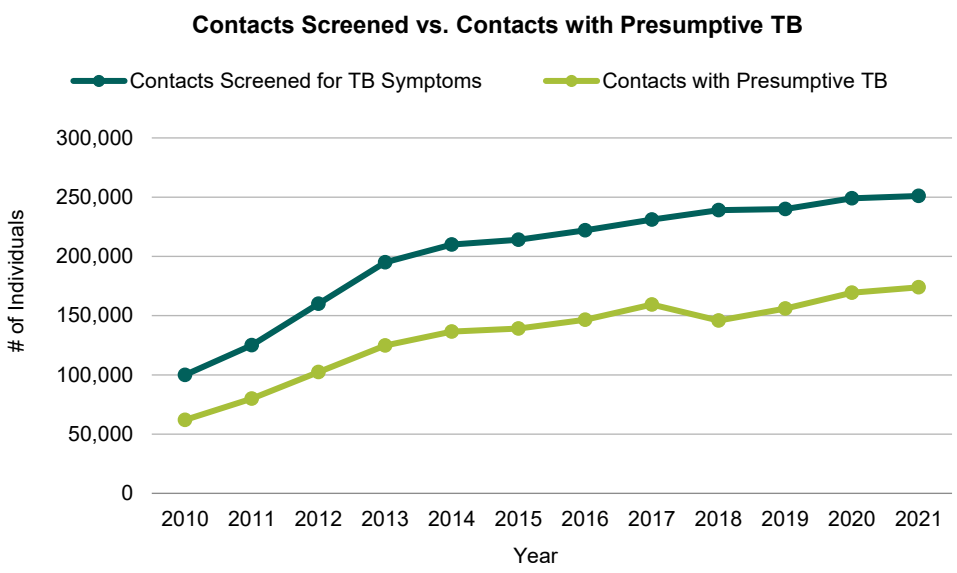
Indicator name	DT_CON_PRES: Number of contacts with presumptive TB
Definition	Number of contacts to a person with notified pulmonary TB who have signs or symptoms of TB, as defined by the World Health Organization (WHO) 4 symptom screen or the National TB Program (NTP) (i.e., have presumptive TB). Presumptive TB: a person who has one or more signs or symptoms of active TB disease and should be referred for diagnostic testing to diagnose or rule out active disease.
Numerator	Number of contacts with presumptive TB
Denominator	N/A
Category	Reach
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Number of contacts
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	Data sources may include the TB register, contact investigation (CI) register, laboratory register, and electronic management information systems available at the health facility and district level.
Importance	CI will reduce TB incidence and transmission in the community through early identification and treatment of people with active TB disease and identification and initiation of TB preventive treatment (TPT) for people with TB infection (TBI). This indicator provides data for an important step in the CI cascade and allows users to measure the percent of contacts who are presumptive for active TB. Together with CON_TST and CON_DX, the percent of contacts with presumptive TB who receive diagnostic testing, and the percent who are diagnosed with active TB disease can be monitored over time. These trends are important measures of how well CI programs are functioning by documenting TB case finding yield of Cis.
Data use and visualization	The number of contacts with presumptive TB can be used to calculate the percent of contacts with presumptive TB by dividing this indicator by the number of contacts who were screened for TB (reported as the numerator in the core indicator on CI). When combined with the number of contacts diagnosed with active TB disease, this indicator can inform programs on the positive diagnostic yield of a CI program. Example charts/graphs: • CI cascade • Trends over time comparisons



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Indicator name	**DT_CON_TST: Number of contacts who received TB diagnostic testing** *Previously [CI-10]*
Definition	Number of contacts to a person with notified pulmonary TB with signs or symptoms of TB (e.g., presumptive TB) who received diagnostic testing for TB. Diagnostic testing includes smear, culture or a World Health Organization recommended rapid diagnostics test (WRD) such as FluoroType® MTB (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB, RealTime MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM.
Numerator	Number of contacts to a person with notified pulmonary TB who received diagnostic testing for presumed TB.
Denominator	NA
Category	Reach
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Number of contacts
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly, monthly, or weekly basis is recommended.
Data source(s)	Data sources may include the TB register, contact investigation (CI) register, laboratory register, and electronic management information systems available at the health facility and district level.
Importance	CI is important both for active case finding and TB preventive treatment (TPT). CI identifies people recently exposed to TB with a high risk of developing TB disease or TB infection (TBI) and can help early detection and treatment and reduce the spread of TB in a community. This indicator along with the number of presumptive bacteriologically confirmed provides a measure of the yield of Cis, allowing a calculation of the numbers needed to screen (NNS) and the number needed to test (NNT) to find a person with TB.
Data use	The number of contacts with presumptive TB who received diagnostic testing and who tested positive provides an important data point when analyzing the CI cascade. Example charts/graphs: • CI cascade • Trends over time comparisons
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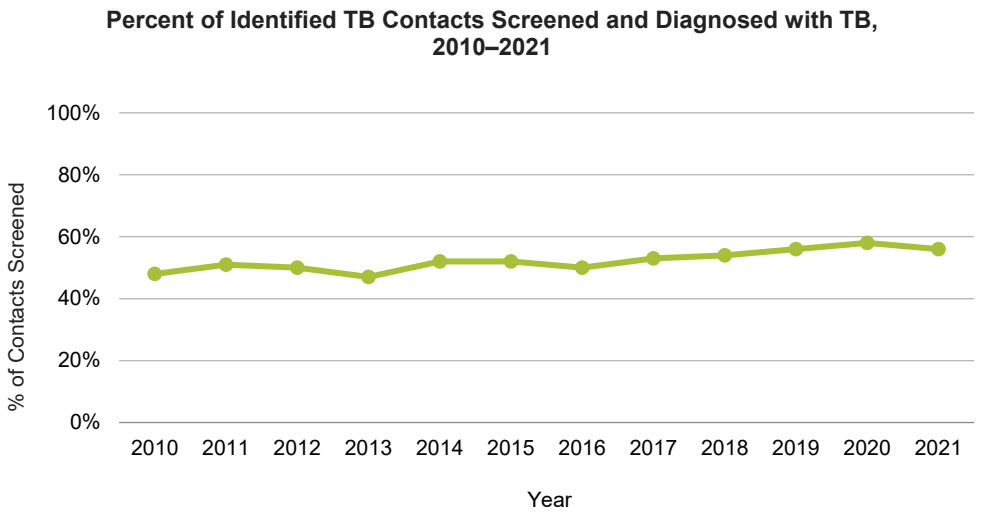
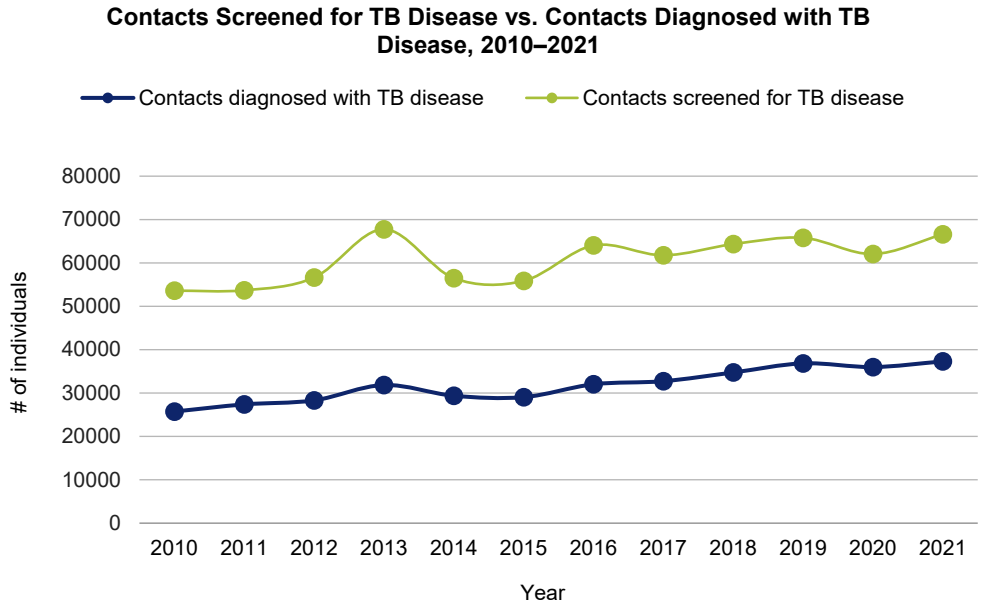
Indicator name	**DT_CON_DX: Number of contacts diagnosed with active TB disease** *Previously [CI-4]*
Definition	Number of contacts diagnosed with TB disease (both bacteriologically and clinically confirmed) among all contacts who were screened for TB disease during the reporting period.
Numerator	Number of contacts who were diagnosed with TB disease (both bacteriologically and clinically confirmed).
Denominator	N/A
Category	Reach
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Number of contacts
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly, monthly, or weekly basis is recommended.
Data source(s)	TB register, contact investigation (CI) register, laboratory register, and electronic patient management information systems available at the health facility and district level. This standard World Health Organization (WHO) indicator can also be calculated using the WHO Global TB Programme database variable: newinc_con_tb.
Importance	CI is important both for active case finding and TB preventive treatment (TPT). CI identifies people recently exposed to TB with a high risk of developing TB disease or TB infection (TBI) and can help early detection and treatment and reduce the spread of TB in a community. This indicator provides the yield of TB detection from all contacts evaluated for TB disease, which is an important indicator to monitor over time as different case finding approaches are used in context. Research suggests that up to 5% of all contacts of people with bacteriologically confirmed TB may be found to have TB disease, so this threshold could be used to identify major outliers and potential gaps in CI activities.
Data use and visualization	The number of contacts detected with active TB disease can be divided by the total number of contacts to provide the TB detection yield from CI activities. When analyzed over time, it can provide insights on gaps in CI; for example, a sudden decrease or increase should be explored to identify any changes in CI that should be considered. It can be analyzed as a trend over time or to understand contact-tracing performance across subnational levels. Example charts/graphs: • CI cascade • Trends over time comparisons





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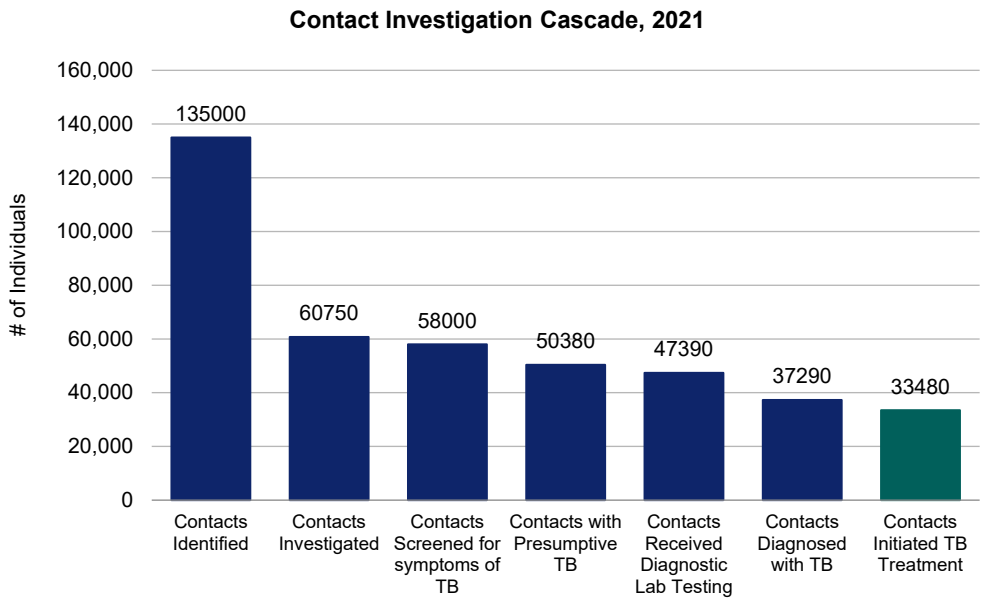
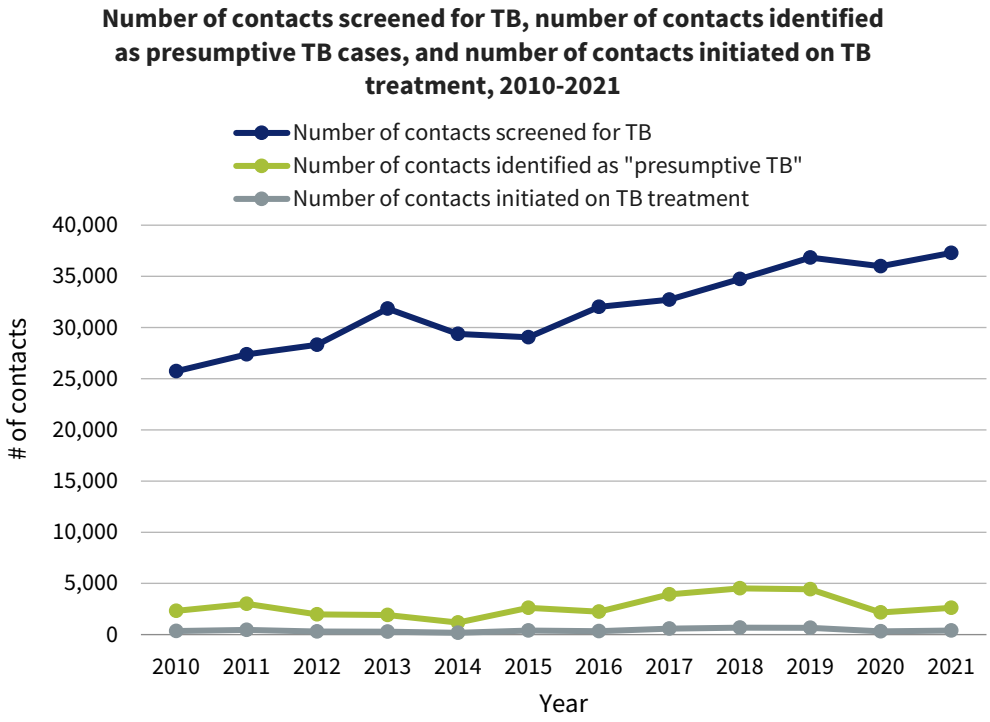
Indicator name	**DT_CON_TX: Number of contacts who initiated TB treatment** *Previously [CI-11]*
Definition	Number of contacts diagnosed with active TB disease who initiated TB treatment.
Numerator	Number of contacts who initiated TB treatment.
Denominator	NA
Category	Reach
Indicator type	Outcome
PBEMF level	National Level
Unit of measure	Number of contacts
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	TB register, contact investigation (CI) register, laboratory register, and electronic management information systems are available at the health facility and district level.
Importance	CI is important both for active case finding and TB preventive treatment (TPT). CI identifies people recently exposed to TB with a high risk of developing TB disease or TB infection (TBI). This indicator provides information on how well a program's CI efforts are linking contacts who are diagnosed with TB to TB treatment.
Data use and visualization	The number of contacts who were initiated on TB treatment provides an important data point when analyzing the CI cascade. Example charts/graphs: • CI cascade • Trends over time comparisons





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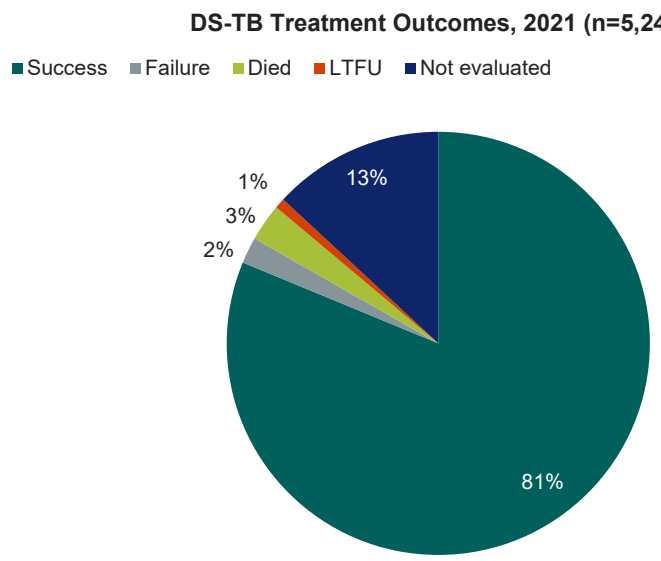
Indicator name	**TX_DS_OUT: DS-TB treatment outcomes** *Previously [SN-2 through SN-5]*
Definition	Number of people with drug- sensitive (DS) TB (new and relapse), all forms, with each defined DS-TB treatment outcome, among the cohort of people who were initiated DS-TB treatment during a reporting period. Cohort reporting: Treatment outcomes are defined by the time of initiation on treatment; e.g., "2018 cohort successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019. For this reason, reports of treatment outcome data lag by one year.
Numerator	Number of people with DS-TB (new and relapse), all forms, with each defined DS-TB treatment outcome (defined below), among the cohort of people who were initiated DS-TB treatment during a reporting period. DS-TB Treatment outcomes: Successfully treated: Cure or completed treatment. Cure: A patient with pulmonary TB with bacteriologically confirmed TB at the beginning of treatment who completed treatment as recommended by the national policy, with evidence of bacteriological response and no evidence of failure. "Bacteriological response" refers to bacteriological conversion with no reversion: • "Bacteriological conversion" describes a situation in a patient with bacteriologically confirmed TB where at least 2 consecutive cultures or smears taken on different occasions at least 7 days apart are negative; and • "Bacteriological reversion" describes a situation where at least 2 consecutive cultures or smears taken on different occasions at least 7 days apart are positive either after the bacteriological conversion or in patients without bacteriological confirmation of TB. Completed treatment: A patient who completed treatment as recommended by the national policy but whose outcome does not meet the definition for cure or treatment failure. Lost to follow-up (LTFU): A patient who did not start treatment or whose treatment was interrupted for 2 consecutive months or more. Treatment failed: A patient whose treatment regimen needed to be terminated or permanently changed to a new regimen or treatment strategy. Reasons for the change include: • No clinical response or no bacteriological response, or both (see note 'b') • Adverse drug reaction (ADR) • Evidence of additional drug-resistance to medicines in the regimen Died: A patient who died for any reason before starting treatment or during the course of treatment. Not Evaluated: A patient for whom no treatment outcome was assigned. This includes cases "transferred out" to another treatment unit and whose treatment outcome is unknown; however, it excludes those LTFU. (World Health Organization [WHO] revised treatment definitions for both DS and drug-resistant (DR) TB (Ch.10): https://tbksp.org/en/node/617
Denominator	N/A (cohort size reported under core DS-TB treatment success rate [TSR] indicator)
Category	Cure
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Number of people

Data type	Integer
Disaggregate by	Age (<15, 15+), sex, HIV status, treatment outcome (defined above)
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are the TB register or electronic management information systems available at the health facility and district level. Quarterly cohort analysis reports may also be used if these analyses are being conducted. The following WHO indicators can be used to report this indicator: *Successfully treated: newrel_succ* *LTFU: newrel_lost* *Treatment failed: newrel_fail* *Died: newrel_died* *Not Evaluated: newrel_neval*
Importance	Systematic analysis of treatment outcomes for people initiated on DS-TB treatment is an important activity to track the quality of TB services and measures the National TB Program's (NTP) ability to ensure successful completion of TB treatment. Monitoring various treatment outcomes reported under this indicator is useful in understanding reasons for suboptimal treatment success, which is a key outcome in the USAID TB strategy. As a WHO standard indicator, the percent of people with DS-TB who died during treatment allows countries to monitor their progress in reducing the number of deaths due to TB among those who are diagnosed and initiating treatment. High death rates in a treatment cohort may be indicative of long delays in diagnosis and treatment regimens, problems with selected treatment regimens, or lack of support for those on TB treatment.
Data use and visualization	Cohort analysis of treatment outcomes is a major management tool for monitoring the effectiveness of the NTP. The treatment success rate (a core indicator) is a useful way to monitor success of treatment. The treatment success rate is a subset of data from this indicator. The data reported for each treatment outcome in this indicator should be compared to the cohort size which is reported with the core indicator for TSR; to determine the percent of people with each outcome, divide the number of people with the outcome by the number of people in the treatment cohort (*newrel_coh*). The percent LTFU can also be a useful metric for analysis. Ideally, there should be no LTFU during treatment, and a high rate of LTFU (5% or above) may warrant further investigation. The percent of people who died during TB treatment can also be analyzed as a trend showing whether the rate of death is increasing or decreasing over time. Monitoring this indicator is important as countries strive to reach zero deaths due to TB but it can also prompt NTPs to implement additional or better-targeted treatment support services with the aim of improving DS-TB treatment outcomes. This indicator should also be considered in the context of HIV prevalence or other co-infections, since a high percent of HIV-associated TB (or other comorbidities) will result in a greater number of deaths. Death rates above 5% may warrant a formal analysis of deaths that occur while on treatment, to ensure those on DS-TB treatment do not have DR-TB. Example charts/graphs: • TB outcome pie chart trend over time comparisons • TB treatment cascade



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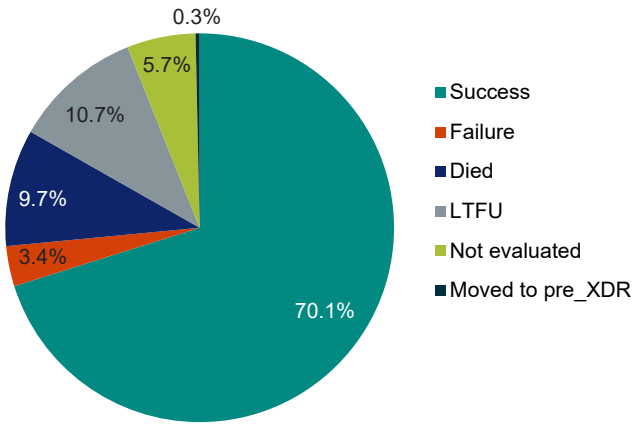
Indicator name	**TX_DR_OUT: DR-TB treatment outcomes** *Previously [RS-2 through RS-5]*
Definition	Number of people with drug-resistant (DR) TB (rifampicin-resistant [RR] and multidrug-resistant [MDR] and pre-extensively drug-resistant [pre-XDR] and extensively drug-resistant [XDR] TB) with each of the defined DR-TB treatment outcomes, among the cohort of people who were initiated on DR-TB treatment during a defined reporting period. Cohort reporting: Treatment outcomes are defined by the time of initiation on treatment; e.g., "2018 cohort successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019 or 2020. For this reason, reports of DR-TB treatment outcome data lag by 1–2 years.
Numerator	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) with each of the treatment outcomes (defined below), among the cohort of people who were initiated on DR-TB treatment during a defined reporting period. DR-TB Treatment outcomes: Successfully treated: Cure or completed treatment. Cure: A patient with pulmonary TB with bacteriologically confirmed TB at the beginning of treatment who completed treatment as recommended by the national policy, with evidence of bacteriological response and no evidence of failure. "Bacteriological response" refers to bacteriological conversion with no reversion: • "Bacteriological conversion" describes a situation in a patient with bacteriologically confirmed TB where at least 2 consecutive cultures taken on different occasions at least 7 days apart are negative; and • "Bacteriological reversion" describes a situation where at least 2 consecutive cultures taken on different occasions at least 7 days apart are positive either after the bacteriological conversion or in patients without bacteriological confirmation of TB. Completed treatment: A patient who completed treatment as recommended by the national policy but whose outcome does not meet the definition for cure or treatment failure. Lost to follow-up (LTFU): A patient who did not start treatment or whose treatment was interrupted for 2 consecutive months or more. Treatment failed: A patient whose treatment regimen needed to be terminated or permanently changed to a new regimen or treatment strategy. Reasons for the change include: • No clinical response or no bacteriological response, or both (see note 'b') • Adverse drug reaction (ADR) • Evidence of additional drug-resistance to medicines in the regimen Died: A patient who died for any reason before starting treatment or during the course of treatment. Not Evaluated: A patient for whom no treatment outcome was assigned. This includes cases "transferred out" to another treatment unit and whose treatment outcome is unknown; however, it excludes those LTFU. (World Health Organization [WHO] revised treatment definitions for both drug- sensitive (DS) and DR-TB (Ch.10): https://tbksp.org/en/node/617
Denominator	N/A (cohort size reported under core treatment success rate [TSR] indicator)
Indicator type	Outcome
Category	Cure
PBMEF level	National Level
Unit of measure	Number of people

Data type	Integer
Disaggregate by	Age (<15, 15+), sex, HIV status, treatment outcome (defined above)
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are basic management unit DR-TB register or electronic management information systems available at the health facility and district level. Quarterly DR-TB cohort analysis reports may also be used if these analyses are being conducted. The following WHO indicators can be used to report this indicator: *Successfully treated: mdr_succ + xdr_succ* *LTFU: mdr_def + xdr_def* *Treatment failed: mdr_fail + xdr_fail* *Died: mdr_died + xdr_died* *Not Evaluated: c_mdr_neval + c_xdr_neval*
Importance	Systematic analysis of treatment outcomes for people initiated on DR-TB treatment is an important activity to track the quality of TB services and measures the National TB Program's (NTP) ability or inability to support people to successfully complete DR-TB treatment. Monitoring various treatment outcomes reported under this indicator is useful in understanding reasons for suboptimal treatment success, which is a key outcome in the USAID TB strategy. High death rates may be indicative of people who were not identified with DR-TB early enough, problems with treatment regimens, or poor treatment management. High treatment failure rates can be indicative of problems with choice of second-line treatment regimen, drug quality, poor clinical management of DR-TB and/or a lack of treatment adherence support services. High LTFU can be indicative of poor treatment management and/or a lack of treatment support services; high numbers of people not evaluated can also be indicative of poor patient management or poor documentation practices.
Data use and visualization	Cohort analysis of treatment outcomes is a major management tool for monitoring the effectiveness of the National TB Program. The data reported for each treatment outcome in this indicator should be compared to the cohort size which is reported with the core indicator for DR-TB TSR*;* to determine the percent of people with each outcome, divide the number of people with the outcome by the number of people in the cohort (*mdr_coh + xdr_coh*). The percent of people who experienced each DR-TB treatment outcome can be analyzed as a trend to show improvements in treatment outcomes over time. Monitoring this indicator is important as countries strive to reach zero deaths due to TB, but it can also prompt NTPs to implement additional or better-targeted treatment support services for people with DR-TB, with the aim of improving treatment outcomes. Example charts/graphs: • DR-TB outcome pie chart • Trend over time comparisons • DR-TB treatment cascade



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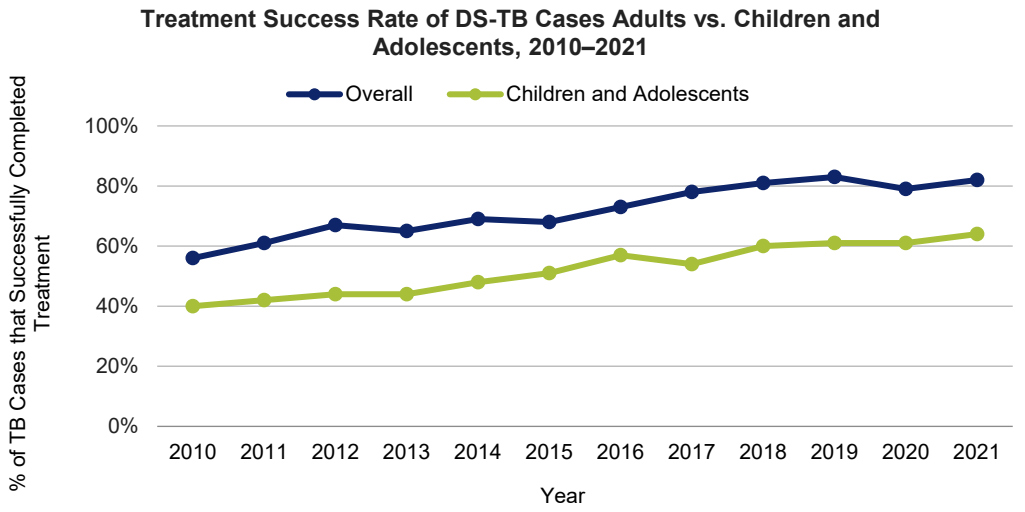
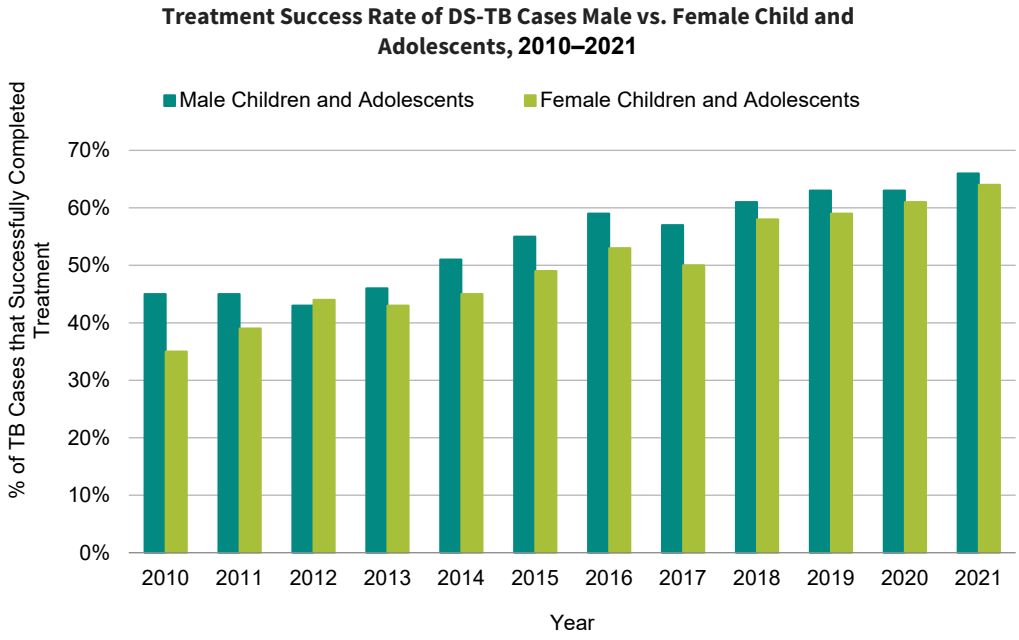
Indicator name	PEDS_TSR: Treatment success rate in children and adolescents (0–14 years)
Definition	Percent of children and adolescents (0–14 years) who were cured or completed treatment for drug- sensitive (DS) TB among the total number of children and adolescents (0–14 years) with new and relapse TB who were initiated on treatment for DS-TB during the same reporting period (excluding those moved to drug-resistant [DR] TB treatment cohort). Treatment outcomes are defined by the time of initiation on treatment; e.g., "2018 cohort successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019. For this reason, reports of treatment outcome data lag by one year. This indicator is a subset of the data reported in the core indicator "Treatment success rate" (TSR).
Numerator	Number of children and adolescents (0–14) with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary), who were registered in a specified period that were cured or completed treatment.
Denominator	Number of children and adolescents (0–14) with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who initiated treatment in the same period.
Category	CURE
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Percent of children
Data type	Percentage
Disaggregate by	Sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data sources	This indicator is reported by National TB Program (NTP) official records. *Quarterly report on TB treatment outcomes in the basic management unit* and *Form 07: Combined annual outcomes report for basic TB and for RR-/multidrug-resistant (MDR)-TB.*
Importance	TSR among children and adolescents aged 0–14 years is an important indicator of the quality of TB services, as it measures the NTP's capacity to support young patients through a complete course of treatment with a favorable outcome. Successful treatment requires a stable supply of appropriate, child-friendly TB medications; management of side effects; and various efforts to support children with TB and their caregivers so they can complete the full course of treatment. This indicator measures the successful treatment of a cohort of people with TB, which is essential to reducing morbidity and mortality due to TB and to prevent the further spread of the infection. The TSR allows countries to monitor progress towards meeting global and national targets and to determine whether more resources are required to improve treatment outcomes by reducing death, loss to follow-up (LTFU), and the percent of people with an outcome that is not evaluated. Detecting and successfully treating a large percent of people with TB should have an immediate impact on TB prevalence and mortality. Low TSRs may indicate inappropriate treatment regimens being administered, poor treatment management, adverse side effects, or comorbidities leading to death or LTFU. An understanding of why treatment success may be low is important to be able to implement solutions for improving patient care.
Data use and visualization	TB TSR in children and adolescents can be analyzed as a trend showing whether treatment success is stable, improving or decreasing over time, and to compare the rate to national and global TSR targets. A comparison of children with TB initiated on treatment and successfully completing treatment using a cascade of care will highlight the gap in the cascade where some people were lost during the treatment phase. The gap between treatment initiation and treatment success can be further broken down to understand why pediatric patients had unfavorable

treatment outcomes (e.g., death, LTFU, treatment failure, or unknown outcomes). Below are examples one can use when presenting this indicator.





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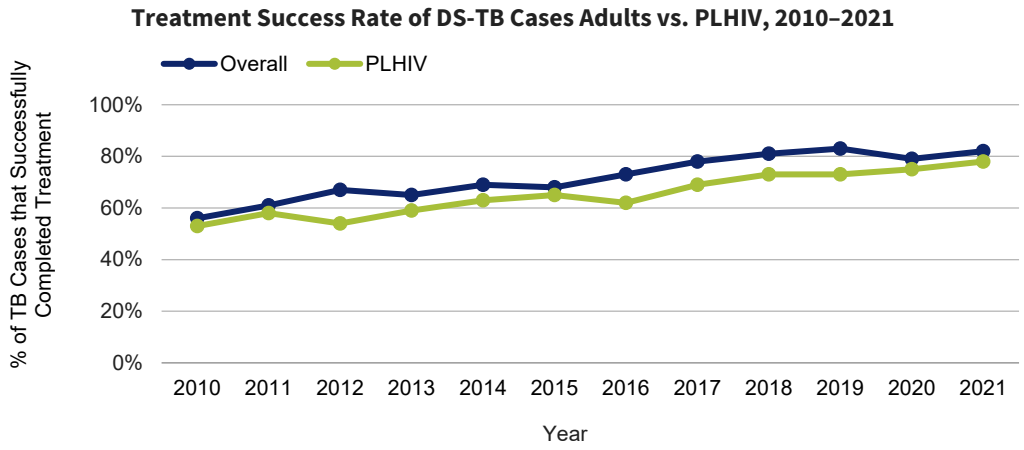
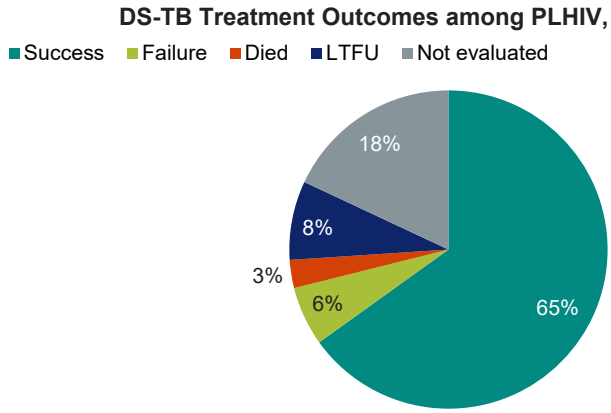
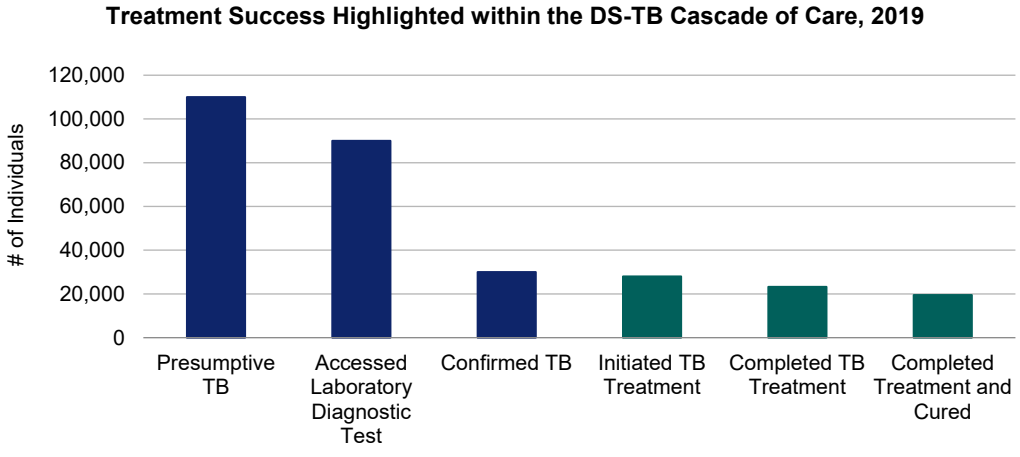
Indicator name	PLHIV_TSR: Treatment success rate among PLHIV
Definition	Percent of people living with HIV (PLHIV) with new and relapse TB among PLHIV (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who were notified in a specified period that were cured or treatment completed, among the total number of people with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who were initiated on treatment during the same reporting period (excluding those moved to RR-TB treatment cohort). Treatment outcomes are defined by the time of initiation on treatment; e.g., "2018 cases successfully treated" reflect those who were initiated on treatment in 2018, even though treatment may have extended into 2019. For this reason, reports of treatment outcome data lag by one year. Calculation: (Numerator/Denominator) x 100
Numerator	Number of PLHIV with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary), who were registered in a specified period that were cured or treatment completed.
Denominator	Number of PLHIV with new and relapse TB (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary) who initiated treatment in the same period.
Category	CURE
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Percent of PLHIV
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data sources	This indicator is reported by National TB Program (NTP) official records. *Quarterly report on TB treatment outcomes in the basic management unit* and *Form 07: Combined annual outcomes report for basic TB and for RR-/multidrug-resistant (MDR)-TB.*
Importance	Treatment success is an important indicator of the quality of TB services, as it measures the National TB Program's (NTP) capacity to support patients through a complete course of treatment with a favorable outcome. Successful treatment requires a stable supply of TB medications, management of side effects and various efforts to support people with TB so they can complete the full course of treatment. This indicator measures the successful treatment of a cohort of people with TB, which is essential to prevent the spread of the infection. The treatment success rate (TSR) allows countries to monitor progress towards meeting global and national targets and to determine whether more resources are required to improve treatment outcomes by reducing death, loss to follow-up (LTFU), and the percent of people with an outcome that is not evaluated. Detecting and successfully treating a large percent of people with TB should have an immediate impact on TB prevalence and mortality. Low TSRs may indicate problems with the treatment regimens being administered, poor treatment management, adverse side effects, or comorbidities leading to death or LTFU. An understanding of why treatment success may be low is important to be able to implement solutions for improving patient care.
Data use and visualization	TB TSR can be analyzed as a trend showing whether treatment success is stable, improving or decreasing over time, and to compare the rate to national and global treatment success rate targets. A comparison of people with TB who initiated treatment and successfully completed treatment using a cascade of care will highlight the gap in the cascade where some people were lost during the treatment phase. The gap between treatment initiation and treatment success can be further broken down to understand why people were unsuccessful with treatment (e.g., death, LTFU, treatment failure, or unknown outcomes). TSRs can also be compared between drug-sensitive (DS) and drug-resistant (DR) TB and TB/HIV, but differences in treatment outcomes among these cohorts should be interpreted with caution; differences in TB epidemiology at the national level, resistance profile, HIV program context and other factors should be considered.

Below are examples one can use when presenting this indicator:







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Indicator name	TX_DS_ENROLL: DS-TB treatment initiations
Definition	Number of people with laboratory-confirmed or clinically diagnosed drug- sensitive (DS) TB who initiated treatment for DS-TB during the reporting period.
Numerator	Number of people with laboratory-confirmed or clinically diagnosed DS-TB who initiated treatment for DS-TB during the reporting period.
Denominator	NA
Category	Reach/Cure
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (<15, 15+), sex, HIV status, public or private
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are basic management unit TB register and electronic management information systems available at the health facility and district level.
Importance	This indicator measures a TB program's ability to ensure people diagnosed with TB are initiated on TB treatment. This is a very important measure of the effectiveness of the National TB Program (NTP) in terms of improving access to TB treatment. This indicator is also critical in monitoring progress towards the USAID TB Strategy goal of "90% of people with TB diagnosed and initiated on treatment." The indicator should be analyzed alongside the number of TB notifications to measure the gap between the number of people diagnosed with DS-TB and the subset of those diagnosed who are initiated on TB treatment, with the goal that all who are diagnosed are linked to treatment. The data are also valuable for planning first-line drug (FLD) procurement and prioritizing supervision. The indicator provides data for a critical step in cascade analysis for DS-TB case detection.
Data use and visualization	This indicator can be used to track performance of the NTP in linking people who are diagnosed with TB to treatment. It is important for guiding programmatic decisions on scale up of treatment services for management of DS-TB. It can be presented and visualized using tables, charts, line graphs, etc. This indicator can be compared to the number of TB notifications in the same year to assess what percent were initiated on treatment. It can also be compared to the DS-TB treatment cohort size (on a year lag, when cohort data is available), which is the denominator for all the DS-TB treatment outcomes (i.e. treatment success, lost-to follow-up, etc.). The gap between the number of people initiated on DS-TB treatment and the subsequent cohort size reported can also be visualized and sizable gaps should be interrogated to determine reasons for discrepancies.

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Indicator name	**TPT_CON_04: Number of TPT initiations among contacts <5** *Previously [PT-7]*
Definition	Number of household contacts under 5 years old of bacteriologically confirmed pulmonary new and relapse TB cases notified in the reporting period who were started on TB preventive treatment (TPT).
Numerator	Number of household contacts under 5 years old of bacteriologically confirmed pulmonary new and relapse TB cases notified in the reporting period who were started on TPT.
Denominator	N/A
Category	Prevent
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Percent of contacts <5 years
Data type	Percentage
Disaggregate by	Sex
Reporting level	National and subnational
Reporting frequency	Annually, quarterly, monthly
Data source(s)	The data sources for this indicator may vary country to country. In some settings, data will be found in basic management unit TB registers, TPT register, community health worker, contact investigation (CI) registers, or electronic management systems at the health facility and district level. The numerator of this indicator is can be calculated using the World Health Organization (WHO) Global TB Programme Database variable: newinc_con04_prevtx
Importance	Analysis of TPT coverage for priority populations is important for National TB Programs (NTPs) to monitor and manage TB prevention efforts. This indicator is a disaggregation of the core indicator, TPT Coverage (PT-4) that includes children under the age of 5 years old. Children under 5 years of age are at high risk of becoming infected with TB and progressing from infection to disease upon exposure to a bacteriologically confirmed household contact. This indicator provides information on how well the NTP is reaching this priority population.
Data use and visualization	Ongoing monitoring of the percentage of children under 5 years of age who are household contacts of TB cases and initiate TPT provides key information on the coverage and successful implementation of TPT services. This indicator can be visualized with basic graphs to show trends in TPT coverage for household contacts under 5 years of age over time. This data can also be plotted alongside TPT coverage for household contacts between the ages of 5 and 14 years as well as TPT coverage for adult household contacts. Example charts/graphs: • Graph of TPT coverage among household contacts under 5 • Graph of TPT coverage among household contacts for: children under 5, children 5–14 and adults

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Indicator name	**TPT_PLHIV_ENROLL: Number of TPT initiations among PLHIV** *Previously [PT-8]*
Definition	Number of people living with HIV (PLHIV) who were started on TB preventive treatment (TPT) during the reporting period.
Numerator	Number of PLHIV who were started on TPT during the reporting period.
Denominator	N/A
Category	Prevent
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Number of individuals
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National Level indicators are expected to be reported at the subnational level for subnational units where the implementing partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources for this indicator may vary country to country. In some settings, data will be found in basic management unit TB or HIV registers, TPT register, or electronic management systems at the health facility and district level. Additionally, this indicator can be calculated from 2 standard World Health Organization (WHO) indicators by using the WHO Global TB Programme Database variables: WHO database: hiv_ipt_reg_all
Importance	Understanding the specifics of TPT coverage within a given country/region is key for National TB Programs (NTPs) to monitor and manage TB prevention efforts. This indicator is a drilled down view into the core indicator, TPT Coverage (PT-4). Because PLHIV are at such a high risk of developing TB infection (TBI), it is essential that they have access to TPT. Thus, beyond overall TPT coverage, this indicator functions to specifically look at the TPT coverage among PLHIV. This is particularly important for a country's ability to assess the success of their TPT implementation strategies, particularly among PLHIV.
Data use and visualization	This indicator can be used to track the progress of efforts to increase and/or maintain TPT coverage among PLHIV. This indicator can be visualized using basic graphs to show trends in TPT coverage among PLHIV over time that can be presented for a particular region or country or alongside multiple regions and countries for comparison. It can also be plotted with TPT coverage among household contacts under the age of 5 years compared to adolescent and adult household contacts to show the trend for these 3 important populations over time.

	Example charts/graphs: • TPT coverage among PLHIV over time for country X (may be plot against global coverage TPT among PLHIV coverage) • TPT coverage among PLHIV, Adult contacts, and child contacts over time
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Indicator name	SN_CQI: CQI programs in place
Definition	Existence of a continuous quality improvement (CQI) platform(s) at all levels of the health system for 1) TB clinical care, 2) TB laboratory, 3) TB commodities, and 4) other whereby TB service delivery and relevant data and indicators are systematically monitored, their quality assessed, and decisions are made to address any operational problems or challenges identified.
Numerator	Existence of CQI platform(s) at all levels of the health system for the following : • TB clinical care CQI program? Yes/No • TB laboratory CQI program? Yes/No • TB commodities CQI program? Yes/No • Other CQI? Yes/No (if yes, please describe) CQI programs may take multiple forms; one example may be regular or systematic data review and monitoring meetings that National TB Programs (NTPs) conduct at district, provincial, and national levels where problems, gaps, bottlenecks, delays, etc., that impact patient care are assessed. Impacts on patient care could include impacts on case detection, treatment outcomes, TB preventive treatment (TPT) completion, etc., thereby encompassing multiple steps in the TB care and prevention cascade.
Denominator	NA
Category	Sustain
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Yes/No
Data type	Boolean
Disaggregate by	N/A
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data is not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	Documented quality improvement processes and tools geared to increase and maintain quality implementation and performance (i.e., Reports of Laboratory QMS, procurement and supply chain QMS, pharmacy QMS, program audits).
Importance	“CQI is a progressive incremental improvement of processes, safety, and patient care. The goal of CQI may include improvement of operations, outcomes, systems processes, improved work environment, or regulatory compliance.” “CQI project development commonly includes defining the problem, benchmarking, setting a goal, then iterative quality improvement projects.”[1] It is a means to determine and track program integrity and effectiveness. It is important because it guides quality operations; ensures safe environments and high quality of services; supports in meeting standards and regulations; and assists institutional programs and services to meet annual goals, objectives, and targets.

	[1]O'Donnell B, Gupta V. Continuous Quality Improvement. [Updated 2023 Apr 3]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK559239/
Data use	To pinpoint and address the gaps, analytical tools like run charts, fish-bone diagrams, and flow charts may be helpful. CQI processes are proactive, and methods are able to identify and remediate latent or future program challenges and requirements. CQI programs should use performance data to inform an iterative and incremental transition toward an optimally performing system by building on successes and improving suboptimal activities and outputs.
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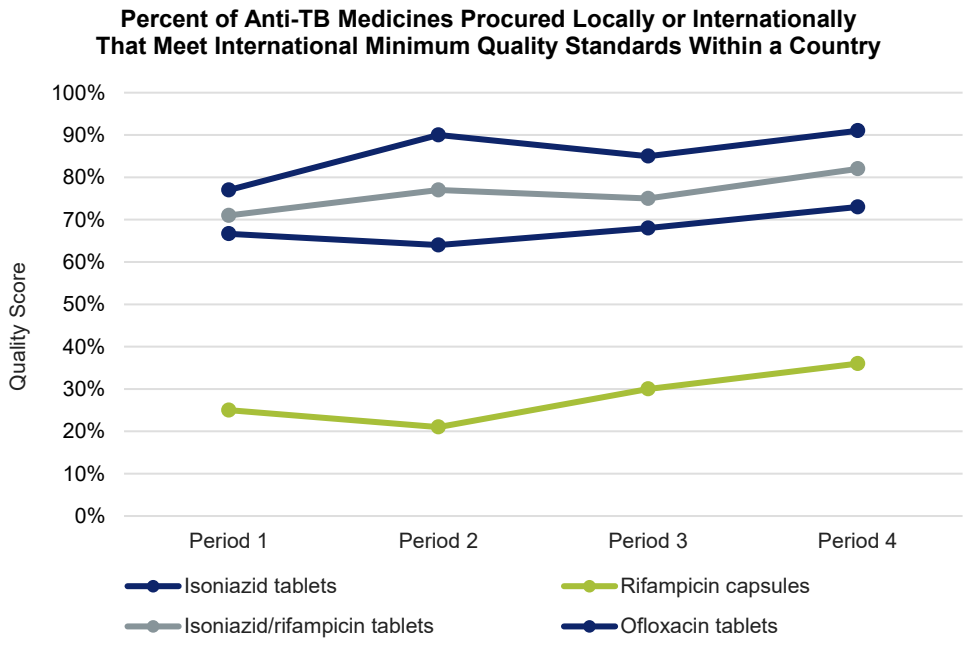
Indicator name	SN_MQS: TB drugs meeting international minimum quality standards
Definition	Percent of anti-TB medicines procured locally or internationally which meet international minimum quality standards within a country. “International minimum quality standards” are defined and documented in the batch certificate. Standards and the reference organizations considered to be acceptable include the World Health Organization (WHO) Prequalification of Medicines Programme (PQP)/ stringent regulatory authorities (SRAs)/ Expert Review Panel (ERP). Calculation: (Numerator/Denominator) x 100
Numerator	Number of batches of anti-TB medicines procured locally or internationally for which a batch certificate showed acceptable results during the reporting period.
Denominator	Number of batches received of anti-TB medicines (procured during the reporting period)
Category	Sustain
Indicator type	Outcome
PBMEF level	National Level
Unit of measure	Percent of anti-TB medicines
Data type	Percentage
Disaggregate by	N/A
Reporting level	National Level indicators should be reported at the national level; data may also be reported subnationally or at the project level if national data are not available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	Data for this indicator can be obtained from public and private sector procurement agents.
Importance	In accordance with Good Manufacturing Practices (GMP), a manufacturer should produce a batch certificate for each batch of its product. The batch certificate documents the results of quality analysis and inspection for each batch of the product. The agency that procures the medicine should request and review the batch certificate to ensure the data are acceptable. “Acceptable” data would demonstrate the batch is of adequate quality to be used in the TB program. In order to prevent emergence of drug-resistant (DR) TB and to sustain the treatment successes achieved to date by using quality assured medicines, we must ensure countries procuring TB medicines with domestic funding should procure drugs according to these 'International minimum quality standards.'
Data use and visualization	The percentage of anti-TB medicines that meet international minimum quality standards can be analyzed as a trend over time either on its own or against country targets. Procurement agents should be sensitized to the importance of obtaining and reviewing this documentation as basic evidence of the quality of medicine that they procure. Receipt of this documentation can be specified as a requirement in procurement contracts to help ensure the quality of medicines on the market.

Example charts/graphs:

- Trend over time comparisons



	Isoniazid tablets	Rifampicin capsules	Isoniazid/rifampicin tablets	Ofloxacin tablets
Period 1				
Total # of batches	45	40	42	39
# meeting adequate quality	30	10	30	30
Period 1 Quality Score	67%	25%	71%	77%
Period 2				
Total # of batches	50	38	48	39
# meeting adequate quality	32	8	37	35
Period 2 Quality Score	64%	21%	77%	90%

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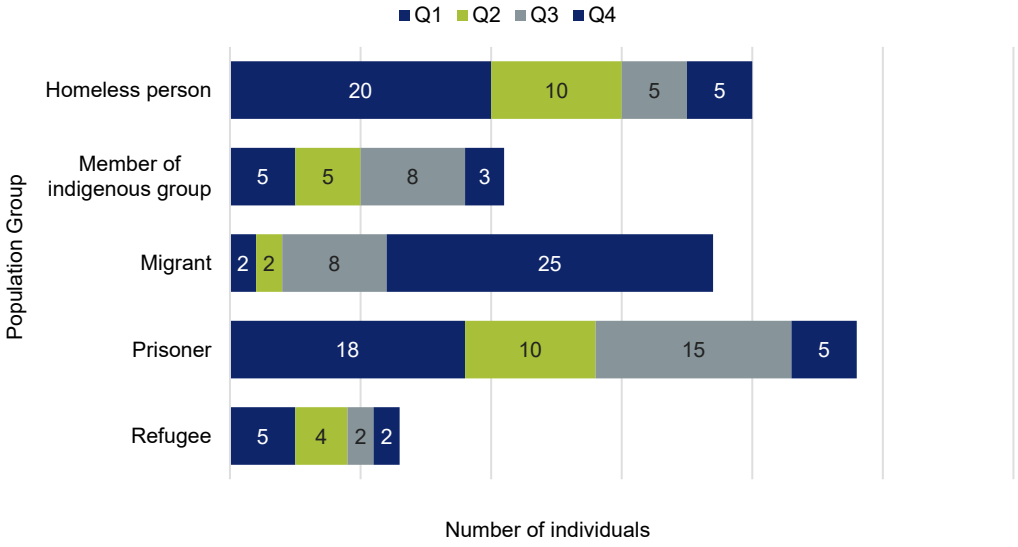
PBMEF Project Level Indicators: Standard Indicator Reference Sheets (IRS)

Project Level Indicators

Indicator name	**DT_SCRN_COMM: Number of people screened for TB disease outside of health facilities** *Previously [PV-1]*
Definition	Number of people screened for TB disease outside of health facilities by a community health worker or other qualified person (according to national screening protocols) during the reporting period. “Outside health facility” refers to TB screening activities in the community, including in and outside household or occupational settings (e.g., as part of contact investigation [CI]). It may also refer to routine outreach and event- or location-based screening carried out by community health workers or any other trained/qualified health personnel; for example, a community health fair or prison-based screening activity. Additionally, this term could refer to screening efforts targeted to specific populations that may not have access to facility based testing and are at high risk for TB. "Screening" is defined at a minimum as verbal screening for TB symptoms to identify people to be referred for further clinical evaluation or testing for TB disease. It may include mobile chest X-ray (CXR), an increasingly important intervention in high TB burden settings. It may also include testing for TB infection (TBI) by tuberculin skin test (TST) or interferon-gamma release assay (IGRA).
Numerator	Number of people screened for TB disease outside of health facilities by a community health worker or other qualified person during the reporting period.
Denominator	N/A
Category	Prevent
Indicator type	Outcome
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, location type (e.g., workplace, prison, community outreach, school, etc.), population group (e.g., migrant, prisoner, mineworker, member of a tribal population, etc.)
Reporting level	National, subnational
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources for this indicator may vary country to country. In some settings, data will be found in community health worker registers, CI registers, or screening registers at the health facility and district level.
Importance	Screening for active TB at the community level or other locations outside of health facilities is important for improving early TB detection in specific groups that are at high risk of TB, have poor access to health care facilities, or both. Detecting people with TB only from persons presenting themselves to health facilities with suggestive symptoms is not sufficient to close the

	case detection gap, particularly among vulnerable populations (e.g. migrants, refugees, prisoners, homeless, members of indigenous groups). Additionally, the persistence of delays in diagnosis and the accompanying continued transmission in the community highlight the need for active approaches to detect TB early. This indicator helps track the extent of a TB screening program by capturing the number of people screened in nonhealthcare settings. These may include community settings, prisons, shelters, other congregate settings (such as the military), refugee camps, and workplaces.
Data use and visualization	This indicator is one of 4 indicators reported to the U.S. Congress requested on an annual basis. See *Report to Congress on the Prevention of Tuberculosis*. Comparing the current number of people screened outside of health facilities to previous years can reveal the growth of efforts to improve systematic screening in different risk groups and outside formal healthcare settings. If this data is disaggregated and analyzed by subpopulation, and yield of new TB cases detected, evaluators can assess if previously identified subpopulations or high-risk groups are being sufficiently reached. Example charts/graphs: • TB preventive treatment cascade • Trends over time comparisons by subpopulations **Number of Individuals Screened for TB Disease Outside Of Health Facilities by Population Group for Each Quarter** 

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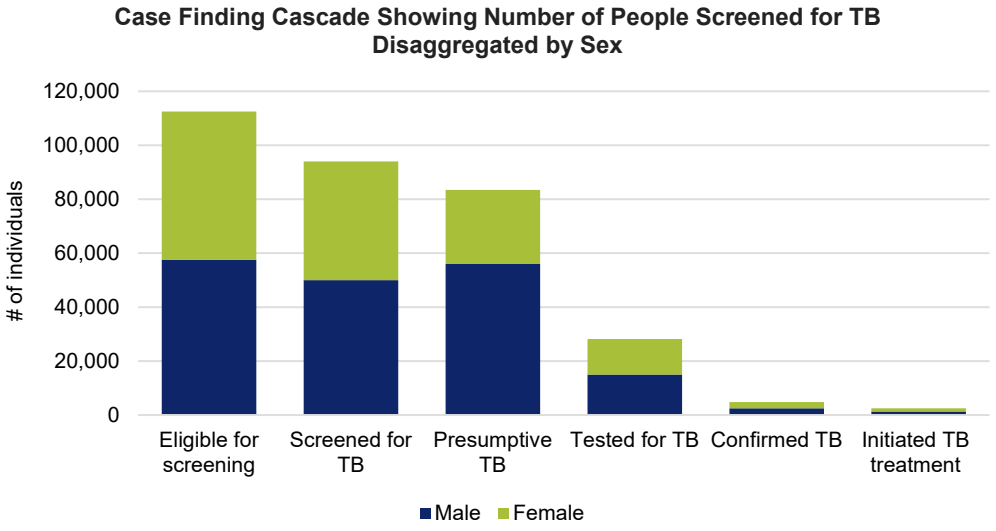
Indicator name	**DT_SCRN: Number of people screened for TB** *Previously [PS-1]*
Definition	The number of people who are screened for signs or symptoms of active TB disease either by verbal screening or other methods including chest X-ray (CXR). "Screening" is defined as verbal screening for signs and symptoms of TB which identifies persons who are symptomatic, or radiologic screening using CXR and further referral for clinical evaluation and/or diagnostic testing. Screening may also include assessment for TB infection combined with or without testing by tuberculin skin test (TST) or interferon-gamma release assay (IGRA).
Numerator	Number of people screened for TB during the reporting period
Denominator	NA
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, screening method (symptoms only, CXR), location of screening (health facility, community)
Reporting level	National and subnational
Reporting frequency	Monthly, Quarterly
Data source(s)	The data sources are basic management unit TB register, screening register, presumptive TB register, cough register, outpatient department registers, or electronic management information systems available at the health facility and district level.
Importance	Active case finding (ACF) or systematic screening for TB is an important tool to reach missing people with TB. It helps to reduce diagnosis and treatment delays and prevents the spread of the disease. Screening for active TB may reduce TB incidence, prevalence, and mortality; however, yield of ACF interventions varies substantially across populations. Passive case finding, putting the burden of care seeking for TB on the patient, alone will not achieve the 90% treatment coverage target set out in many national strategic plans (NSPs) and global strategies. In high burden TB settings and among populations with poor access and uptake of TB diagnosis and care, systematic screening of people, particularly those in high-risk groups (i.e. HIV positive, contacts, prisoners), at both health facility-based and community based levels are crucial. Careful monitoring of TB screening is needed to continuously evaluate and improve ACF activities to ensure effective planning and implementation.

Data use and visualization	This indicator should be evaluated in relation to the number of people eligible for screening. When the percentage of people screened is low, then ACF strategies should be evaluated in a way to reach target populations (i.e. more community-based volunteers, better screening tools at facilities, etc.).
	Understanding the cascade from ACF TB program data is crucial in order to correct gaps that could result in missing TB diagnoses and steps to take in addressing the barriers. Improved case finding is only relevant when people are initiated on treatment and when they successfully complete their treatment.
	Example chart/graphs:
	• Trends over time and comparisons by risk group, geographic areas and by location (i.e. community-based or facility-based)
	• ACF cascade
	  • Number of people eligible for screening
	  • Number of people screened for TB
	  • Number of people with presumptive TB
	  • Number of people with presumptive TB tested
	  • Number of people with presumptive TB diagnosed with TB
	  • Number of people with confirmed TB starting TB treatment
	 

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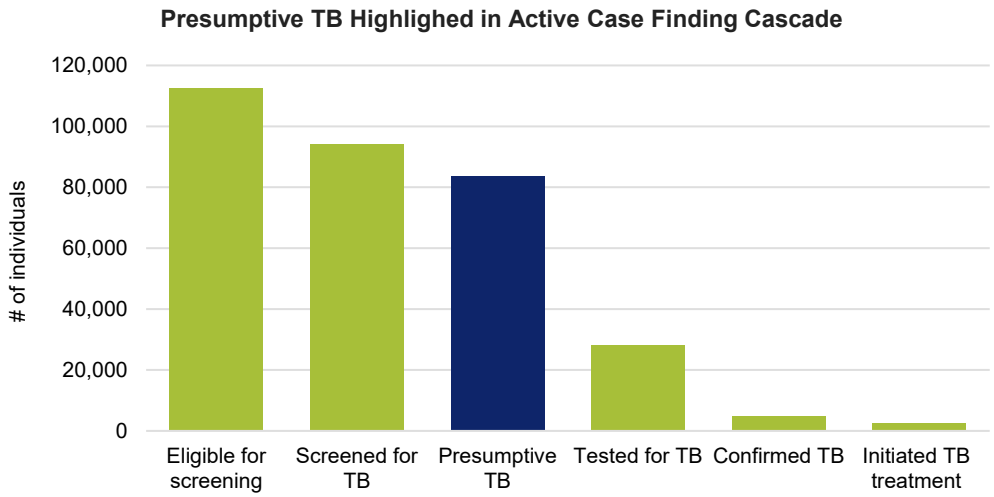
Indicator name	**DT_PRES: Number of people with presumptive TB** *Previously [PS-2]*
Definition	Number of people with presumptive TB identified during the reporting period. Presumptive TB: people who screened positive for any signs or symptoms of TB are considered to have suspected TB disease and are said to have presumptive TB; these people should receive diagnostic testing with a WHO-recommended rapid diagnostic (WRD).
Numerator	Number of people with presumptive TB identified during the reporting period.
Denominator	NA
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National and subnational
Reporting frequency	Monthly, quarterly
Data source(s)	The data sources are basic management unit TB register, screening register, presumptive TB register, cough register, outpatient department registers, contact investigation (CI) register, or electronic management information systems available at the health facility and district level.
Importance	Active case finding (ACF) or systematic screening for TB is an important tool to reach missing people with TB. It helps to reduce diagnosis and treatment delays and prevents the spread of the disease. Screening for active TB may reduce TB incidence, prevalence, and mortality; however, yield of ACF interventions varies substantially across populations. Passive case finding, putting the burden of care seeking for TB on the patient, alone will not achieve the 90% treatment coverage target set out in many national strategic plans (NSPs) and global strategies. In high burden TB settings and among populations with poor access and uptake of TB diagnosis and care, systematic screening of people, particularly those in high risk groups (i.e. HIV positive, contacts, prisoners), at both health facility-based and community based levels are crucial. To achieve universal access to early accurate diagnosis of TB and enhancing case finding efficiency, identification of people with presumptive TB at the first point of care and linking them to the best available diagnostic tests is essential to program management and strategy of patient centered care.
Data use and visualization	The indicator helps to demonstrate how effective the screening process is at identifying people who might have TB. Screening and diagnosing patients with appropriate tests and strategies will largely help project and national program response to TB case finding. It measures case detection efforts by the National TB Program (NTP) and stakeholders.

A high rate of presumptive TB can mean that clinicians only send patients with advanced disease for diagnostic testing and are unaware of the symptoms of TB. On the contrary, if the rate is low, the screening tools have a low specificity and are not picking up people who are likely to have TB.

Cascade analysis of the screening and diagnosis program data will be helpful to highlight the gaps in case finding and steps to take in addressing the barriers. In addition, trend analyses will be appropriate to help the use of information.

Example charts/graphs:

- Trends over time and comparisons by risk group, geographic areas and by location (i.e. community-based or facility-based)
- ACF cascade
  - Number of people eligible for screening
  - Number of people screened for TB
  - Number of people with presumptive TB
  - Number of people with presumptive TB tested
  - Number of people with presumptive TB diagnosed with TB
  - Number of people with confirmed TB starting TB treatment



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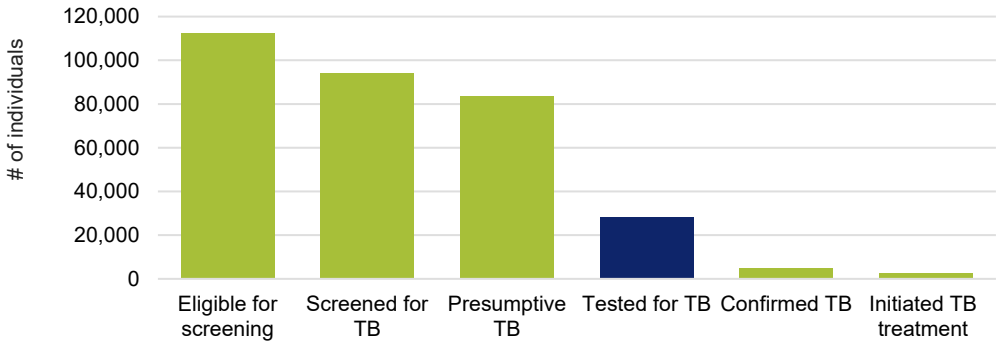
Indicator name	**DT_TST: Number of people with presumptive TB who received diagnostic testing** *Previously [PS-3]*
Definition	Number of people with presumptive TB who received diagnostic testing to confirm or exclude active TB disease during the reporting period. Diagnostic testing for active TB disease includes smear, culture, and WHO-recommended rapid diagnostics (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM.
Numerator	Number of people with presumptive TB who were tested for TB during the reporting period.
Denominator	NA
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, diagnostic test type
Reporting level	National and subnational
Reporting frequency	Monthly, quarterly
Data source(s)	The data sources are basic management unit TB register, screening register, presumptive TB register, laboratory register, or electronic management information systems available at the health facility and district level
Importance	Active case finding (ACF) or targeted systematic screening is an important method to find undiagnosed TB among people in a community. ACF reduces time to diagnosis and initiation of treatment and prevents further spread of the disease. Screening for active TB may reduce TB incidence, prevalence, and mortality; however, yield of ACF interventions varies substantially across populations. Passive case finding, putting the burden of care seeking for TB on the patient, alone will not achieve the 90% treatment coverage target set out in many national strategic plans (NSPs) and global strategies. In high burden TB settings and among populations with poor access and uptake of TB diagnosis and care, systematic screening of people, particularly those in high risk groups (i.e. HIV positive, contacts, prisoners), at both health facility-based and community based levels are crucial. To achieve universal access to early accurate diagnosis of TB and enhancing case finding efficiency, identification of people with presumptive TB at the first point of care and linking them to the best available diagnostic tests is essential to program management and strategy of patient centered care.

Data use and visualization	This indicator measures access to laboratory services and how many of the identified presumptive TB patients get tested for TB in a timely manner using WRD. This is about availability of testing services and accessibility by the community.
	Cascade analysis of the screening and diagnosis program data will be helpful to highlight the gaps in case finding and steps to take in addressing the barriers. In addition, trend analyses will be appropriate to help the use of information.
	Additional information can be collected on (1) number who submitted specimens, (2) number of specimens sent to the lab, and (3) number of results reported.
	Example charts/graphs:
	• Trends over time and comparisons by risk group, geographic areas and by location (i.e. community-based or facility-based)
	• ACF cascade
	  • Number of people eligible for screening
	  • Number of people screened for TB
	  • Number of people with presumptive TB identified
	  • Number of people with presumptive TB tested for TB
	  • Number of people with presumptive TB diagnosed with TB
	  • Number of people with confirmed TB starting TB treatment
	Number of Individuals Who Received Diagnostic Testing Highlighted in Active Case Finding Cascade
	 

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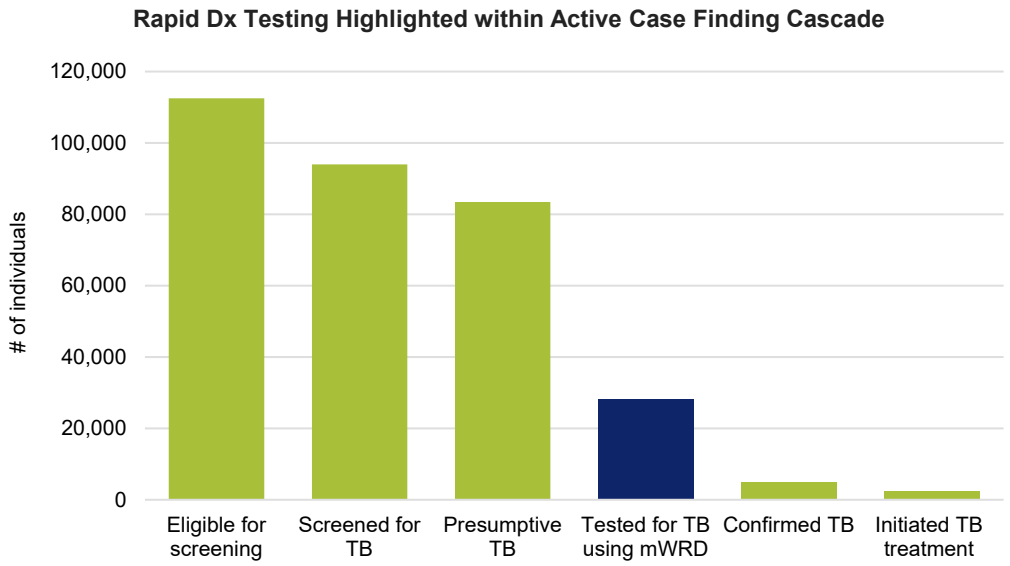
Indicator name	**DT_WRD: Number of people with presumptive TB who were tested with a rapid diagnostic test** *Previously [DT-14]*
Definition	Number of people who screened positive with signs and symptoms of TB (i.e., presumptive TB) and who were tested with a rapid diagnostic test to confirm or exclude active TB disease during the reporting period. Rapid diagnostic testing for active TB disease includes WHO-recommended rapid diagnostics (WRD) WHO-recommended diagnostic test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM.
Numerator	Number of people with presumptive TB who were tested for TB with a WRD during the reporting period.
Denominator	NA
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, diagnostic test type
Reporting level	National and subnational
Reporting frequency	Monthly, quarterly
Data source(s)	The data sources are basic management unit TB register, screening register, presumptive TB register, laboratory register, or electronic management information systems available at the health facility and district level
Importance	Active case finding (ACF) or systematic screening for TB is an important tool to reach missing people with TB. It helps to reduce diagnosis and treatment delays and prevents the spread of the disease. Screening for active TB may reduce TB incidence, prevalence, and mortality; however, yield of ACF interventions varies substantially across populations. Passive case finding, putting the burden of care seeking for TB on the patient, alone will not achieve the 90% treatment coverage target set out in many national strategic plans (NSPs) and global strategies. In high burden TB settings and among populations with poor access and uptake of TB diagnosis and care, systematic screening of people, particularly those in high risk groups (i.e. HIV positive, contacts, prisoners), at both health facility-based and community based levels are crucial. To achieve universal access to early accurate diagnosis of TB and enhancing case finding efficiency, identification of people with presumptive TB at the first point of care and linking them to the best available diagnostic tests is essential to program management and strategy of patient centered care.
Data use and visualization	This indicator measures access to laboratory services and how many of the identified presumptive TB patients get tested for TB in a timely manner using WRD. This is about availability of testing services and accessibility by the community.

Cascade analysis of the screening and diagnosis program data will be helpful to highlight the gaps in case finding and steps to take in addressing the barriers. In addition, trend analyses will be appropriate to help the use of information.

Additional information can be collected on (1) number who submitted specimens, (2) number of specimens sent to the lab, and (3) number of results reported.

Example charts/graphs:

- Trends over time and comparisons by risk group, geographic areas and by location (i.e. community-based or facility-based)
- ACF cascade
  - Number of people eligible for screening
  - Number of people screened for TB
  - Number of people with presumptive TB identified
  - Number of people with presumptive TB tested for TB
  - Number of people with presumptive TB diagnosed with TB
  - Number of people with confirmed TB starting TB treatment



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Indicator name	**DT_CXR: Number of people with presumptive TB who received a chest X-ray (CXR)** *Previously [PS-7]*
Definition	Number of people with presumptive TB who had a chest X-ray (CXR) to rule out active TB disease during the reporting period. Note: CXR may also be used as a screening approach to rule out TB in high risk populations. These instances of CXR may also be included here.
Numerator	Number of people with presumptive TB who had a CXR to rule out active TB disease during the reporting period.
Denominator	N/A
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National, subnational
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources are basic management unit TB register, contact investigation (CI) register, screening register, and electronic management information systems available at the health facility and district level.
Importance	TB screening is essential for public health and its final step is enabling the detection of people with active TB. The screening procedure used influences the percentage of evaluated people who are diagnosed with TB. A screening procedure that identifies only people at high risk for TB (e.g. cough lasting more than 2 weeks) may result in a high diagnostic rate, but it also misses many people with TB that do not have such strong signs of TB risk. A screening procedure that identifies more people for testing (e.g., any TB symptom and/or abnormal CXR) may result in a lower diagnostic rate, but it may also be successful in diagnosing more people with TB. This indicator is the next in sequence after PS-2, depending on the national algorithm for TB screening. It provides the next layer of granular data and helps to supplement the Core and Core Plus as well as monitoring, evaluation, and learning (MEL) national indicators for measuring the ability of National TB Programs (NTPs) to systematically identify and screen for active TB and TB infection (TBI). Reporting of these indicators enables conducting detailed analysis such as constructing cascade analysis for better understanding of the programmatic performance and to track progress for improving TB preventive treatment.
Data use and visualization	The number of presumptive TB patients with a CXR performed provides a good comparison to determine the performance of CI activities. It can be analyzed as a trend over time or compared across regions to understand contact-tracing performance. Comparisons with a country's CI coverage targets will provide the impetus to further strengthen the implementation of CI

	strategies within an NTP. Another comparison could be made between the number of contacts investigated per index case. Simply charting the trend of the average number of contacts investigated per index case can also give an understanding about how effective the CI is. Example charts/graphs: • Trends over time by geographic area, risk group, and by location (i.e. community-based or facility-based)
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Indicator name	**NNS: Number needed to screen** *Previously [AF-7]*
Definition	The number needed to screen (NNS) is the number of people that must be screened for symptoms of active TB disease to identify one person with TB during the reporting period. "Screening" is defined at a minimum as verbal screening for TB symptoms to identify people to be referred for further clinical evaluation or testing for TB disease. It may include mobile chest X-ray (CXR), an increasingly important intervention in high TB burden settings. Calculation: Numerator/Denominator
Numerator	Number of people screened for TB in a given reporting period.
Denominator	Number of people diagnosed with TB in a given reporting period.
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age, sex, setting
Reporting level	National, subnational
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources are basic management unit TB register, screening register, presumptive TB register, laboratory register, or electronic management information systems available at tbe health facility and district level.
Importance	USAID invests in a variety of case finding approaches with the goal of closing the gap between estimated and notified people with TB. This indicator is important to help identify how effective these case finding strategies are.
Data use and visualization	The screening procedure used influences the percentage of evaluated people who are diagnosed with TB. A screening procedure that identifies only people at high risk for TB (e.g. cough lasting more than 2 weeks) may result in a low number NNS, but it also misses many people with TB that do not have such strong signs of TB risk. A screening procedure that identifies more people for testing (e.g., any TB symptom and/or abnormal CXR) may result in a higher number NNS, but it may also be successful in diagnosing more people. As the incidence of TB falls, it should become more difficult to find active TB. As a result, it is reasonable to expect that if the comprehensive approach to TB succeeds in reducing TB incidence over time, the percentage of people diagnosed with TB will decrease. This is not to say that active case finding efforts should be halted. Example charts/graphs: • Trends over time comparisons • Comparisons public vs private, rural vs urban and high risk subgroups

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Indicator name	**NNT: Number needed to test** *Previously [AF-8]*
Definition	The number needed to test (NNT) is the number of individuals that must be tested with a bacteriological test to identify one person with TB during the reporting period. These tests include all WHO-recommended rapid diagnostic (WRD) testing options, including: FluoroType® MTB (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB, RealTime MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM. Calculation: Numerator/Denominator
Numerator	Number of people with presumptive TB with a test result indicating bacteriological confirmation of TB disease during the reporting period or for a specific case finding approach.
Denominator	Number of people with bacteriologically confirmed TB during the reporting period or for a specific case finding approach.
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age, sex, setting
Reporting level	National, subnational
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources are basic management unit TB register, screening register, presumptive TB register, laboratory register, or electronic management information systems available at the health facility and district level.
Importance	USAID invests in a variety of diagnostic technologies and case finding approaches with the goal of closing the gap between the number of estimated and notified people with TB. This indicator is important to help identify the most promising case finding strategies that will reach the population in need in the most efficient manner.

Data use and visualization	The screening and testing algorithm used influences the percentage of evaluated people who are diagnosed with TB. An algorithm that identifies only people at high risk for TB (e.g. cough lasting more than 2 weeks) may result in a low number NNT, but it also misses many people with TB that do not have such strong signs of TB risk. An approach that identifies more people for testing (e.g., any TB symptom and/or abnormal chest x-ray [CXR]) may result in a higher number NNT, but it may also be successful in diagnosing more people. As the incidence of TB falls, it should become more difficult to find active TB. As a result, it is reasonable to expect that if the comprehensive approach to TB succeeds in reducing TB incidence over time, the percentage of people diagnosed with TB will decrease. This is not to say that active case finding efforts should be halted. Example charts/graphs: • Trends over time comparisons • Comparisons public vs private, rural vs urban and high risk subgroups
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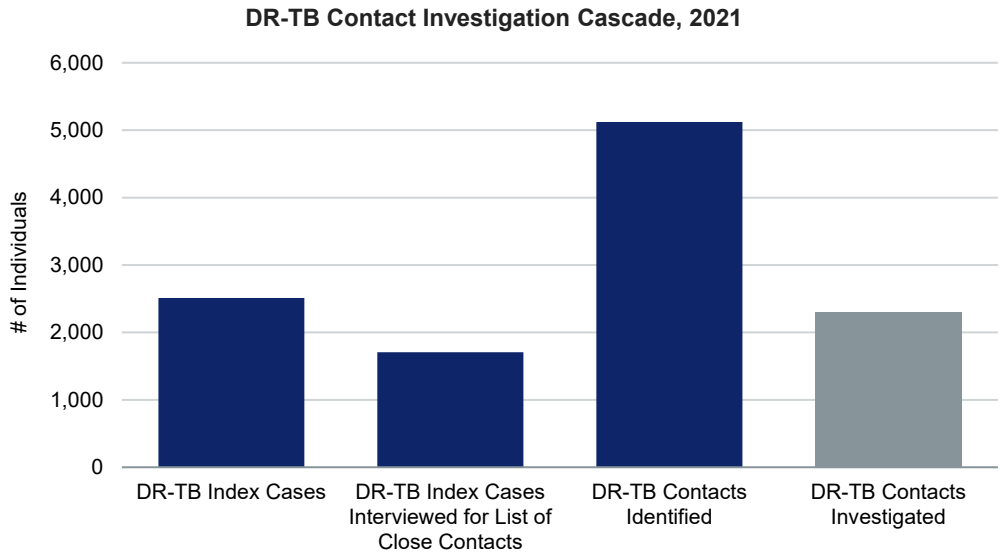
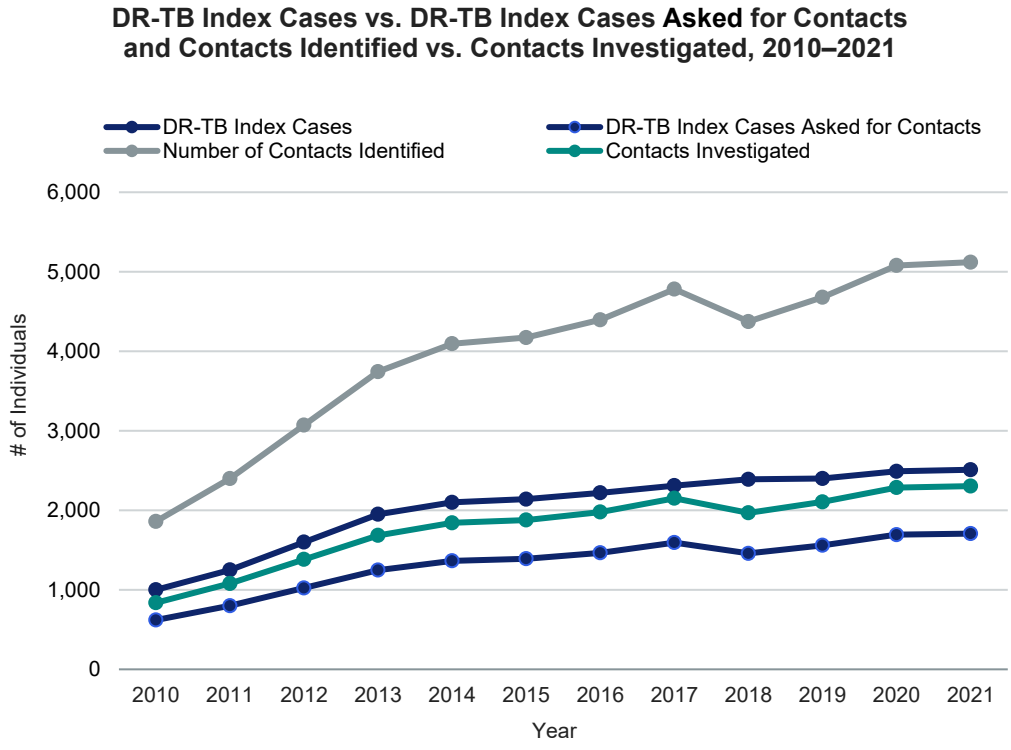
Indicator name	**DR_CI_INIT: Percent of people with DR-TB who had contact investigations initiated** *Previously [CI-8]*
Definition	Percent of people with notified drug-resistant (DR) TB (rifampicin-resistant [RR] and multidrug-resistant [MDR] TB and pre-extensively drug-resistant [pre-XDR] and extensively drug-resistant [XDR] TB) who had a contact investigation (CI) initiated. CI initiated: For the purposes of this indicator, "initiated" refers to the process of enumeration of all known contacts to an index DR-TB case. CI will also include the evaluation of those contacts to determine if any have active TB disease or TB infection (TBI) through symptom screening, diagnostic testing, chest X-ray (CXR), or clinical evaluation. Index case: Person with DR-TB who is notified to health authorities. Note: This indicator is a subset of the National-Level indicator "DT_CI_INIT".
Numerator	Number of people with notified DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) during the reporting period who had a CI initiated.
Denominator	Number of people with notified DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) during the reporting period.
Category	Reach/Prevent
Indicator type	Outcome
PBMEF level	Project Level
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National, subnational, health facility, project
Reporting frequency	Quarterly, monthly, weekly (at health facility/project level)
Data source(s)	The data sources are basic management unit TB register, CI register, laboratory register, and electronic management information systems available at the health facility and district level.
Importance	CI is important both for active case finding and TB preventive treatment (TPT). DR-TB patients should all have a CI initiated to identify additional people who may have DR-TB and reduce community spread. This indicator provides data to identify gaps in the first step of CI service delivery, specifically to DR-TB patients.
Data use and visualization	The percent of people with DR-TB with CI initiated is calculated from the number of people with notified DR-TB who had a CI initiated divided by the total number of people with notified DR-TB. This metric provides a measure of how thoroughly programs are conducting CI activities among DR-TB patients. When analyzed over time, it can provide insights into gaps in case detection or opportunities to identify contacts that may require a TPT regimen specific for exposure to a

person with DR-TB. It can be analyzed as a trend over time or between subnational units to understand contact-tracing performance trends and inform plans for scale up.

Example charts/graphs:

- CI cascade
- Trends over time comparisons
- Scatterplot comparing coverage of people with TB with CI done and CI completed for contacts identified





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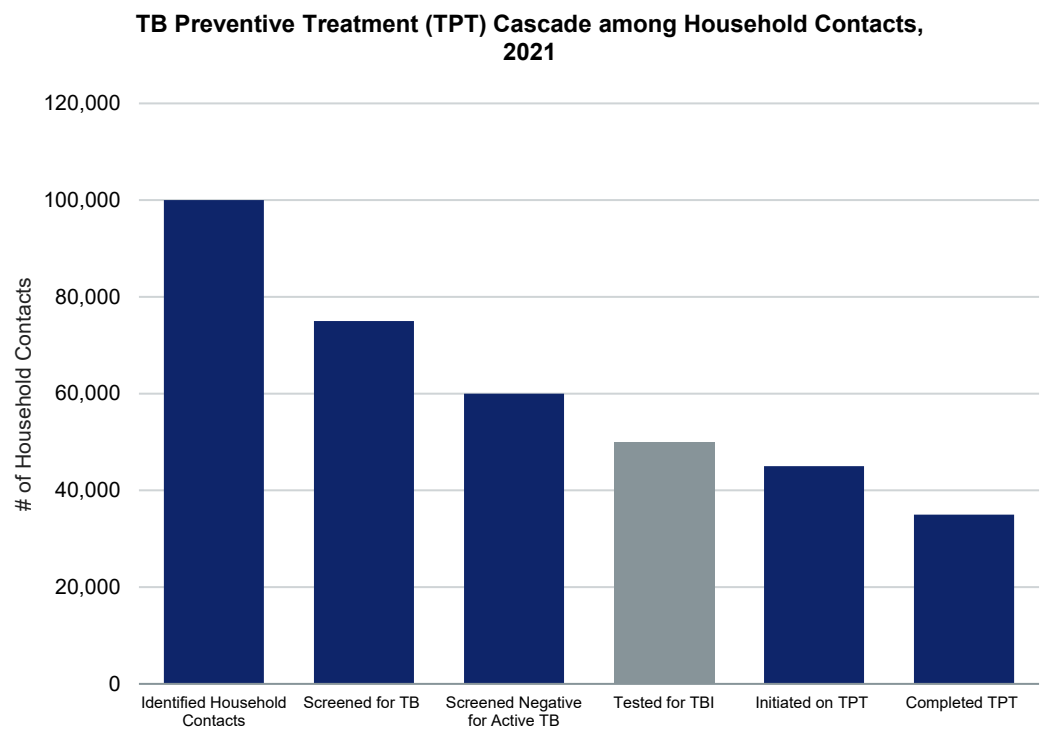
Indicator name	CON_TBI_TST: Number of contacts tested for TBI
Definition	Number of contacts of new/relapse pulmonary TB patients who were tested for TB infection (TBI) during the reporting period (TBI testing includes tuberculin skin test [TST], interferon-gamma release assay [IGRA]).
Numerator	Number of contacts of new/relapse pulmonary TB patients who were tested for TBI during the reporting period (TBI testing includes TST, IGRA).
Denominator	N/A
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, diagnostic method (bacteriologically confirmed vs. clinically diagnosed)
Reporting level	National, subnational
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources are basic management unit TB register, screening register, presumptive TB register, cough register, outpatient department registers, contact investigation (CI) register, or electronic management information systems available at the health facility and district level.
Importance	This indicator provides data for TBI testing in the process of evaluating contacts and provides the next layer of granular data to understand screening practices. It helps to supplement the Core and Core Plus as well as monitoring, evaluation, and learning (MEL) national indicators for measuring the ability of National TB Programs (NTPs) to systematically identify and screen for TBI. Reporting of these indicators enables conducting detailed analysis such as constructing CI cascade analyses for better understanding of the programmatic performance and to track progress for enabling TB preventive treatment (TPT) initiations.
Data use and visualization	The number of contacts who were tested for TBI provides a good comparison to determine the magnitude of individuals who are infected with TB but do not have active TB disease. In some settings, this is an important first step for initiating TPT. It can be analyzed as a trend over time or compared across regions to understand performance in TBI testing among contacts. Comparisons with a country's targets for TBI testing will provide the impetus to strengthen the implementation of CI strategies within an NTP. Example chart/graph: • Trends over time by geographic area, risk group, and by location (i.e. community-based or facility-based) • CI cascade



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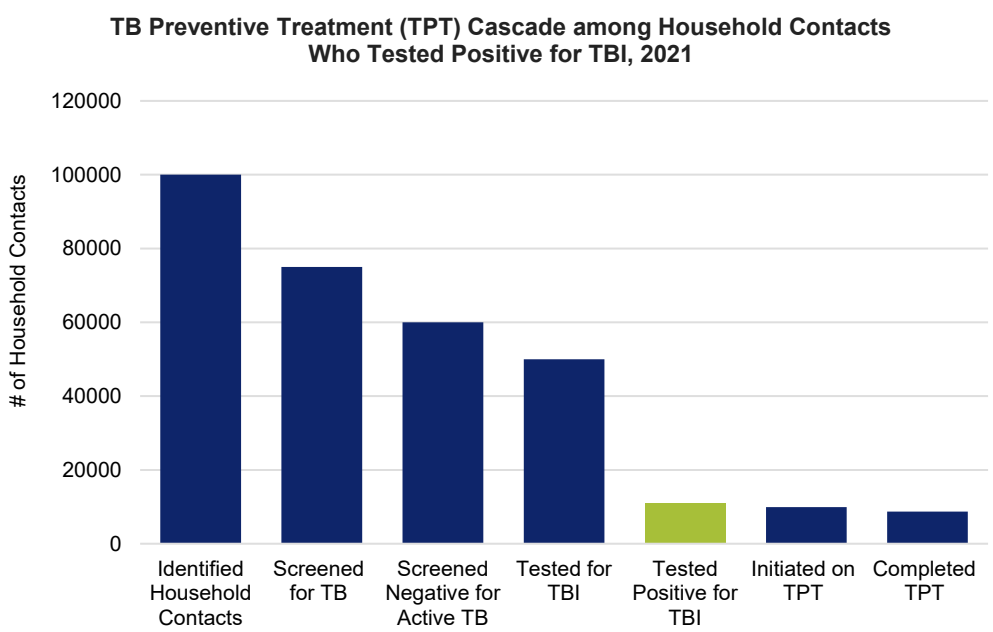
Indicator name	**CON_TBI_POS: Number of contacts tested positive for TBI** *Previously [PS-6]*
Definition	Number of contacts of people with new/relapse pulmonary TB who tested positive for TB infection (TBI) during the reporting period.
Numerator	Number of contacts of people with new/relapse pulmonary TB who tested positive for TBI during the reporting period.
Denominator	N/A
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	National, subnational
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources are basic management unit TB register, contact investigation (CI) register, laboratory register, and electronic management information systems available at the health facility and district level
Importance	This indicator presents the next in sequence after PS-5, provides the next layer of granular data, and helps to supplement the Core and Core Plus as well as monitoring, evaluation, and learning (MEL) national indicators for measuring the ability of National TB Programs (NTPs) to systematically identify and screen for TBI. Reporting of these indicators enables conducting detailed analysis such as constructing cascade analysis for better understanding of the programmatic performance and track progress for improving TB preventive treatment (TPT).
Data use and visualization	The number of contacts tested positive for TBI provides data on the number of people who do not have active TB disease but are confirmed to have latent TBI. This can be an important step for initiating TPT. It can be analyzed as a trend over time or compared across regions to understand TBI prevalence and positive yields of TBI testing. Comparisons with a country's CI TBI testing targets will provide the impetus to strengthen the use of TBI testing within an NTP. Example charts/graphs: • Trends over time by geographic area, risk group, and by location (i.e. community-based or facility-based) • CI cascade



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Indicator name	**TX_DR_SUPPORT: Percent of people on DR-TB treatment who received treatment support** *Previously [RS-7]*
Definition	Percent of drug-resistant (DR) TB patients (rifampicin-resistant [RR] and multidrug-resistant [MDR] TB and pre-extensively drug-resistant [pre-XDR] and extensively drug-resistant [XDR] TB) who received nonmedical interventions or benefits, aimed at improving treatment adherence and reduction of catastrophic cost during a specified period, among people with DR-TB who were initiated on treatment during the reporting period. This may include adherence support; food assistance; psychological, educational, or mental counseling; transportation reimbursement; or other social or economic support.
Numerator	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who receive nonmedical interventions or benefits, aimed at improving treatment adherence and reduction of catastrophic cost during a specified period.
Denominator	Number of people with DR-TB (RR/MDR-TB and pre-XDR/XDR-TB) who were on treatment during the same reporting period.
Category	Cure
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex
Reporting level	National and subnational
Reporting frequency	Annually, quarterly, monthly
Data source(s)	The data sources for this indicator may vary country to country but will likely be found in a national or centralized registry for social support. Also, depending on whether TB support packages are rolled out nationwide or only through nongovernmental organizations (NGOs) or community organizations, this data could also be found in records kept by implementing partners (IPs).
Importance	Treatment support for people on DR-TB treatment is essential to ensure successful outcomes. Support packages may include adherence support; food assistance; psychological, educational, or mental counseling; transportation reimbursement; or other social or economic support to people on DR-TB treatment. Support packages help to ensure that people on treatment have access to key nutritional assistance which can lead to better treatment outcomes; additionally, these packages work to minimize or prevent the catastrophic costs that can be associated with DR-TB. These associated costs can include the transport needed to get to and from the health facility; healthcare costs such as visit fees, medicine fees, or testing fees; and the loss of income due to illness or missing work in order to access the necessary care. Catastrophic costs incurred by people diagnosed with DR-TB can negatively affect their treatment and lead to long-term financial hardship even after successful DR-TB treatment. This is particularly important given the

	long duration of DR-TB treatment. This indicator works to measure efforts being undertaken by countries to minimize or prevent the catastrophic costs associated with DR-TB. Understanding the percent of people on DR-TB treatment who have received these support packages demonstrate the reach of these support services and can highlight existing gaps.
Data use and visualization	The percent of people on DR-TB treatment who have received support packages can help countries monitor the reach of these support programs. When disaggregated, this indicator can help highlight differences or gaps in the distribution or utilization of these support services by multiple factors including reach in specific geographies, across specific populations, particularly high-risk groups, and between genders. Understanding who is and who is not receiving TB support packages can help National TB Programs (NTPs) identify populations or groups that need additional coverage and target their resources accordingly. For data visualizations, the percentage of DR-TB patients receiving TB support packages can be plotted over time for a particular country or regions. These visuals could also show important disaggregations such as gender. Example charts/graphs: • Graph of percent of DR-TB patients receiving TB support packages over time for each region of a given country • Graph of percent of DR-TB patients receiving TB support packages over time disaggregated by gender (stacked bar graph)
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Indicator name	**TX_DS_SUPPORT: Percent of people on DS-TB treatment who received treatment support** *Previously [SS-7]*
Definition	Percent of people with DS-TB who received nonmedical interventions or benefits, aimed at improving treatment adherence during the reporting period. This may include adherence support; food assistance; psychological, educational, or mental counseling; transportation reimbursement; or other social or economic support.
Numerator	Number of people with new and relapse TB (all forms) who received any nonmedical treatment support during the reporting period.
Denominator	Number of people with new and relapse TB (all forms) enrolled on DS-TB treatment in the same reporting period.
Category	Cure
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex
Reporting level	National and subnational
Reporting frequency	Annually, quarterly, monthly
Data source(s)	The data sources for this indicator may vary country to country but will likely be found in a national or centralized registry for social support. Also, depending on whether TB support packages are rolled out nationwide or only through nongovernmental organizations (NGOs) or community organizations, this data could also be found in records kept by implementing partners (IPs).
Importance	Support for people with DS-TB is essential to ensure successful treatment for TB disease. TB support packages may include adherence support; food assistance; psychological, educational, or mental counseling; transportation reimbursement; or other social or economic support to people on TB treatment. Support packages help to ensure that people on treatment have access to key nutritional assistance which can lead to better treatment outcomes; additionally, these packages work to minimize or prevent the catastrophic costs that can be associated with TB. These associated costs can include the transport needed to get to and from the health facility; healthcare costs such as visit fees, medicine fees, or testing fees; and the loss of income due to illness or missing work in order to access the necessary care. Catastrophic costs incurred by people diagnosed with TB can negatively affect their TB treatment and lead to long-term financial hardship even after successful TB treatment. This indicator measures efforts being undertaken by countries to minimize or prevent the catastrophic costs associated with TB. Understanding the percent of people on TB treatment who have received these economic or support packages demonstrate the reach of these support services and can highlight existing gaps.

Data use and visualization	The percent of people on TB treatment who have received support packages can help countries monitor the reach of these support programs. When disaggregated, this indicator can help highlight differences or gaps in the distribution or utilization of these support services by multiple factors including reach in specific geographies, across specific populations, particularly high-risk groups, and between genders. Understanding who is and who is not receiving TB support packages can help National TB Programs identify populations or groups that need additional coverage and target their resources accordingly. For data visualizations, the percentage of DS-TB patients receiving TB support packages can be plotted over time for a particular country or regions. These visuals could also show important disaggregations such as gender. Example charts/graphs: • Graph of percent of DS-TB patients receiving TB support packages over time for each region of a given country • Graph of percent of DS-TB patients receiving TB support packages over time disaggregated by gender (stacked bar graph)
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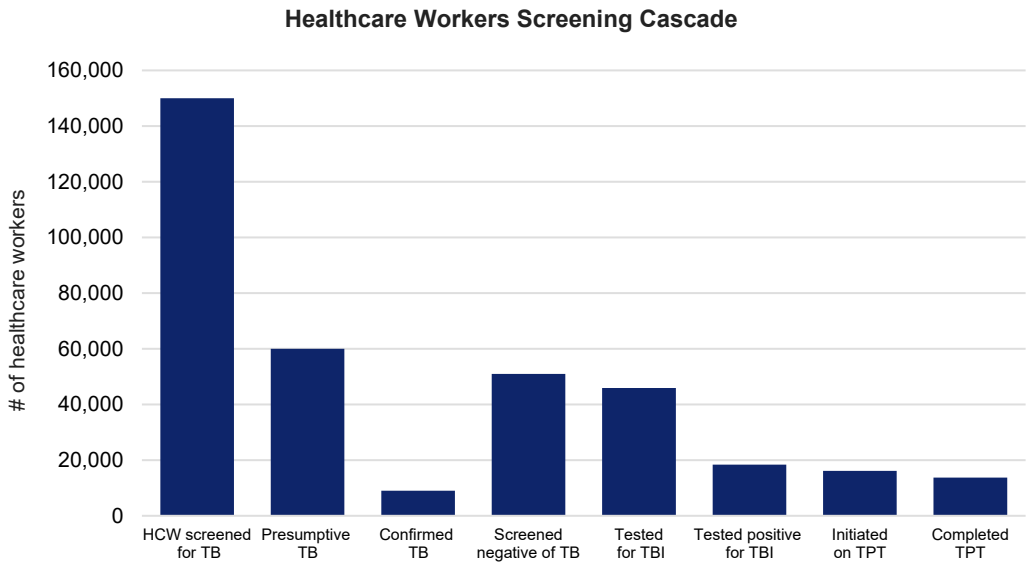
Indicator name	**HCW_SCRN: Percent of HCWs screened for TB** *Previously [HW-1]*
Definition	Percent of healthcare workers (HCWs) screened for active TB disease during the reporting period, in line with national policies for HCWs. National policy for screening of HCWs may include specific high risk settings, e.g., TB clinics, outpatient departments (OPDs), emergency room (ER), staff providing inpatient care, laboratory workers, community health workers, or community-based volunteers (CBVs) involved with mobile outreach or TB contact investigations (TBCIs). HCW: A frontline HCW who is providing direct services including TB screening, contact evaluation, diagnosis, treatment, and patient care or support.
Numerator	Number of HCWs screened for active TB disease in line with national policy during the reporting period.
Denominator	Number of HCWs who were working in the country in the clinical or community settings in line with national policy during the reporting period.
Category	Prevent
Indicator type	Outcome
PBMEF level	Project Level
Unit of measure	Percent of HCWs
Date type	Percentage
Disaggregate by	Sex, workplace setting (hospital, TB clinic, TBCI staff, OPD, ER, other clinical or community setting), type of HCW [e.g., nurse, doctor, community health worker/CBV]), type of facility (private or public)
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are health care worker screening register, contact investigation (CI) register, and electronic management information systems available at the health facility and district level
Importance	HCWs are at an increased risk of occupational transmission of TB infection (TBI) from patients. They are known to be at high risk of latent TBI and active TB disease through occupational exposure to patients with active TB. Because of this increased risk, it is important that HCWs be regularly screened for TB to achieve the World Health Organization's (WHO) End TB Strategy goal of early detection and treatment of all TB patients and USAID's fundamental tenets of TB to detect, diagnose, treat, and prevent. This metric is one indicator that measures the robustness of a country's TB screening program.
Data use and visualization	The percent of HCWs screened for TB can be analyzed over time and/or by comparing the percent of HCWs screened by various disaggregations, such as subregion, private vs. public health facilities, sex of HCWs, or age of HCWs (e.g., under 30, 30–39, 40–49, 50–59, 60 and older). This can provide insight into which regions or facilities have strong HCW screening

protocols and which ones may be lagging; if there are discrepancies in screening by age or sex of HCWs; or if screening HCWs has improved, declined, or maintained over time.

Additionally, using a cascade analysis can indicate where there are gaps along the TB screening, notification, and treatment continuum for HCWs. This analysis will provide a useful explanation for why a country may or may not be achieving its targets, what course corrections may be needed to address nosocomial transmission of TB, and which gaps in programming may require additional resources.

Examples of data visualizations:

- Bar graph of percent of HCWs screened by type of HCW
- Bar graph of percent of HCWs screened by region over a 10- or 20-year period
- Stacked bar graph of percent of HCWs screened by region or by sex
- HCW screening cascade
    - HCW screened for TB
    - Presumptive TB
    - Confirmed TB
    - Screened negative of TB
    - Tested for TBI
    - Tested positive for TBI
    - Initiated on TB preventive treatment (TPT)
    - Completed TPT



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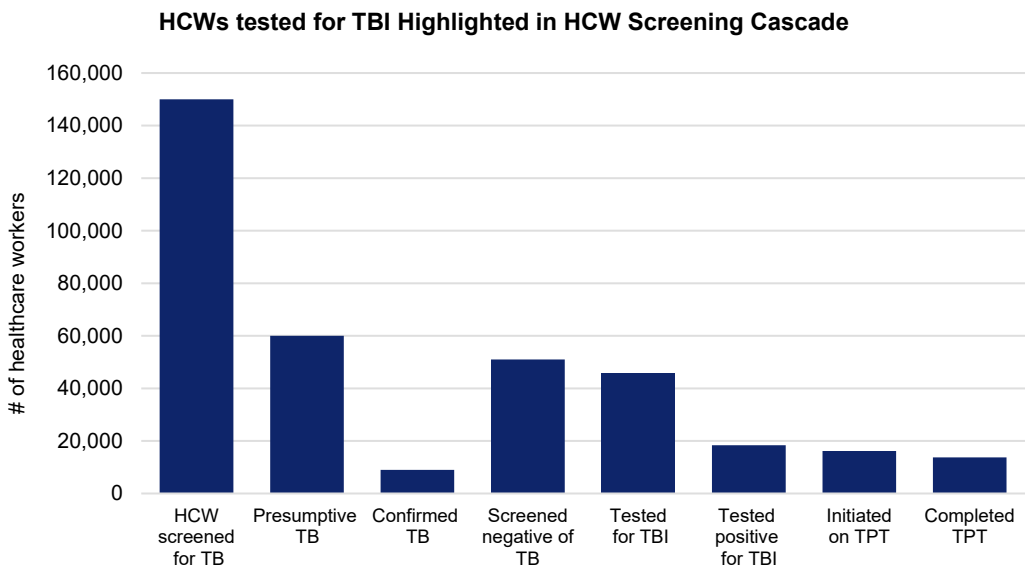
Indicator name	**HCW_TBI_POS: Percent of HCWs diagnosed with TBI** *Previously [HW-6]*
Definition	Percent of healthcare workers (HCWs) tested positive for TB infection (TBI) during the reporting period, among those who were tested for TBI. HCW: A frontline HCW who is providing direct services including TB screening, contact evaluation, diagnosis, treatment, and patient care or support.
Numerator	Number of HCWs tested positive for TBI during the reporting period.
Denominator	Number of HCWs who were tested for TBI during the reporting period.
Category	Prevent
Indicator type	Outcome
PBMEF level	Project Level
Unit of measure	Percent of HCWs
Data type	Percentage
Disaggregate by	Sex, type of HCW (e.g., nurse, doctor, community outreach worker), type of facility (private or public), TBI diagnostic method (e.g., tuberculin skin test [TST] or interferon-gamma release assay [IGRA])
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are basic management unit TB register, HCW screening register, contact investigation (CI) register, laboratory register, and electronic management information systems available at the health facility and district level
Importance	This indicator complements indicator HW-1, “Percent of HCWs screened for TB.” It is important to diagnose TBIs in HCWs to prevent nosocomial transmission, particularly among immunocompromised patients. If HCWs are diagnosed with infectious TB, the impact of TB transmission at the health facility can be considerable because of immunocompromised patients in healthcare systems. Therefore, periodic screenings and preventive treatment for TBI for HCWs at high-risk of TBI are recommended. This metric is one indicator that measures the robustness of a country’s TB screening program.
Data use and visualization	The percent of HCWs screened for TBI can be analyzed over time and/or by comparing the percent of HCWs screened by various disaggregations, such as subregion, private vs. public health facilities, sex of HCWs, or age of HCWs (e.g., under 30, 30–39, 40–49, 50–59, 60 and older). This can provide insight into which regions or facilities have strong HCW screening protocols and which ones may be lagging; if there are discrepancies in screening by age or sex of HCWs; or if screening HCWs for TBI has improved, declined, or maintained over time. Additionally, using a cascade analysis can indicate where there are gaps along the TB screening, notification, and treatment continuum for HCW. This analysis will provide a useful explanation for why a country may or may not be achieving its targets, what course corrections

may be needed to address nosocomial transmission of TB, and which gaps in programming may require additional resources.

Examples of data visualizations:

- Bar graph of percent of HCWs screened for TBI by type of HCW
- Bar graph of percent of HCWs screened for TBI by region over a 10- or 20-year period
- Stacked bar graph of percent of HCWs screened for TBI by region or by sex
- HCW screening cascade
  - HCW screened for TB
  - Presumptive TB
  - Confirmed TB
  - Screened negative of TB
  - Tested for TBI
  - Tested positive for TBI
  - Initiated on TB preventive treatment (TPT)
  - Completed TPT



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Indicator name	HCW_TRN: Percent of HCWs who received TB-related training
Definition	Percent of healthcare workers (HCWs) trained on the use of new TB diagnostic tools (e.g., POC testing, tuberculin skin test [TST], interferon-gamma release assay [IGRA]), digital C-rays); new treatment therapies as they become available; or approaches to expand TB active case finding, contact investigations (Cis), and patient support during the reporting period. HCW: A frontline HCW who is providing direct services including TB screening, contact evaluation, diagnosis, treatment, and patient care or support. Trained: This can refer to in-service training or continuous professional development in TB. "In-service training" refers to any training provided to HCWs who are currently employed in the health workforce to develop or update skills relevant to their job. "Continuous professional development" refers to the requirement by licensing bodies as a condition of renewing licensure that HCWs accumulate professional credits to keep their skills updated and perform to current standards.
Numerator	Number of HCWs trained on the use of new TB diagnostic tools and treatment therapies, expanded TB active case finding, contact tracing, and patient support.
Denominator	Number of HCWs who were working in the country during the reporting period.
Category	Sustain
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of HCWs
Data type	Percentage
Disaggregate by	Sex, type of HCW (e.g., nurse, doctor, community outreach worker), training topic, type of facility (public or private)
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are National TB Program (NTP) activity reports, project records, or a national training database or human resource information system, where available
Importance	This indicator monitors the percent of frontline HCWs that have already entered into the health workforce that receive training to develop a specific TB skill, such as through technical updates. The field of health is constantly evolving, and new national and international standards and technology are being introduced. This indicator provides information on how many HCWs in the country have received training to keep their TB skills up-to-date. Note that this indicator does not measure the quality of the training nor if the HCWs mastered relevant knowledge or skills as a result of the training.
Data use and visualization	This data can be used to monitor where HCWs are being trained and on which topics to strengthen human resources for TB care and services. When a new TB diagnostic tool is introduced, for example, by looking at number of HCWs trained by region or facility, one can see

	where trainings have been rolled out and where they are still needed. Example charts/graphs: • Trends over time by geographic coverage, by type of training, and by type of HCW trained
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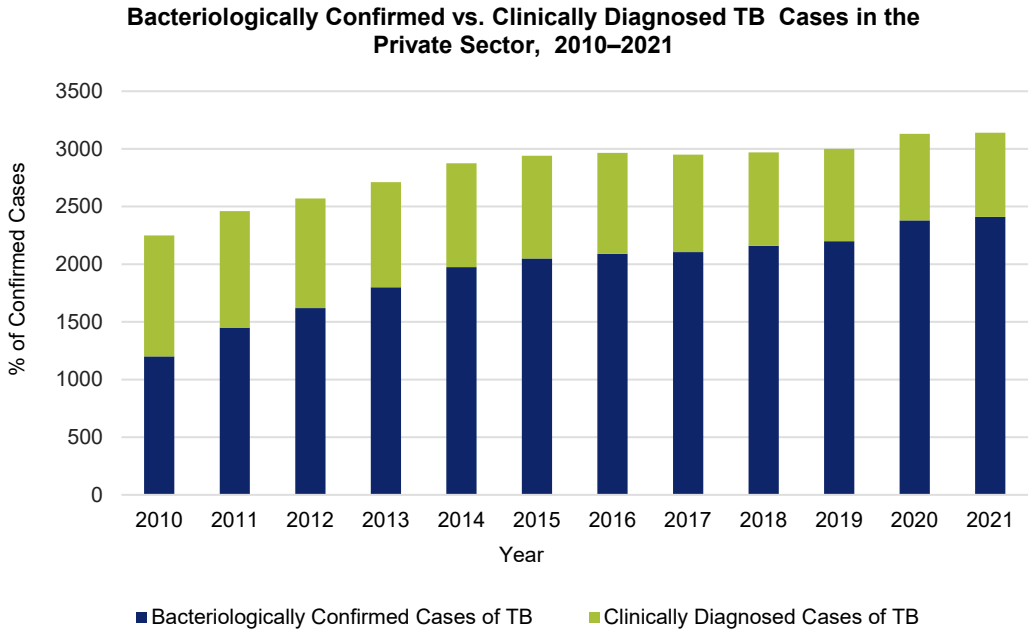
Indicator name	PR_BAC_CON: Percent bacteriologically confirmed in private sector
Definition	Percent of new and relapse pulmonary TB notifications in the private sector that are bacteriologically confirmed. Bacteriologically confirmed: Smear positive for TB or culture positive for TB or positive for TB by a World Health Organization-recommended rapid diagnostics test (WRD): FluoroType® MTBDR (Hain), Loopamp™ MTBC detection kit (TB-LAMP), Xpert® MTB/RIF, Xpert® MTB/RIF Ultra, Truenat® MTB or MTB Plus, RealTi*m*e MTB (Abbott), BD MAX™ MDR-TB, cobas® MTB (Roche), or LF-LAM. Calculation: (Numerator/Denominator) x 100
Numerator	Number of new and relapse bacteriologically confirmed pulmonary TB notifications in the private sector (smear positive or culture positive or positive by (WRD) during the reporting period.
Denominator	Number of new and relapse pulmonary TB notifications in the private sector (bacteriologically confirmed plus clinically diagnosed) during the reporting period.
Category	REACH
Indicator type	Outcome
PBMEF level	Project Level
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (0–4, 5–14, 15+), sex
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data sources	The data sources for the private sector may vary country to country. Private sector facilities within the National TB Program (NTP) network should report their data to the NTP where it would be captured in the basic management unit TB register, laboratory register, and electronic management information systems at the health facility and district level.
Importance	Engaging with private sector healthcare providers is essential to achieve universal access to TB prevention and care services. Countries that have prioritized private sector engagement show increases in the contribution of the private sector to overall TB case notifications. Global and national goals in TB cannot be achieved unless private providers are engaged on a large scale. This indicator measures the percent of people with new and relapse pulmonary TB who were notified by private non-NTP providers that are bacteriologically confirmed —which is the starting point for ensuring that people with TB identified by private providers will receive quality diagnosis and care. Contributions from private facilities and care providers to the total number of TB notifications should be regularly monitored. Introducing and using simplified case reporting for the private sector through electronic reporting or app-based reporting are some of the interventions to encourage private sector reporting, but intermediary agencies who can engage with diverse private providers are typically also necessary.
Data use and visualization	The percent of people with privately notified pulmonary TB who are bacteriologically confirmed TB can be analyzed over time and/or between subregions. They can also be compared to the total number of TB notifications to determine the percent of all TB notifications that are coming from the private sector. A further analysis of this indicator using granular data can also provide valuable insights into who these private providers are in terms of their geographic and institutional locations, as well as their share in private sector notifications. It may be possible that the majority of all private sector notifications come from just a few regular private sector institutions. Better understanding of these high and low performers may help to expand the private sector notification base. For countries with large contributions from private providers, a richer set of standard indicators could be used to distinguish contributions from (a) private for-profit vs. private not-for-profit; (b) providers at different levels of the healthcare system (pharmacies vs. primary care vs. secondary/tertiary care); and (c)

private referrals vs. private case management.

Limitations in data use include inconsistent reporting on private sector notifications from countries and non-disaggregated data on nonprofit and for-profit private providers.

Below are examples one can use when presenting this indicator:

- Percent of public vs private sector bacteriologically confirmed TB case notifications (bar charts, or trend lines over time)
- DS-TB cascade (disaggregated by public vs private)



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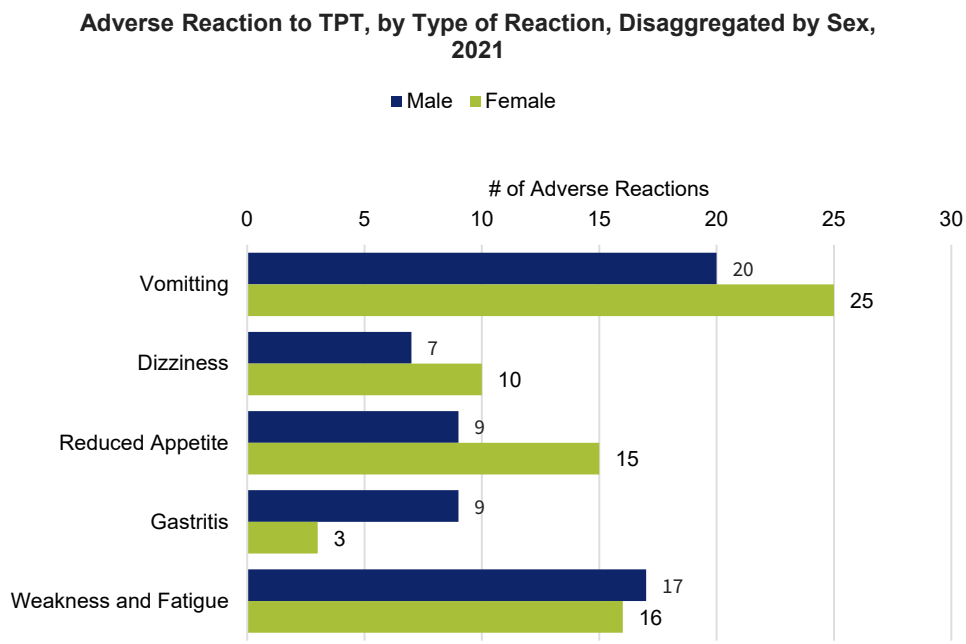
Indicator name	TPT_ADR: Number of people with adverse reactions to TPT
Definition	Number of people on TB preventive treatment (TPT) who developed at least one adverse drug reaction (ADR) to treatment during the reporting period. An ADR (often referred to as an "adverse event") is any negative medical occurrence that presents in a person during TB preventive treatment with a World Health Organization (WHO) approved regimen that may or may not have a causal relationship with the prescribed treatment. More information on ADR and grading ADRs can be found here.
Numerator	Number of people on TPT who developed at least one ADR to treatment during the reporting period.
Denominator	N/A
Category	Prevent
Indicator type	Outcome
PBMEF level	Project Level
Unit for analysis	Number of people
Data type	Integer
Disaggregate by	Age (0–4, 5–14, 15+), sex, type of adverse reaction (e.g., rash, nausea, vomiting, dizziness, reduced appetite, gastritis, jaundice), severity (1 = mild, 2 = moderate, 3 = severe (requiring hospitalization), 4 = life threatening, 5 = death), TPT regimen (1HP, 3HP, 3HR, 4R, 6H)
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources are the TPT register or electronic management information systems at the health facility and district levels.
Importance	Monitoring ADRs can help health programs with preventing and managing ADRs, reduce patient suffering, and improve treatment outcomes. ADRs can lead to people on TPT interrupting treatment before completion, resulting in ineffective preventive treatment. Therefore, it is important that adverse reactions be monitored in people taking TPT. Systematically gathering this data assists with drug safety monitoring and the ability to detect, manage, and report suspected or confirmed drug toxicities. Unlike other monitoring activities inherent to TB programs, programs have not consistently monitored adverse reactions to TPT in the past. Once monitoring of this aspect of TPT becomes more common, it is expected that its value will extend beyond the individual patient monitored, to benefit other patients from improved knowledge of the medicines tracked as well as endowing programs with a robust mechanism to enable the introduction of future TPT treatments at an accelerated pace.
Data use and visualization	Number of TPT patients who developed an ADR to treatment can be analyzed as a trend showing whether adverse reactions for TPT patients are improving or getting worse over time. This data can be disaggregated by type and severity of ADR to determine which adverse events are more likely to be associated with a specific TPT regimen. The data may also be analyzed by sex to see if males or females are disproportionately affected.



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Indicator name	SN_IPC: Congregate settings with IPC
Definition	Percent of congregate settings with infection prevention and control (IPC) measures in place. Congregate settings: A mix of institutional (non-healthcare) settings where people reside in close proximity to each other. Congregate settings include correctional facilities (prisons and jails), homeless shelters, refugee camps, army barracks, dormitories, and nursing homes; data may be reported on these individual settings based on country prioritization and availability of data (WHO guidelines on tuberculosis infection prevention and control, 2019 update). IPC measures include designated IPC focal person, IPC facility committee and plan, regularly scheduled meetings, monitoring of healthcare workers (HCWs) for TB and TB infection (TBI) through annual screening with tuberculin skin test (TST), interferon-gamma release assay (IGRA), or chest X-ray (CXR). Calculation: (Numerator/Denominator) x 100
Numerator	Number of congregate settings with IPC measures in place.
Denominator	Number of congregate settings in the given area.
Category	Prevent
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of congregate settings
Data type	Percentage
Disaggregate by	Congregate setting type where data is coming from (jails/prisons, homeless shelters, refugee camps, etc.)
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	Data source may vary from country to country and include administrative reports from relevant ministry on congregate settings, National TB Program (NTP) reports, survey of congregate setting facilities, or supervision visits
Importance	TB is airborne disease and congregate settings are one of the high-risk environments for its transmission. Hence, TB prevention and control measures are among the major interventions to reduce transmission in areas with minimal circulation of air such as congregate settings. TB prevention and control measures consist of a combination of measures designed to minimize the risk of M. tuberculosis transmission within populations. A three-level hierarchy of controls comprising administrative controls, environmental controls, and respiratory protection has been shown to reduce and prevent the risk of transmission and exposure to M. tuberculosis (*WHO guidelines on tuberculosis infection prevention and control, WHO, 2019*). The use of respiratory isolation or separation measures applies to all settings with a high risk of M. tuberculosis transmission including congregate settings where healthcare services, including hospitalization, is provided, regardless of the burden of TB disease in the community. Similarly, respiratory hygiene measures apply to people with confirmed or presumptive TB in settings with a high risk of M. tuberculosis transmission including congregate settings such as correctional

	facilities and refugee and asylum centers. Such respiratory hygiene must be implemented at all times. The use of surgical masks, in particular, is of utmost importance in waiting areas, during transport, and in any situation which can lead to temporary exposure to M. tuberculosis (e.g., in physician offices). The use of poorly designed or poorly maintained ventilation systems leading to inadequate airflow can result in healthcare associated transmission of M. tuberculosis. Inadequate ventilation also increases the risk of transmission in other non-healthcare congregate settings such as correctional facilities and refugee and asylum centers. Hence, this indicator measures the existence of infection control measures in the congregate settings, and it is one of the required reports for the End TB Now Act that specifically mentions hospitals, clinics, and prisons.
Data use and visualization	Tracking the percentage of congregate settings with IPC measures in place can be indicative of the coverage and success of TBI control activities. It is usually measured and reported with focus on healthcare settings, and the purpose of including this indicator in the monitoring, evaluation, and learning (MEL) project category is to emphasize the significance of implementing infection control in community settings, especially in those areas where the risk of transmission is very high. In terms of visualization, it can be visualized with basic graphs to show trends in IPC coverage in the defined congregate setting over a period of time. This data can also be plotted alongside geographical mapping of congregate settings and highlighting those where IPC measures are implemented. Since infection control includes a long list of interventions, data can also be presented with additional details depending on the scope of IPC measures in place in the particular setting and its degree of implementation. Example charts/graphs: • Trends over time by geographic coverage, types of facilities, types of infection control

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Indicator name	MH_SCRN: Percent of people diagnosed with TB and screened for mental health disorders
Definition	Percent of people diagnosed with TB during the reporting period who are screened for mental health disorders. Calculation: (Numerator/Denominator) x 100
Numerator	Number of people with notified TB during the reporting period who were screened for mental health disorders.
Denominator	Number of people with notified TB during the reporting period.
Category	Reach/Cure
Indicator type	Outcome
PBMEF level	Project Level
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex, mental health screening result (positive, negative)
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources may be project databases (community, facility), electronic medical records (EMRs), or patient registers.
Importance	This indicator allows programs to monitor detection of mental health disorders among patients with all forms of TB.
Data use	Increase the detection of mental health disorders in people with TB and who are referred to appropriate services.

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Indicator name	MH_TX: Percent of people with TB who received psychotherapeutic interventions
Definition	Percent of people diagnosed with TB during the reporting period who received evidence-based psychotherapeutic interventions, among those who were identified as having mental health disorders. Calculation: (Numerator/Denominator) x 100
Numerator	Number of people with notified TB during the reporting period who received evidence-based psychotherapeutic interventions.
Denominator	Number of people with notified TB during the reporting period who were identified as having mental health disorders.
Category	Cure
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex, mental health disorder, type of intervention
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources may be project databases (community, facility), electronic medical records (EMRs), or patient registers.
Importance	This indicator allows programs to monitor treatment coverage of mental health disorders among patients with all forms of TB. Additional resources from the World Health Organization (WHO) on mental health can be found below: • Mental health action plan for the WHO South-East Asia Region 2023–2030: https://www.who.int/publications/i/item/9789290210689 • Integrating psychosocial interventions and support into HIV services for adolescents and young adults: https://www.who.int/publications/i/item/9789240071476 • mhGAP Intervention Guide - Version 2.0: https://www.who.int/publications/i/item/9789241549790
Data use	This indicator will provide information on the provision of quality, evidence-based interventions to patients with mental health disorders.

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Indicator name	DM_SCRN_POS: Percent screened positive for diabetes among people with confirmed TB
Definition	Percent of people diagnosed with TB who were screened for diabetes before initiating TB treatment and who screened positive for diabetes. Screening for diabetes may include symptoms, e.g., polyuria, polydipsia, urine dipstick, blood glucose, or Hemoglobin A1c (HbA1c). Calculation: (Numerator/Denominator) x 100
Numerator	Number of people diagnosed with TB who screened positive for diabetes before initiating TB treatment.
Denominator	Number of people diagnosed with TB who were screened for diabetes.
Category	Cure
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of people
Data type	Percentage
Disaggregate by	Age (<15, 15+), sex
Reporting level	Project Level indicators are expected to be reported at the subnational level for subnational units where the partner is operating. National data may also be reported if available.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources may be project databases, electronic medical records (EMRs) of the National TB Program (NTP), health management information systems (HMIS), etc.
Importance	Diabetes mellitus (DM) is associated with a two- to threefold increase in the risk of developing TB disease, a twofold risk of death during TB treatment, a fourfold risk of TB relapse after treatment completion, and a twofold risk of MDR-TB. In 2019, over 15% of people with TB were estimated to have diabetes. Addressing comorbidities like diabetes is central to patient-centered, integrated care. This indicator allows programs to monitor the coverage of testing for diabetes among people diagnosed with TB. Though DM screening may occur at other times, this indicator captures screening for diabetes prior to treatment initiation to align with proposed global indicators on DM.
Data use	Data from this indicator will be used to monitor diabetes diagnosis for people with TB and diabetes. Proper detection will enable early initiation of treatment for both conditions, which will ultimately improve both TB treatment adherence and positive TB treatment outcomes.

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Indicator name	**TAT_SUBMIT: Turnaround time (TaT): Percent of specimens submitted to a laboratory within specified target timeframe** *Previously [DT-30]*
Definition	Percent of specimens submitted to a laboratory for WHO-recommended rapid diagnostic (WRD) testing within a specified target turnaround time (TaT) from collection to lab submission during the reporting period. The specified TaT should align with the National TB Program (NTP) standard for target TaTs for specimen collection, submission, testing, and reporting, which may vary from country to country. Calculation: (Numerator/Denominator) x 100
Numerator	Number of specimens submitted to a laboratory for WRD testing within a specified TaT for time from collection to submission.
Denominator	Total number of specimens submitted to a laboratory for WRD testing during the reporting period.
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of specimens
Data type	Percentage
Disaggregate by	Type of specimen
Reporting level	National, subnational, project
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources for this indicator may vary country to country. In some settings, data will be found in basic management unit TB registers, laboratory registers, or electronic management systems at the health facility and district level.
Importance	TaT acts as a quality indicator to evaluate the effectiveness and efficiency of the testing process. As countries intensify efforts to improve TB diagnosis and treatment and close the gap between the number of people with TB notified and the number estimated, the number of people with notified TB that are bacteriologically confirmed needs to be monitored to ensure that people are correctly diagnosed and started on the most effective treatment regimen as early as possible. This indicator measures a program's capacity for timely submission of specimens to the laboratory for WRD testing during the reporting period. This indicator is meant to measure the timeliness of specimen submission for diagnostic specimens only.

Data use and visualization	Early detection of TB is critical to achieving desirable treatment outcomes and interrupting the chain of transmission in the community. Timely specimen collection and submission to a laboratory using a molecular WHO-recommended rapid diagnostic (mWRD) and reducing the time to TB diagnosis reflects multiple processes, including availability and access to adequate bacteriological diagnostic services (trained staff, equipment, etc.), quality of laboratory testing, and adherence to TB guidelines and functional sample transport system. By measuring this indicator, countries can track the efficiency of sample collection and submission, including sample transport systems. Additionally, this indicator can be compared against national and global standards or targets as a proxy for measuring laboratory performance or capacity within a country. Example charts/graphs: • Trends over time comparisons • Infographics demonstrating TaTs
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Indicator name	**TAT_TST: Turnaround time (TaT): Percent of specimens received at testing laboratory and tested within specified target timeframe** *Previously [DT-31]*
Definition	Percent of specimens received at laboratories for WHO-recommended rapid diagnostic (WRD) testing and tested within specified target timeframe during the reporting period. The timeframe should align with the National TB Program (NTP) standard for target turnaround time (TaT) for specimen collection, submission, testing, and reporting, which may vary from country to country. Calculation: (Numerator/Denominator) x 100
Numerator	Number of specimens received at the laboratory for WRD testing and tested within a specified target timeframe during the reporting period.
Denominator	Number of specimens received at the laboratory for WRD testing during the reporting period.
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of specimens
Data type	Percentage
Disaggregate by	Type of specimen
Reporting level	National, subnational
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources for this indicator may vary country to country. In some settings, data will be found in basic management unit TB registers, laboratory registers, or electronic management systems at the health facility and district level.
Importance	As countries implement efforts to improve TB diagnosis and treatment and close the gap between notified and estimated TB cases, the number of people with notified TB that are bacteriologically confirmed needs to be monitored to ensure that people are correctly diagnosed and started on the most effective treatment regimen as early as possible. This indicator measures a program's capacity for timely testing of specimens once they are received in the laboratory during the reporting period.
Data use and visualization	Early detection of TB is critical to achieving desirable treatment outcomes and interrupting the chain of transmission in the community. Timely testing of specimens after they are collected and submitted to a laboratory using a molecular WHO-recommended rapid diagnostic (mWRD) and reducing the time to TB diagnosis reflects multiple processes, including availability and access to adequate bacteriological diagnostic services (trained staff, equipment, etc.), quality of laboratory testing, and adherence to TB guidelines and functional sample transport system. By measuring this indicator, countries can track the efficiency of sample processing in laboratories and identify bottlenecks to fast TaT. Additionally, this indicator can be compared against national and global standards or targets as a proxy for measuring laboratory performance or capacity within a country. Example charts/graphs: • Trends over time comparisons • Infographics demonstrating TaTs

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Indicator name	**TAT_RPRT: Turnaround time (TaT): Percent of specimens tested and results reported to the referring facility (or provider) within specified target timeframe** *Previously [DT-32]*
Definition	Percent of specimens tested at laboratories using a WHO-recommended rapid diagnostic (WRD) test and with results reported back to the referring facility or provider within specified target timeframe during the reporting period. The timeframe should align with the National TB Program (NTP) standard for target turnaround times (TaTs) for specimen collection, submission, testing and reporting, which may vary from country to country. Calculation: (Numerator/Denominator) x 100
Numerator	Number of specimens tested using a WRD with results reported to the referring facility (or provider) during the reporting period within specified target timeframe.
Denominator	Number of specimens tested using a WRD with results reported to the referring facility (or provider) during the reporting period.
Category	Reach
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Percent of specimens
Data type	Percentage
Disaggregate by	Type of specimens
Reporting level	National, subnational
Reporting frequency	Quarterly, monthly
Data source(s)	The data sources for this indicator may vary country to country. In some settings, data will be found in basic management unit TB registers, laboratory registers, or electronic management systems at the health facility and district level.
Importance	This laboratory TAT is the time from when a sample is received at the laboratory to when the results are reported to the clinician. As countries implement efforts to improve TB diagnosis and treatment and close the gap between notified and estimated TB cases, the number of people with notified TB that are bacteriologically confirmed needs to be monitored to ensure that people are correctly diagnosed and started on the most effective treatment regimen as early as possible. This indicator measures a program's capacity for timely reporting of test results for specimens after they are processed in the laboratory. This is important to detect TB accurately and rapidly using new diagnostics and to increase the percentage of cases confirmed bacteriologically by scaling up the use of recommended diagnostics that are more sensitive than smear microscopy.
Data use and visualization	Early detection of TB is critical to achieving desirable treatment outcomes and interrupting the chain of transmission in the community. Timely reporting of test results after specimens are collected, submitted, and processed using a molecular WHO-recommended rapid diagnostic (mWRD) and reducing the time to TB diagnosis reflects multiple processes. These include

	availability and access to adequate bacteriological diagnostic services (trained staff, equipment, etc.), quality of laboratory testing, adherence to TB guidelines, functional sample transport system, and communication systems to ensure that the results are reported to the provider so that they can make a treatment decision and the person may start the appropriate regimen as quickly as possible. These systems may include connectivity solutions to facilitate reporting. By measuring this indicator, countries can track the efficiency of communication between laboratories and providers and identify bottlenecks to fast TaT. Additionally, this indicator can be compared against national and global standards or targets as a proxy for measuring laboratory performance or capacity within a country. Example charts/graphs: • Trends over time comparisons • Infographics demonstrating TaTs
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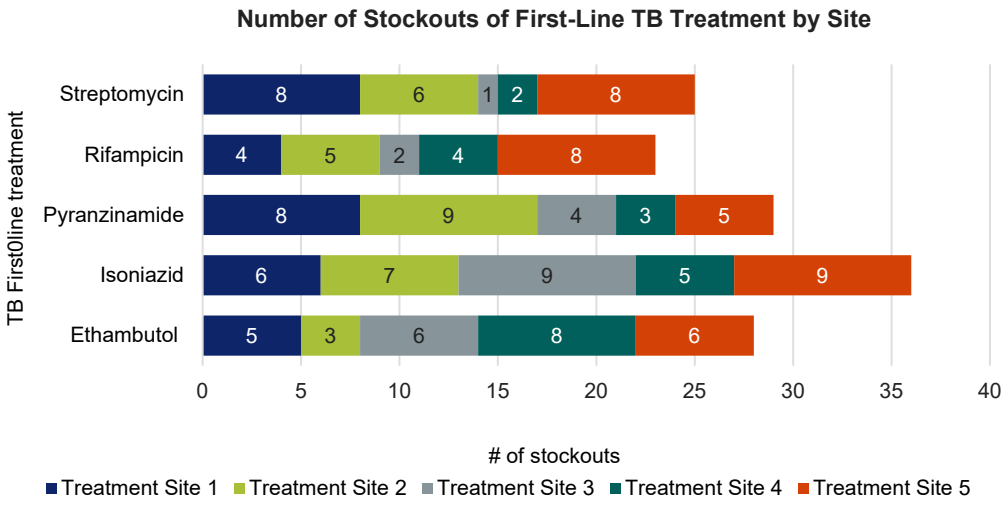
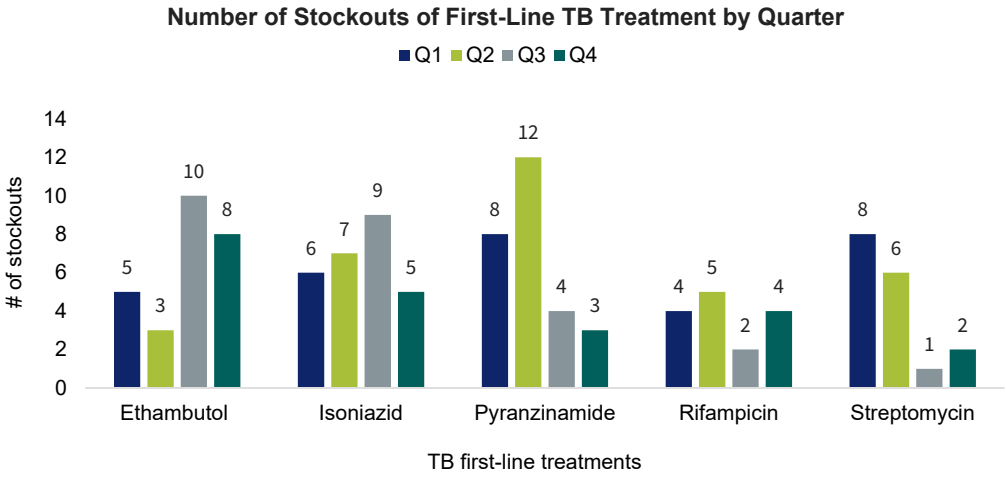
Indicator name	**STKOUT_FLD: Stockout of any first-line TB treatment drugs** *Previously [SN-42]*
Definition	Occurrence of stockout of one or more first-line drugs (FLDs) for TB treatment at any TB treatment site (i.e., basic management unit) or drug storage facility during the reporting period (quarter/annual). The World Health Organization (WHO) defines a stockout as the complete absence of a required drug at a storage point or delivery point for at least one day.
Numerator	This is a Yes/No response for the initial part of the indicator. Only if Yes, then detailed disaggregated data should be provided: • Generic names of TB treatment drugs • Geographic locations • Treatment site/drug storage facility • Central/regional/district level
Denominator	N/A
Category	Sustain
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Yes/No, if yes: name of FLD, location, site, level
Data type	Boolean (Yes/No)
Disaggregate by	Generic names of TB treatment drugs, treatment site/drug storage facility, central/regional/district level
Reporting level	National, subnational
Reporting frequency	Quarterly
Data source(s)	Data for this indicator can be extracted from routine commodity management information systems, facility survey, or routine supervision reports at facility and district levels
Importance	A reliable, effective procurement and supply chain management (PSCM) system is the backbone of the TB program to ensure (1) all TB medicines are available to the patient for treatment without any interruption; (2) all TB diagnostics and supplies are available in the healthcare centers where presumptive TB patients are diagnosed; (3) regular and timely delivery of the TB products to the health centers; and (4) quality assurance is adhered to, and affordably priced products are delivered on time. An effective PSCM requires timely and reliable quantification of all TB products (medicines, diagnostics, consumables) based on regular inflow of information from the healthcare facility to the central ordering authority. This information should include the consumption, stock in balance, and the quantities needed for the next ordering cycle. Ideally, healthcare facilities would have tools available for quantification and timely placement of a procurement order including the necessary lead time.

Data use and visualization	During visit to the program and for the purpose of evaluation; indication of an effective PSCM would be: • No STOCKOUT of any TB medicine • No STOCKOUT of any TB diagnostic product • No EXPIRY (expiration) of products both medicines and diagnostics as a result of underutilization or overstocking due to incorrect quantification (over-ordering) With overstocking, one would need to consider underutilization as a result of changes in the treatment regimens as recommended by the WHO; for example, shortened treatment regimens for drug-resistant (DR) TB, the use of second-line injectables that are no longer recommended, or a change in TB preventive treatment (TPT) regimen from 6H to 3HP. Example charts/graphs: • Charts or infographics by facility or aggregated by geographic location or heat maps  

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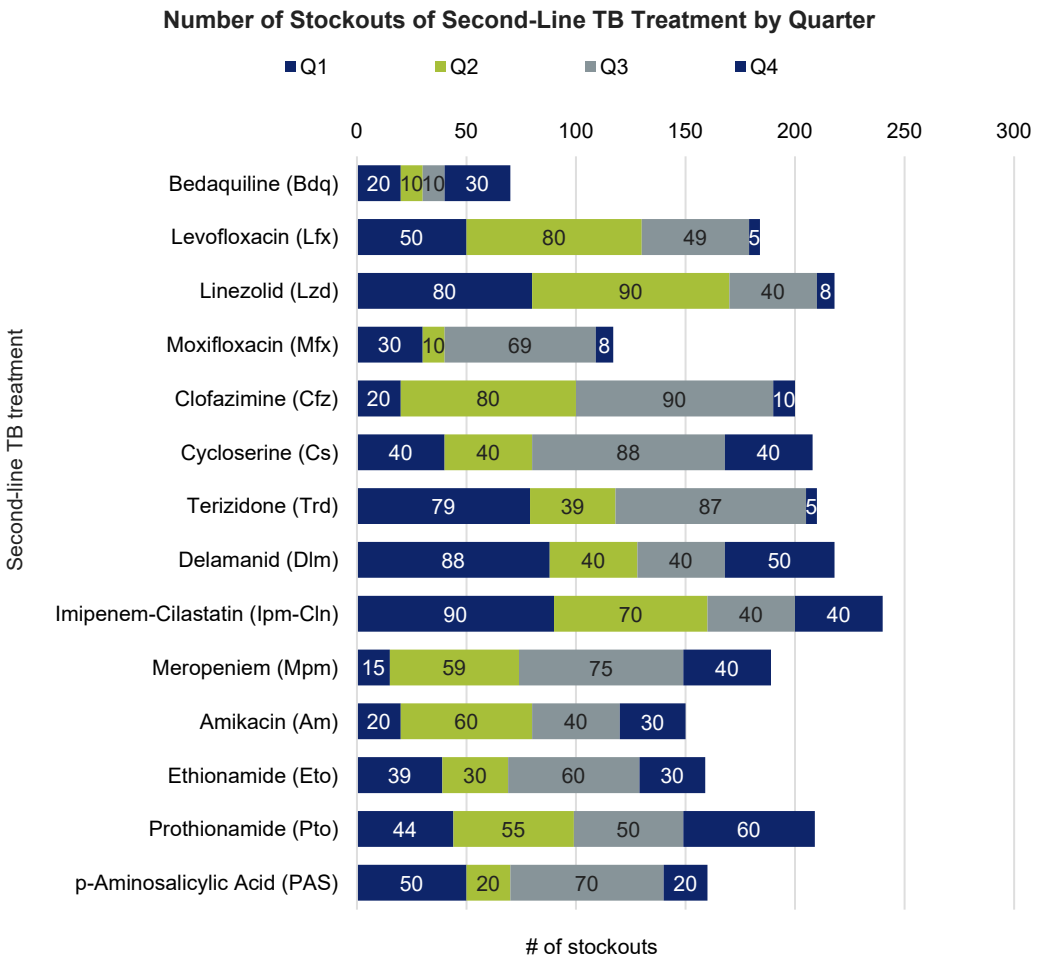
Indicator name	**STKOUT_SLD: Stockout of any second-line TB treatment drugs** *Previously [SN-43]*
Definition	Occurrence of stockout of one or more second-line drug (SLD) for TB treatment at any TB treatment site or drug storage facility during the reporting period (quarter/annual). The World Health Organization (WHO) defines a stockout as the complete absence of a required drug at a storage point or delivery point for at least one day.
Numerator	This is a Yes/No response for the initial part of the indicator Only if Yes, then detailed disaggregated data should be provided • Generic names of TB treatment drugs • Geographic locations • Treatment site/drug storage facility • Central/regional/district level
Denominator	N/A
Category	Sustain
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Yes/No, if yes: name, location, site, level
Data type	Boolean (Yes/No)
Disaggregate by	Generic names of TB treatment drugs, treatment site/drug storage facility, central/regional/district level
Reporting level	National, subnational
Reporting frequency	Quarterly
Data source(s)	Data for this indicator can be extracted from routine logistic management information systems, facility survey (i.e., SARA or QTSA) or routine supervision reports at facility and district levels
Importance	A reliable, effective procurement and supply chain management (PSCM) is the backbone of the TB program to ensure (1) all TB medicines are available to the patient for treatment without any interruption; (2) all TB diagnostics and supplies are available in the healthcare centers where presumptive TB patients are diagnosed; (3) regular and timely delivery of the TB products to the health centers; and (4) quality assurance is adhered to and affordably priced products are delivered on time. An effective and reliable PSCM requires timely and reliable quantification of all TB products (medicines, diagnostics, consumables) based on a regular inflow of information from the healthcare facility to the central ordering authority. This information should include the consumption, stock in balance, and the quantities needed for the next ordering cycle. Ideally healthcare facilities would have tools available for quantification and timely placement of a procurement order including the necessary lead time.

Data use and visualization	During visit to the program and for the purpose of evaluation; indication of an effective PSCM would be: • No STOCKOUT of any TB medicine. • No STOCKOUT of any TB diagnostic products • No EXPIRY (expiration) of products both medicines and diagnostics as a result of underutilization or overstocking due to incorrect quantification (over-ordering) With overstocking, one would need to consider underutilization as a result of changes in the treatment regimens as recommended by WHO; for example, shortened treatment regimens for drug-resistant (DR) TB, the use of second-line injectables that are no longer recommended, or a change in TB preventive treatment (TPT) regimen from 6H to 3HP. Example charts/graphs: • Charts or infographics by facility or aggregated by geographic location • Heat map 

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Indicator name	**STKOUT_WRD: Stockout of TB rapid molecular tests and related commodities** *Previously [SN-44]*
Definition	Occurrence of stockout of one or more World Health Organization-recommended rapid diagnostic tests (WRDs) or related testing commodities at any facility (e.g., basic management unit) or storage facility (central or subnational) at the end of reporting period (quarter/annual). WHO defines a stockout as the complete absence of a required commodity at a storage point or delivery point for at least one day.
Numerator	This is a Yes/No response for the initial part of the indicator Only if Yes, then detailed disaggregated data should be provided • Names of TB diagnosis commodities • Geographic locations • Diagnostic site/commodity storage facility • Central/regional/district level
Denominator	NA
Category	Sustain
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Yes/No, if yes: name of commodity, location, site, level
Data type	Boolean (Yes/No)
Disaggregate by	Names of TB diagnosis commodities, locations, diagnostic site/commodity storage facility, central/regional/district level
Reporting level	National, subnational
Reporting frequency	Quarterly
Data source(s)	Data for this indicator can be extracted from routine logistic management information systems, facility survey (i.e., SARA or QTSA) or routine supervision reports at facility and district level
Importance	A reliable, effective procurement and supply chain management (PSCM) is the backbone of the TB program to ensure (1) all TB medicines are available to the patient for treatment without any interruption; (2) all TB diagnostic reagents and consumables are available in the healthcare centers where presumptive TB patients are diagnosed or where specimens are collected for transport to a TB diagnostic facility; (3) regular and timely delivery of the TB products to the health centers; and (4) quality assurance is adhered to and affordably priced products are delivered on time. An effective and reliable PSCM requires timely and reliable quantification of all TB products (medicines; diagnostics; consumables) based on a regular inflow of information from the healthcare facility to the central ordering authority. This information should include the consumption, stock in balance, and the quantities needed for the next ordering cycle. Ideally, healthcare facilities would have tools available for quantification and timely placement of a procurement order including the necessary lead time.

Data use and visualization	During visit to the program and for the purpose of evaluation; indication of an effective PSCM would be: • No STOCKOUT of any TB medicine used in the treatment • No STOCKOUT of any diagnostic products used in the healthcare center • No EXPIRY of products both medicines and diagnostics as a result of underutilization or overstocking due to incorrect quantification (over-ordering) With overstocking, one would need to consider underutilization as a result of changes in the treatment regimens as recommended by WHO; for example, shortened treatment regimens for drug-resistant (DR) TB, the use of second-line injectables that are no longer recommended, or a change in TB preventive treatment (TPT) regimen from 6H to 3HP. Example charts/graphs: • Charts or infographics by facility or aggregated by geographic location • Heat map

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Indicator name	**SN_STGMA_NSP: TB stigma reduction in NSP** *Previously [SN-32A]*
Definition	TB stigma reduction is included in the National TB Program (NTP) annual plan and/or national strategic plan (NSP) and includes 3 elements: interventions, indicators, and assigned budget line. The NTP annual plan and/or NSP state that it is illegal to discriminate against anyone with TB, citing law where relevant, and includes interventions aimed at reducing stigma as a barrier to TB services; specifically: 1. The NTP/NSP mentions activities to reduce stigma, including stigma against vulnerable populations who may already be stigmatized when accessing the health system 2. The NTP/NSP provides data from a stigma assessment 3. Appropriate context-specific activities are described to respond to stigma 4. Indicators with targets are included to reduce stigma 5. A defined budget is allocated for stigma-reduction activities
Numerator	Use the following scoring system: 0 = No mention of any of those 3 elements in the NTP annual plan/NSP 1 = 1 element (out of 3 elements) is included in the annual plan/ NSP 2 = 2 elements (out of 3 elements) are included in the annual plan/NSP 3 = All 3 elements are included in the annual plan/NSP
Denominator	NA
Category	Sustain
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Score 0–3
Data type	Integer
Disaggregate by	N/A
Reporting level	Though this is a project-level indicator, this data should be reported at the national level to reflect the country's NSP.
Reporting frequency	Annually
Data source(s)	The data sources for this indicator may include extracting information from a country's NSP for TB or NTP annual plan. The Stop TB Partnership also conducts an annual survey and publishes data relevant to this indicator in their report *"Governance of TB Programmes: An assessment of practices in 18 countries"*.

Importance	Research highlights that stigma and discrimination limit access to TB services and have a negative impact on the quality of life for people with TB. It is essential for countries to understand the levels and dimensions of TB stigma in order to address the health disparities experienced by people with TB and inform interventions to end TB stigma. The Political Declaration of the United Nations High-Level Meeting (UNHLM) on TB commits to removing legal and social barriers in order to eliminate stigma and discrimination and promote TB responses guided by human rights principles. Overcoming the legal and policy barriers that exacerbate the stigma associated with TB and the people affected by it will reduce a key barrier to services and will enable access to quality, affordable, and timely TB care, as well as a return to normal life. There is a need to scale up interventions aimed at reducing stigma that promote enabling legal environments, identify and overcome legal barriers to TB services, and build comprehensive social protection systems. In 2021, the Stop TB Partnership assessed practices related to governance of TB programs in 22 countries including policy frameworks to reduce TB stigma. An important next step is the design and implementation of both policy and programmatic interventions to address stigma, along with monitoring of the response to such interventions.
Data use and visualization	This indicator measures whether TB stigma reduction is featured and measured in the NTP annual plan and/or NSP highlighting the following 3 elements: interventions, indicators, and assigned budget line. This is a companion indicator to 32B. Indicator 32B measures whether a stigma assessment or gap analysis has been conducted that would provide information for critical activities that need to be included and addressed in the NTP annual plan or NSP.

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Indicator name	**SN_STGMA_ASSESS: TB stigma assessment/gap analysis available** *Previously [SN-32B]*
Definition	Stigma assessment/gap analysis conducted; the National TB Program (NTP) annual plan or national strategic plan (NSP) mentions the findings of stigma assessment and clearly aligns the findings to TB stigma reduction activities and communication strategy.
Numerator	Use the following scoring system: 0 = No assessment conducted 1 = Assessment conducted 2 = Assessment conducted and annual plan/NSP mentions the findings of stigma assessment; communication strategy/interventions align with the NTP annual plan or NSP and specifically mention stigma as one of the objectives of communication
Denominator	N/A
Category	Sustain
Indicator type	Output
PBMEF level	Project Level
Unit of measure	Score 0–2
Data type	Integer
Disaggregate by	N/A
Reporting level	Though project level indicators are expected to be reported at the subnational level for subnational units where the partner is operating, these assessments are generally done at the national level and reporting should reflect the availability of results nationally.
Reporting frequency	This indicator should be reported on an annual basis at a minimum. More frequent monitoring on a quarterly or monthly basis is recommended.
Data source(s)	The data sources for this indicator may include extracting information from a country's NSP for TB, NTP annual plan, or Stigma Assessment Report. The Stop TB Partnership also conducts an annual survey and publishes data relevant to this indicator in their report *"Governance of TB Programmes: An assessment of practices in 18 countries".*

Importance	Research highlights that stigma and discrimination limit access to TB services and have a negative impact on the quality of life for people with TB. It is essential for countries to understand the levels and dimensions of TB stigma in order to address the health disparities experienced by people with TB to inform interventions to end TB stigma. The Political Declaration of the United Nations High-Level Meeting (UNHLM) on TB commits to removing legal and social barriers in order to eliminate stigma and discrimination and promote TB responses guided by human rights principles. Overcoming the stigma associated with TB will reduce a key barrier to services and enable access to quality, affordable, and timely TB care, as well as a return to normal life. The need to scale up interventions aimed at reducing stigma is a priority. In 2021, the Stop TB Partnership assessed practices related to governance of TB programs in 22 countries including policy frameworks to reduce TB stigma. An important next step is the design and implementation of both policy and programmatic interventions to address stigma, along with monitoring of the response to such interventions. The TB Stigma Measurement Guidance is a resource developed by KNCV Tuberculosis Foundation with USAID support that can be utilized in the design, implementation, and monitoring and evaluation (M&E) of these activities.
Data use	This indicator measures whether a stigma assessment/gap analysis has been conducted and whether it is mentioned in the NTP annual plan or NSP. These analyses are important to highlight critical activities that need to be included and addressed in these documents.

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