Assessment of Tuberculosis Data Collection, Reporting, and Analysis Capacity (ARC)

Kyrgyz Republic

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USAID
FROM THE AMERICAN PEOPLE

TB DIAH
Tuberculosis Data, Impact Assessment and Communications Hub

National Center of Phthisiology

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Contents

Abbreviations

ART	antiretroviral therapy
ARC	Assessment of Tuberculosis Data Recording, Reporting and Analysis Capacity
CHW	community health worker
DR-TB	drug-resistant TB
DS-TB	drug-susceptible TB
HF	health facility
HCW	healthcare worker
LDMIS	laboratory data management information system
LTFU	lost to follow-up
MOH	Ministry of Health
M&E	monitoring and evaluation
MDR-TB	multi-drug-resistant TB
NRL	National Reference Laboratory
NTP	national TB program
PBMEF	Performance-Based Monitoring and Evaluation Framework
RR-TB	rifampicin-resistant TB
SES	Sanitary and Epidemiological Service
STEP	Surveillance of TB and M&E Strengthening Plan
TB DIAH	TB Data, Impact Assessment and Communications Hub
TPT	TB preventive treatment
TB	tuberculosis
USAID	United States Agency for International Development
WHO	World Health Organization
XDR-TB	extensively drug-resistant TB

Summary

The Assessment of Tuberculosis Data Collection, Reporting, and Analysis Capacity (ARC) tool was developed as part of the United States Agency for International Development's (USAID) efforts to strengthen country tuberculosis (TB) monitoring and evaluation (M&E) systems. The tool's purpose is to assist USAID Missions and national TB programs (NTPs) with mapping the readiness and capacity of the TB M&E and surveillance system to collect, report, analyze, and use the data generated to improve the TB situation in their country. The tool is based on the Performance-Based Monitoring and Evaluation Framework (PBMEF) and systematically reviews whether data for the data elements used to calculate the PBMEF indicators are collected at health facility (HF) level and whether those are reported to the NTP. The purpose of this assessment of data collection and reporting against the indicators in the framework is to identify the strengths and gaps in the surveillance system. The assessment was implemented in May 2021 in 22 countries, including Kyrgyzstan. The authors of the assessment would like to express a special thanks to the specialists of the department of epidemiologic and informatics under National Phtisiology Center of the MOH in the Kyrgyz Republic for the significant contribution to conduct and collect the information.

In Kyrgyzstan, a high percentage of data relevant to PBMEF indicators is collected at the HF level and reported to the NTP. For example, 67% or more of data elements related to drug-resistant (DR)-TB, multi-drug-resistant (MDR)-TB, childhood TB, TB screening, contacts, laboratory, and drugs and diagnostic supplies are collected. However, some important data elements for these topical areas are not collected. Indicators for which a relatively low proportion (below 67%) or no relevant data elements are collected include presumptive TB, TB preventive treatment (TPT), TB-HIV, TB among healthcare workers (HCWs), and the private sector. Overall, out of 230 PBMEF data elements, less than two-thirds are recorded in Kyrgyzstan, leaving 86 data elements related to PBMEF indicators not collected in the country.

Regarding collection of data disaggregated by age and sex, HFs record data by age groups for drug-susceptible (DS)-TB, DR-TB, TB screening, contacts, TB/HIV, and TB among HCWs. HFs record sex data for most indicator groups except TPT, private sector, and TB among HCWs.

In terms of reporting to the NTP, both paper-based and electronic systems are in place and 100% of the public HFs report to district and national NTP levels using these systems. However, because the private sector is not within the realm of the NTP, no data is collected from, and therefore reported by, the private sector providers.

Approximately 64 PBMEF data elements are currently included in the World Health Organization (WHO) database. Kyrgyzstan has been consistently reporting on nearly all these data elements since 2015, or whenever new elements were introduced by WHO in subsequent years. Nevertheless, there were data elements that were inconsistently reported every year, or not reported at all. These data elements relate to reporting on TB services by community health workers (CHWs), private providers, and adverse reactions to DR-TB drugs.

In conclusion, the list of PBMEF data elements can be categorized as following:

1. Data that are already reported to WHO, are authenticated, and are publicly available.
2. Data that are reported to the NTP but not reported to WHO and are available at the country level.
3. Data that are collected at HFs but not reported to the NTP.
4. Data that are not collected at all and, therefore, are not reported to the NTP.

In the Kyrgyzstan context, a significant number of data elements can be extracted from the WHO database to create visuals for the TB DIAH Data Hub[1] that could also incorporate other data elements reported to the NTP but not necessarily reported through WHO. Such visuals could provide a holistic view of available TB data and identify any existing gaps in reported TB data.

The ARC findings can be used to inform development of a Surveillance of TB and M&E Strengthening Plan (STEP) that will help to (i) identify low hanging fruits and planning actions for quick-wins; (b) prioritize indicators and actions to ensure data collection, reporting, visualization and use of those indicators; (c) build consensus and cooperation among various stakeholders; and (d) promote their ownership and participation in TB M&E system strengthening.

[1] TB DIAH Data Hub, accessed through www.tbdiah.org, is an online portal for USAID TB program managers, TB technical advisors, and key country stakeholders, including NTP staff, to access global and national-level data to support their performance-based management of TB programs. The Data Hub offers visualizations of publicly-available WHO data, as well as a secure, password-protected work area for Mission staff from each of the 23 USAID TB priority countries to enter, analyze and review the TB data requested by USAID Headquarters for things such as reporting on prevention indicators and the TB roadmap.

Background

The ARC tool was developed by the USAID-funded TB Data, Impact Assessment and Communications Hub (TB DIAH) project as part of USAID's efforts to strengthen country TB M&E systems. The purpose of this assessment is to assist USAID Missions and NTPs with mapping the readiness and capacity of the TB M&E and surveillance system to collect, report, analyze, and use the data generated to improve the TB situation in their country.

The ARC tool is based on the PBMEF. The framework contains standardized indicators that measure TB program outputs and outcomes, which can then be organized into treatment cascades and patient pathways to help decision-makers identify how TB programs are working, where the gaps are, and where they need to direct resources.

The tool follows the 14 extended indicator groups in the PBMEF, as follows:

- TB Detection
- Childhood TB
- Contact Investigation
- Presumptive TB
- Private Sector
- DR-TB Notifications
- DR-TB Treatment
- TB Treatment Success
- TPT
- HCW Screening
- TB/HIV
- Prevention
- Active Case Finding
- Sustainability

It systematically reviews the TB data that are collected against the indicators in the framework and identifies strengths and gaps in the surveillance system. This provides a critical first step in developing a comprehensive landscape analysis of a country's TB M&E and surveillance system.

This report provides (1) an overview of the TB M&E and surveillance system in Kyrgyzstan based on a desk review of relevant and publicly available documents; (2) findings from the ARC tool implementation, including a summary of PBMEF data elements collected and reported at the HF level, as well as issues encountered; and (3) a comprehensive list of PBMEF data elements that are currently reported to the WHO.

ARC Implementation in Kyrgyzstan

The ARC was implemented in 22 of USAID's 23 TB-priority countries. The USAID Mission in the Kyrgyz Republic, in collaboration with the country's NTP, conducted the ARC in May 2021. The Mission TB point of contact collected data through in-depth interviews with NTP staff and entered it into the ARC tool on the TB DIAH Data Hub. The tool was used to collect information related to PBMEF data elements which are captured at the HFs providing TB services, and to determine whether it is being collected by the NTP, other departments of the Ministry of Health and Social Development (MOHSD), or non-NTP/private providers. For each of the 14 PBMEF indicator groups, additional information was collected related to the administrative levels to which data are reported, method of data reporting, and reporting coverage.

Overview of Kyrgyzstan's TB M&E and Surveillance System

In Kyrgyzstan, the TB M&E and surveillance system was inherited from the former Soviet Union and was reformed in 2018 to comply with WHO's recommendations. It is managed by the National Centre of Phthisiology, a part of the MOHSD that includes the Republican Centre of Informatics and Epidemiology and coordinates NTP activities at the national level. The Sanitary and Epidemiological Service (SES) coordinates a second TB data reporting system based on a limited number of indicators.

Previously, the TB MIS was a paper-based system and an electronic web-based system for TB surveillance and case management (ES/TB-KG) were implemented in parallel. That system included a clinical, pharmacy and laboratory component but had many challenges and its use was stopped through a government order No. 268 "Implementation of ES/TB " from April 2017. Currently, the pharmacy module is being re-engineered and piloted in National Phtisiology Center and republican TB hospital in Kara-Balta , the laboratory module has been replaced with the laboratory data management information system (LDMIS) and the clinical component was replaced by the electronic TB register (eTB register). The eTB register provides registration of TB patients, the course of treatment from registration to completion of treatment in all organizations at the oblast level, at the national level and at the PHC level of the republic level. The system allows to automate the activities for the surveillance of TB patients, to structure and display data on the state of the TB service, and provides functional authorities for the surveillance of the epidemic situation in the country. The system is integrated with the personification systems (SIEI Tunduk), LDMIS, Electronic Medical Record (EMR) and the subsystem "Treated Case at the PHC level".

The e-TB register allows to automate the creation of a TB patient's medical record, generate appropriate printing forms, monitor treatment and enter records, create statistics and reports for monitoring and evaluation, simplify the search for information, carry out patient transfers within the system and convert laboratory test results into electronic format. The following functionalities are available in the e-TB register: patient registration, conducting laboratory tests for a patient, determination of the patient's case, prescribing and dispensing drugs to the patient, entering patient notes (including on risk factors and influences on treatment outcome, examination card for close contacts of the TB patient, and decision of the Concilium on treatment of the patient), and transfer or discharge of the patient.

To-date, paper-based TB-01 cards have been digitalized through the TB-01 Module of the e-TB register and all TB-01 forms for patients who were on treatment as of January 1, 2021 are being entered into the system. A Reporting Data Module is currently being developed, which will further automate 18 additional official TB reporting forms, including nine DS-TB forms (TB-02, TB-03, TB-04, TB-05, TB-06, TB-07, TB-08, TB-09, TB-10) and nine DR-TB forms (TB-02У, TB-03У, TB-04У, TB-05У, TB-06У, TB-07У, TB-08У, TB-09У, TB-10У). Currently, NTP is revising reporting and recording forms and according to the draft of new order of the Ministry of Health of the Kyrgyz Republic, there will be only nine reporting forms: TB 05, TB 06, TB 06u, TB 07, TB 07u, TB 08, TB 08u, TB 09, TB 11.

The TB-01 Module and Reporting Data Module, when fully developed, will together constitute the e-TB register.

Figure 1 Overview of interconnection of TB MIS

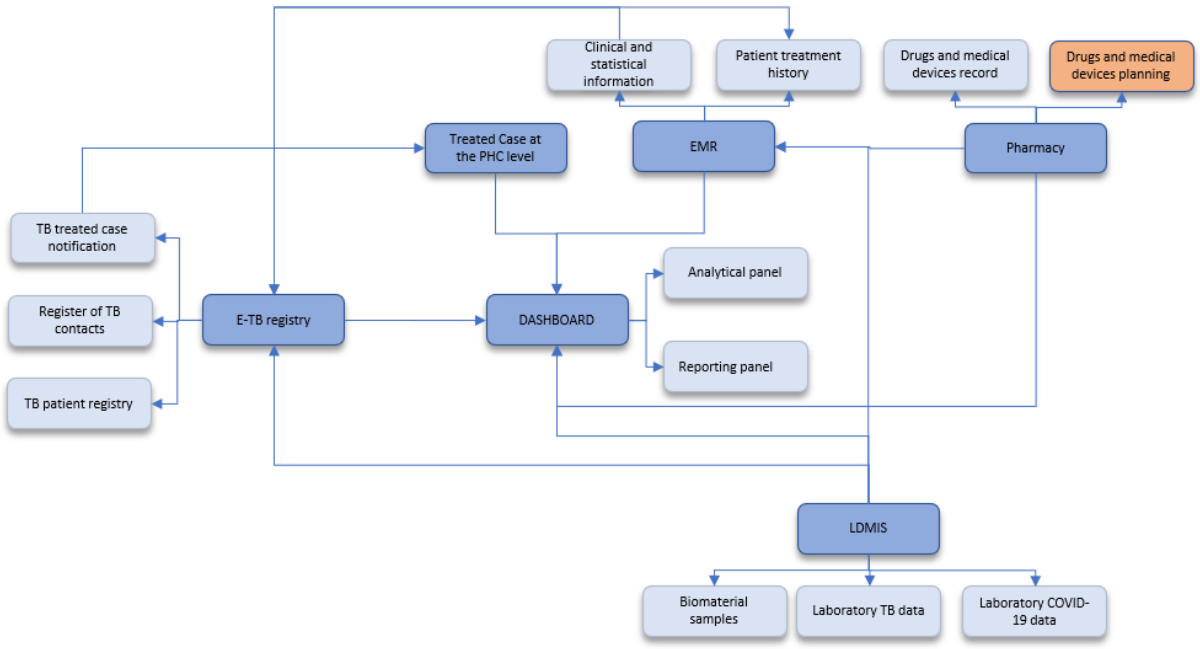
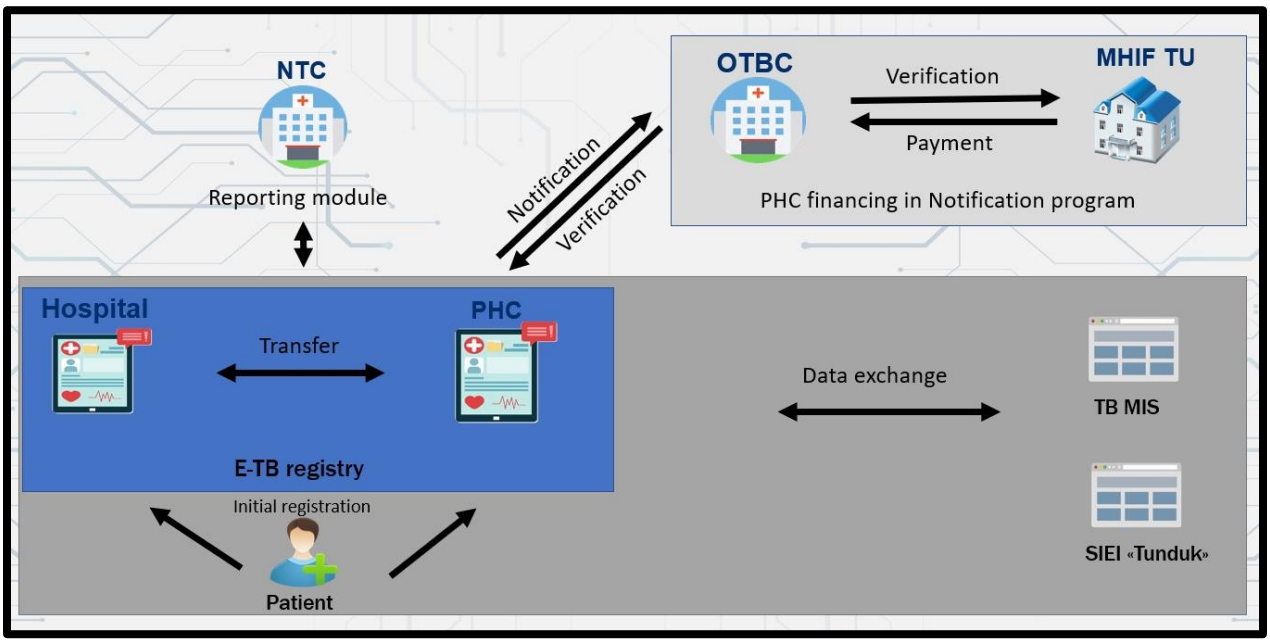


Figure 2. The flow of TB data collection and reporting forms in Kyrgyz Republic[2]



Governance

The country's TB programs are implemented through periodic decrees by the Government of the Kyrgyz Republic. The latest decree covers the period 2017-2021.[2] Kyrgyzstan enacted legislation on the protection of the population from TB, which is considered an integral part of the country's legal system. This legislation is based on the universally recognized principles and norms of international law, the laws of the Kyrgyz Republic in accordance with international treaties, and laws for the protection of the health of citizens and other regulatory legal acts of the Kyrgyz Republic[3].

The government also issued an order to implement an action plan to optimize the system of providing anti-TB assistance to the population of the Kyrgyz Republic for the period from 2017-2026.[4] According to that order, monitoring the implementation of the action plan will be carried out by the MOHSD and the Mandatory Health Insurance Fund (MHIF) under the Government of the Kyrgyz Republic. Under MHIF, Kyrgyzstan is restructuring the TB hospital payment system to promote rational care of TB patients. For example, priority is given to providing case-based financing for treatment of contagious MDR-TB cases with complications and deemphasizing hospital-based care of non-contagious, non-MDR cases to deter hospitalization[5].

Currently the Ministry of Health and Social Development is developing the next national TB strategy, National Program Tuberculosis-VI 2022-2026, which will replace the National Program Tuberculosis-V 2017-2021.

Laboratory Data

There are 104 laboratories throughout the country providing TB diagnostic services. These labs are organized under the National Reference Laboratory (NRL). 1 labs conduct drug-susceptibility tests; seven labs produce cultures; 24 labs conduct Xpert MTB/RIF testing; and 104 labs have basic microscopy capability.

The head of the NRL serves as the director of the laboratory network. The NRL develops guidelines and shares standard operating procedures with other laboratories. It collects the data used in the NTP's quarterly statistics and coordinates and supervises quality control activities.[5] The NRL operates a separate laboratory information system and maintains an electronic system for reporting[1] to the NTP. The laboratory data management information system (LDMIS) works to digitalize TB laboratory tests, as well as to automate the activities and processes of laboratory

[2] The Government of the Kyrgyz Republic. "TB - V" for the years 2017-2021. Retrieved from http://hivtbcc.kg/en/proekti/37-programma-pravitelstva-kyrgyzskoi-respubliki-po-preodoleniyu-tb-infekcii-v-kyrgyzskoi-respublike.html

[3] Law of the Kyrgyz Republic, May 18, 1998 № 65 (amended on Feb. 2019); About protection of the population from tuberculosis. Retrieved from http://cbd.minjust.gov.kg/act/view/ky-kg/73?cl=ky-kg

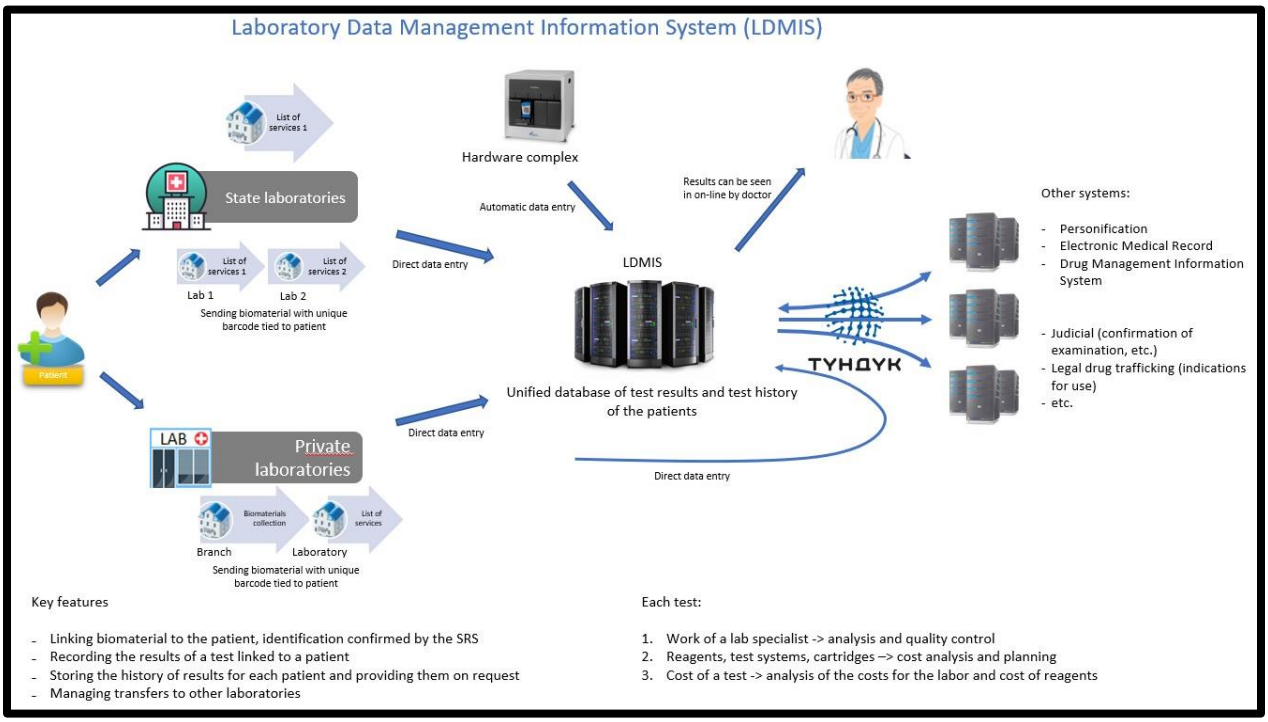
[4] Action plan to optimize the system of providing anti-tuberculosis assistance to the population of the Kyrgyz Republic for 2017-2026. Retrieved from http://cbd.minjust.gov.kg/act/view/ru-ru/215621

[5] USAID: Kyrgyzstan Modernizes TB Hospital Financing https://www.google.com/url?q=https://www.hfgproject.org/improved-payment-system-moves-tb-hospitals-out-of-soviet-era/&sa=D&source=editors&ust=1626127100311000&usg=AOvVaw3ffMFixKTLqe1S6ZJB0RES

specialists. It is the main tool for laboratory specialists and healthcare personnel to enter, process and store digital laboratory test data, as well as to share data and documents between other information systems.

This system allows in real time to share the information on sending and receiving the biomaterials between laboratories, as well as to promptly receive ready test results from TB laboratories in the country. Furthermore, specially created modules allow the automation of all business processes in the laboratories.

Figure 3. Overview of LDMIS



Data Quality

Feedback on TB data quality is provided quarterly to all lower reporting levels[6] and during monitoring visits.

Data Use

TB data are reviewed at quarterly meetings with TB staff during TB reporting at the regional and national levels. Monitoring visits are carried out in accordance with the MOH's approved plan. National-level staff carry out monitoring visits to each region twice per year. The country has approved state funding for monitoring visits in 2020 for the national and regional levels. Before, the visits were financed by the Global Fund to Fight AIDS, Tuberculosis and Malaria. Checklists, approved by the MOH in 2015, are available for monitoring visits. Staff at the regional level carry out monitoring visits to each district two to three times per year, and these

[6] WHO. (2019). Tuberculosis epidemiological impact analysis and assessment of TB surveillance system standards and benchmarks of Kyrgyzstan.

visits are financed from the state budget.[6] In line with WHO recommendations, national TB case data for a given calendar year are available before April of the following calendar year for national analysis and reporting.

Communications

The National Statistical Committee of the Kyrgyz Republic maintains a website (http://www.stat.kg/en/opendata/category/485/) where TB statistics on the number of deaths from active TB by territory are posted. In addition, the MOH website (http://www.med.kg/ru/) features TB information and news. The NTP website is under development.

ARC Findings for Kyrgyzstan

Data collected from health facilities

As shown in Table 1, a high percentage of data relevant to PBMEF indicators is collected at the HF level and reported to the NTP. For example, 67% or more of data elements related to DS-TB, DR-TB, childhood TB, TB screening, contacts, lab, and drugs and diagnostic supplies—but important data elements are not collected. Indicators for which a relatively low proportion (below 67%) or no relevant data elements are collected include presumptive TB, TPT, TB-HIV, TB among HCWs, and the private sector. For more details on the missing data elements in each indicator group see Table 1, the data diagrams in Appendix 1, and the list of PBMEF data that are not collected/recorded at HFs, with comments, in Appendix 2.

Recording, and subsequently analyzing, data disaggregated by age and sex is important for health programming, including TB. According to the findings, HFs record data by age groups for DS-TB, DR-TB, TB screening, contacts, TB/HIV, and TB among HCWs. HFs record sex data for most indicator groups except TPT, private sector, and TB among HCWs.

The ARC found that HFs maintain records of PBMEF data elements except for presumptive TB and TPT. In terms of reporting to the NTP, both paper-based and electronic systems are in place and 100% of the public HFs report to district and national NTP levels using these systems. However, because the private sector is not within the realm of the NTP, no data are collected, and therefore, reported by the private sector providers. Some of the issues in recording and reporting specific data elements were identified by the USAID Mission in consultation with the NTP. These issues are presented in Appendix 2.

Policy related findings

Policy

Though Kyrgyzstan has a national policy, it does not mention any separate provisions to procure and supply child-friendly formulations of first-line or second-line drugs for the treatment of childhood TB.

Prisons

In Kyrgyzstan, the NTP maintains records of prisons conducting screening for TB according to national policy and those that conducting screening for TB with chest X-ray

Sustainability

In terms of keeping records of data relevant to TB program sustainability, 21 out of 31 (67.7%) data elements required for PBMEF indicators are collected in Kyrgyzstan. That is, data on TB funding received from all sources (domestic, Global Fund, USAID, and other sources) is maintained. Data on civil society or TB survivors' engagement in TB program or staff participation in TB and gender sensitization training are not recorded by NTP.

Table 1. ARC Tool summary table

Data element domain	Data collected at HFs	Percent of PBMEF data elements collected at HFs	Data record by age	Data record by sex	Percent of HFs reporting data	Level to which HFs report data	Data reporting method
DS-TB	Yes	85.7%	Yes	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic
MDR-TB	Yes	84.6%	Yes	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic
Extensively Drug-Resistant TB (XDR-TB)	Yes	76.9%	Yes	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic
Childhood DS-TB	Yes	87.5%	NA*	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic
Childhood MDR-TB	Yes	88.9%	NA	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic
Childhood XDR-TB	Yes	77.8%	NA	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic
TB Screening	Yes	66.7%	Yes	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic
Presumptive TB	No	0.0%	NA	NA	0%	Not Applicable	Not Applicable
Contacts	Yes	71.4%	Yes	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic
TPT	Yes	9.1%	No	No	0%	Not Applicable	Not Applicable
TB-HIV	Yes	38.8%	Yes	Yes	100%	Both district & national; NTP	Hybrid: paper & electronic

TB Lab	Yes	85.7%	NA	NA	100%	Both district & national; NTP	Hybrid: paper & electronic
TB Drugs and Diagnostic Supplies	Yes	100%	NA	NA	100%	Both district & national; NTP	Hybrid: paper & electronic
Private Sector TB	No	0.0%	No	No	0%	Not Applicable	Not Applicable
TB among HCWs	Yes	50.0%	Yes	No	100%	Both district & national; NTP	Hybrid: paper & electronic
HFs Providing TB Services	Yes	85.7%	Yes	No	100%	Both district & national; NTP	Hybrid: paper & electronic

PBMEF Data Reporting through WHO: Data Availability in the WHO Database, by Year

Table 2 outlines the PBMEF indicators that have been reported globally through the WHO database since 2015 to understand the reporting capacity at the national level. The ARC tool identifies the PBMEF data elements that are or are not recorded at the HF level and then reported to the NTP. The NTP then processes the data and provides them to the WHO for global reporting. The table shows the data elements that have been consistently reported since 2015, inconsistently reported, or not reported at all. Kyrgyzstan has been consistent in reporting most TB data to WHO. This table also shows the progress in Kyrgyzstan's reporting to WHO, which indicates a significant improvement in the TB M&E system. A similar exercise to map PBMEF data reporting through NTP to review the availability of relevant data in the NTP database can be done in collaboration with the NTP.

Table 2. Data for PBMEF indicators reported in the WHO database

Data Definition	PBMEF Indicator	Variable Name in WHO Database	Data Availability Year				
			2015	2016	2017	2018	2019
Total of new and relapse cases, and cases with unknown previous TB treatment history.	DT-1; DT-2; DT-3; DT-4; CH-6; TH-13	c_newinc					
New pulmonary clinically diagnosed TB cases (not bacteriologically confirmed as positive for TB but diagnosed with active TB by a clinician or another medical practitioner who has decided to give the patient a full course of TB treatment). Also includes pulmonary clinically diagnosed cases with unknown previous TB.	DT-12	new_clindx					
New extrapulmonary cases (bacteriologically confirmed or clinically diagnosed). As of 2013, this also includes extrapulmonary cases with unknown previous TB treatment history.	DT-4	new_ep					
New pulmonary bacteriologically confirmed TB cases (smear positive or culture positive, or positive by WHO-recommended rapid diagnostics such as Xpert MTB/RIF). As of 2013, this also includes pulmonary bacteriologically confirmed cases with unknown previous TB treatment history.	DT-12; PT-6	new_labconf					
Number of new and relapse cases notified and tested using a WHO-recommended rapid diagnostic (e.g., Xpert MTB/RIF) at the time of TB diagnosis (regardless of test result).	DT-15	newinc_rdx					
New and relapse cases (but only new cases, if rel_in_agesex_flg = 0): females ages 0-14 years.	CH-8	newrel_f04 (multiple)					
Relapse pulmonary bacteriologically confirmed TB cases (smear positive or culture positive, or positive by WHO-recommended rapid diagnostics such as Xpert MTB/RIF).	DT-12; PT-6	ret_rel_labconf					
Relapse pulmonary clinically diagnosed TB cases (not bacteriologically confirmed as positive for TB, but diagnosed with active TB by a clinician or another medical practitioner who has decided to give the patient a full course of TB treatment).	DT-12	ret_rel_clindx					
Relapse extrapulmonary cases (bacteriologically confirmed or clinically diagnosed).	DT-4	ret_rel_ep					
Number of new and relapse (or all, if newrel_tbhiv_flg = 0 and year > 2015) TB patients recorded as HIV-positive.	TH-14; TH-18	newrel_hivpos					
Number of new and relapse (or all, if newrel_tbhiv_flg = 0 and year > 2015) TB patients tested for HIV at the time of TB diagnosis or with known HIV status at the time of TB diagnosis.	TH-13; TH-14	newrel_hivtest					
Number of household contacts of bacteriologically confirmed pulmonary new and relapse TB cases notified in the reporting year who were started on TB preventive treatment.	PT-1; PT-2; PT-4; PT-6	newinc_con_prevtx	NA	NA	NA		

Number of children under five years of age started on TB preventive treatment who are household contacts of bacteriologically confirmed new and relapse TB cases notified.	PT-3; PT-4; PT-7	newinc_con04_ prevtx					
Number of household contacts of bacteriologically confirmed pulmonary new and relapse TB cases who were evaluated for active TB and latent TB.	CI-1	newinc_con_screen	NA	NA	NA	NA	
Number of children under five years of age started on TB preventive treatment who are household contacts of bacteriologically confirmed new and relapse TB cases notified.	CI-1	newinc_con	NA	NA	NA	NA	
Number of HCWs who had TB.	HW-3	hcw_tb_infected	NA	NA	NA	NA	
Expected funding from domestic sources, including loans (US dollars).	SN-1	cf_tot_domestic	NA	NA	NA		
Total expected funding from all sources (US dollars).	SN-1	cf_tot_sources	NA	NA	NA		
Total funding received from all sources (US dollars).	SN-2; SN-3	rcvd_tot_sources	NA	NA			
Funding received from domestic sources, including loans (US dollars).	SN-3	rcvd_tot_domestic	NA	NA			
People living with HIV currently enrolled in HIV treatment who started treatment for latent TB infection.	PT-1; PT-5; PT-8;	hiv_ipt_reg_all					
Number of adults and children currently enrolled in HIV treatment during the year.	PT-8	hiv_reg_all					
HIV-positive new and relapse (or all, if newrel_tbhiv_flg = 0 and year > 2015) TB patients started or continued on antiretroviral therapy (ART).	TH-18	newrel_art					
Outcomes for all new and relapse cases (but only new cases, if rel_with_new_flg = 0): Cohort size.	SS-1; SS-2; SS-3; SS-4; SS-5	newrel_coh					NA
Outcomes for all new and relapse cases (but only new cases, if rel_with_new_flg = 0): Died.	SS-2	newrel_died					NA
Outcomes for all new and relapse cases (but only new cases, if rel_with_new_flg = 0): Treatment failed.	SS-3	newrel_fail					NA
Outcomes for all new and relapse cases (but only new cases, if rel_with_new_flg = 0): Lost to follow-up (LTFU).	SS-4	newrel_lost					NA
Outcomes for all new and relapse cases (but only new cases, if rel_with_new_flg = 0): Treatment success (cured or treatment completed).	SS-1	newrel_succ					NA
Outcomes for HIV-positive TB cases, all types: Cohort size.	SS-6; TH-21; TH-22	tbhiv_coh					NA
Outcomes for HIV-positive TB cases, all types: Died.	TH-20	tbhiv_died					NA
Outcomes for HIV-positive TB cases, all types: Treatment failed.	TH-21	tbhiv_fail					NA

Outcomes for HIV-positive TB cases, all types: LTFU.	TH-22	tbhiv_lost					NA
Outcomes for HIV-positive TB cases, all types: Treatment success (cured or treatment completed).	SS-6	tbhiv_succ					NA
Number of laboratory-confirmed XDR-TB cases identified in the current year (including in MDR cases diagnosed in previous years).	RN-1; RN-2; TH-15; TH-16	all_conf_xdr					
Number of laboratory-confirmed rifampicin-resistant (RR)-TB or MDR-TB cases identified.	RN-1; RN-2; RN-4; RN-5; TH-15	conf_rrmdr					
Number of new bacteriologically confirmed pulmonary TB patients with test results for rifampicin and isoniazid and with resistance to isoniazid (regardless of result for rifampicin).	DT-22; DT-25; DT-27	dst_rlt_hr_new	NA	NA			
Number of previously treated bacteriologically confirmed pulmonary TB patients with test results for rifampicin and isoniazid and with resistance to isoniazid (regardless of result for rifampicin).	DT-26; DT-27	dst_rlt_hr_ret	NA	NA			
Among new pulmonary TB patients with positive identification for M. Tuberculosis complex (confirmed by culture and/or line-probe assay): Number of patients with available DS testing results for isoniazid and rifampicin.	DT-18; DT-20; DT-21; DT-25; DT-27	dst_rlt_new	NA	NA			
Among patients previously treated for TB with positive identification for M. Tuberculosis complex (confirmed by culture and/or line-probe assay): Number of patients with available DS testing results for isoniazid and rifampicin.	DT-19; DT-20; DT-26; DT-27	dst_rlt_ret	NA	NA			
Number of new bacteriologically confirmed pulmonary TB patients with test results for rifampicin and isoniazid and with RR (regardless of result for isoniazid).	DT-23	dst_rlt_rr_new	NA	NA			
Number of previously treated bacteriologically confirmed pulmonary TB patients with test results for rifampicin and isoniazid and with RR (regardless of result for isoniazid).		dst_rlt_rr_ret	NA	NA			
Among new TB patients with available DS testing results (variable dst_rlt_new): Number of patients with resistance to isoniazid and rifampicin (MDR-TB).	DT-18; DT-20; DT-24; DT-25; DT-27	mdr_new	NA	NA			
Among patients previously treated for TB with available DS testing results (variable dst_rlt_ret): Number of patients with resistance to isoniazid and rifampicin (MDR-TB).	DT-19; DT-20; DT-26; DT-27	mdr_ret	NA	NA			
Number of new bacteriologically confirmed pulmonary TB patients with test results for rifampicin.	DT-16	r_rlt_new	NA	NA			
Number of new or previously treated bacteriologically confirmed pulmonary TB patients with RR and with test results for any fluoroquinolone.	RN-3	rr_dst_rlt_fq	NA	NA			
Number of new or previously treated bacteriologically confirmed pulmonary TB patients with RR and resistance to fluoroquinolones.	DT-28	rr_fqr	NA	NA			
Number of new bacteriologically confirmed pulmonary TB patients with RR-TB.	DT-20; RN-3	rr_new	NA	NA			
Number of previously treated bacteriologically confirmed pulmonary TB patients with RR-TB.	DT-19; DT-20	rr_ret	NA	NA			

Number of laboratory-confirmed XDR-TB patients who started treatment for XDR-TB.	RN-4; RN-5	conf_xdr_tx					
Number of patients, not laboratory-confirmed as having RR-TB or MDR-TB, who started treatment for MDR-TB.	RN-4; RN-5	unconf_rrmdr_tx					
Number of laboratory-confirmed RR-TB or MDR-TB patients who started treatment for MDR-TB.	RN-4; RN-5	conf_rrmdr_tx					
Outcomes for MDR-TB cases: LTFU cohort size.	RS-1; RS-2; RS-3; RS-4; RS-5	mdr_coh				NA	NA
Outcomes for MDR-TB cases: Died.	RS-2	mdr_died				NA	NA
Outcomes for MDR-TB cases: Treatment failed.	RS-3	mdr_fail				NA	NA
Outcomes for MDR-TB cases: LTFU.	RS-4	mdr_lost				NA	NA
Outcomes for MDR-TB cases: Treatment success (cured or treatment completed).	RS-1	mdr_succ				NA	NA
Outcomes for XDR-TB cases: LTFU cohort size.	RS-1; RS-2; RS-3; RS-4; RS-5	xdr_coh				NA	NA
Outcomes for XDR-TB cases: Died.	RS-2	xdr_died				NA	NA
Outcomes for XDR-TB cases: Treatment failed.	RS-3	xdr_fail				NA	NA
Outcomes for XDR-TB cases: LTFU.	RS-4	xdr_lost				NA	NA
Outcomes for XDR-TB cases: Treatment success (cured or treatment completed).	RS-1	xdr_succ				NA	NA
Number of patients on MDR-TB treatment who had adverse events registered in the reporting year.	RS-6	mdr_tx_adverse_events					
Number of new cases of TB diagnosed, according to NTP guidelines, by private providers.	PR-1	priv_new_dx	NA	NA	NA	NA	
Total number of new and relapse TB cases notified in the Basic Management Units with data on referrals by CHWs.	DT-8	notified_ref					
Total number of new and relapse TB cases referred by CHWs/community volunteers in the Basic Management Units with data on referrals by CHWs.	DT-8	notified_ref_community					

Legend: GREEN = if reported; RED = if not reported; NA = not applicable (e.g., because the data element was not included in WHO data list)

Key Findings and Next Steps

The ARC tool provides essential information to inform strengthening of the TB M&E and surveillance system in Kyrgyzstan. A thorough review of the assessment findings and prioritization of the issues with key TB stakeholders will assist in developing an actionable Surveillance of TB and M&E Strengthening Plan (STEP).

Overall, out of 230 PBMEF data elements, less than two-thirds are recorded in Kyrgyzstan, leaving 86 data elements related to PBMEF indicators not collected in the country. A high percentage of data relevant to PBMEF indicators was found to be collected at the health facility level and reported to the NTP including:

- 85.7% of DS-TB related PBMEF indicators
- 84.6% of MDR-TB related PBMEF indicators
- 87.5% of Childhood TB related PBMEF indicators
- 66.7% of TB Screening related PBMEF indicators
- 71.4% of Contact investigation related PBMEF indicators
- 85.7% of TB laboratory related PBMEF indicators
- 100% of PBMEF indicators related to TB drugs and diagnostic supplies

Indicator domains for which a relatively low proportion (below 67%) or no relevant data elements were collected include presumptive TB, TB preventive treatment (TPT), TB-HIV, TB among healthcare workers (HCWs), and the private sector.

Both paper-based and electronic systems are in place and 100% of the public HFs report to district and national NTP levels using these systems. However, because the private sector is not within the realm of the NTP, no data is collected from, and therefore reported by, the private sector providers.

Approximately 64 PBMEF data elements are currently included in the World Health Organization (WHO) database. Kyrgyzstan has been consistently reporting on nearly all these data elements since 2015, or whenever new elements were introduced by WHO in subsequent years.

In the Kyrgyzstan context, a significant number of data elements can be extracted from the WHO database to create a series of data visualizations which can be used by the NTP. Data that are already reported to the NTP, but not necessarily reported through WHO, can be incorporated in these visuals, which will help to present a more holistic picture of TB data within the country. A prioritization exercise to identify issues and solutions leading to the development of a TB M&E system strengthening plan is required to explore the opportunities for improved data collection, reporting, analysis, and use, and to address the challenges toward strengthening the TB M&E system in Kyrgyzstan.

Given the findings of the ARC assessment in Kyrgyzstan, the next steps to utilizing these results are as follows:

5. Present the findings to the NTP and other stakeholders.
6. Review the status of availability of yearly data relevant to PBMEF indicators in the national database
7. Identify and prioritize issues and solutions.
8. Develop a Surveillance and TB M&E Strengthening Plan (STEP) to implement solutions.

Follow up to ARC:

Results of the assessment were presented to the NTP staff and TB implementing partners. During the discussions the priority areas were defined for the interventions, such as:

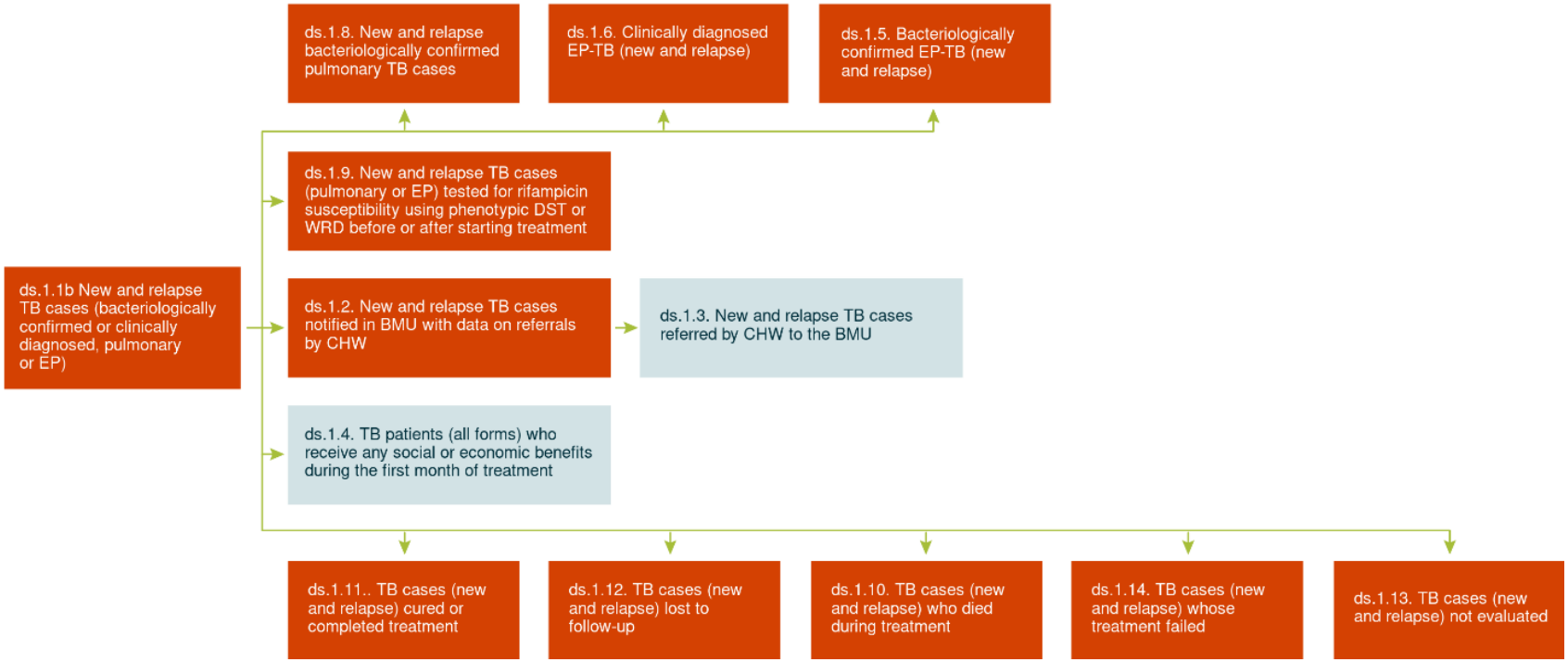
1. Improvement of electronic data systems interoperability
2. Strengthening of data quality assurance mechanism – internal validity and external validity checks
3. Identification of programmatic areas and their data requirements
4. Prioritization of list of M&E indicators
5. Phasing the roll-out of extended indicators
6. Web-based accessibility of TB data and dashboards

All the above mentioned priorities will be reflected in the M&E plan for 2022-2026 which is aligned with the country's National Strategy “Tuberculosis VI”. Moreover, the M&E plan will be in line with TB Surveillance Strengthening Plan (STEP) to boost reporting of PBMEF indicators. The STEP plan will outline who is responsible for reporting each indicator, data flow, frequency of reporting, and areas that need to be strengthened based on the ARC report and other recently conducted M&E assessments. The STEP plan will be used as a roadmap and advocacy tool for strengthening the overall TB M&E and surveillance system.

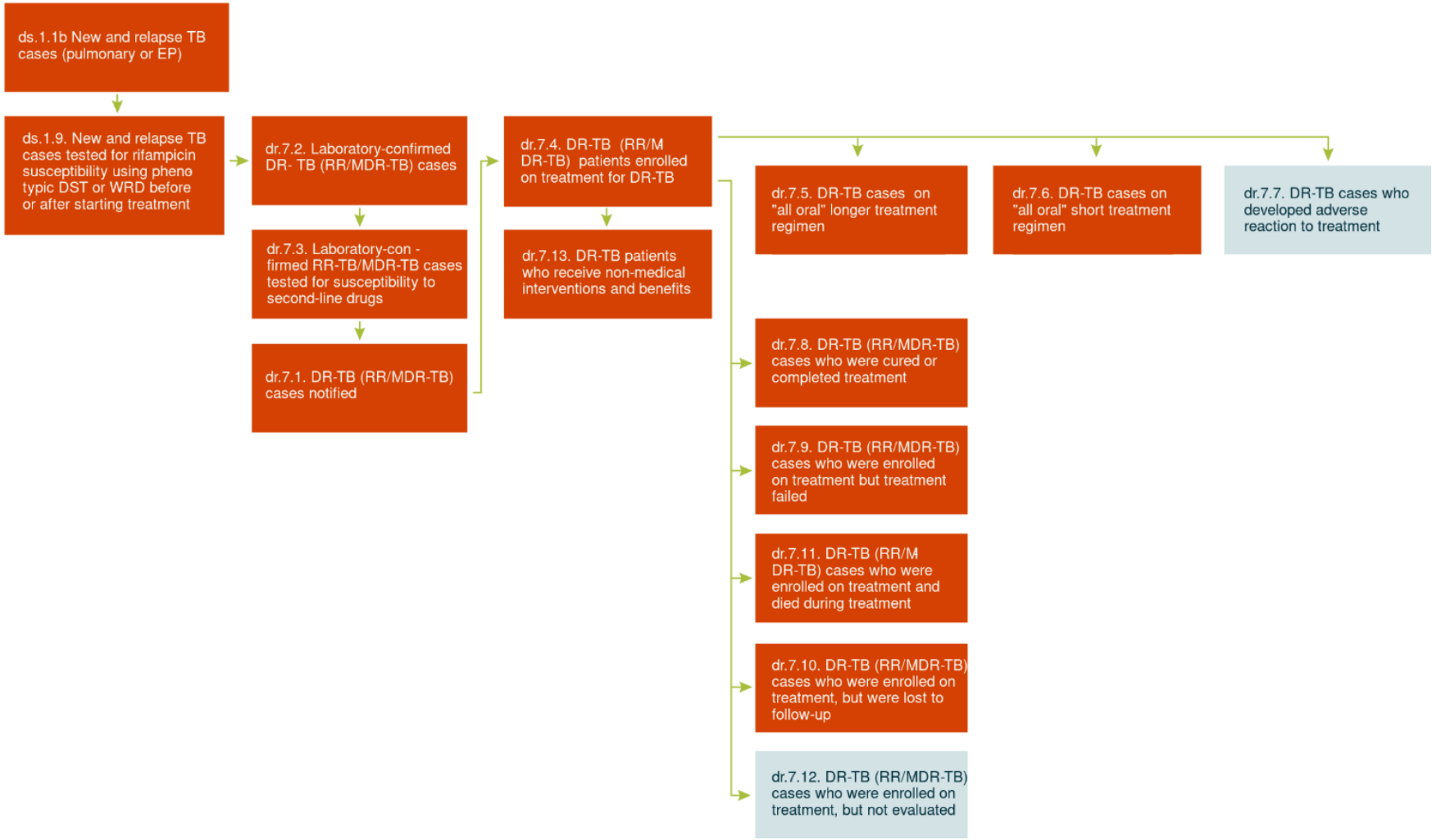
Appendix 1: Data Diagrams

The data diagrams show which PBMEF data elements are collected, which are not, and how they are related within a particular domain. PBMEF indicators that are collected are highlighted in red, while boxes highlighted in light blue represent PBMEF indicators that are not currently being collected in Kyrgyzstan (the missing PBMEF indicators are also listed in Annex 2).

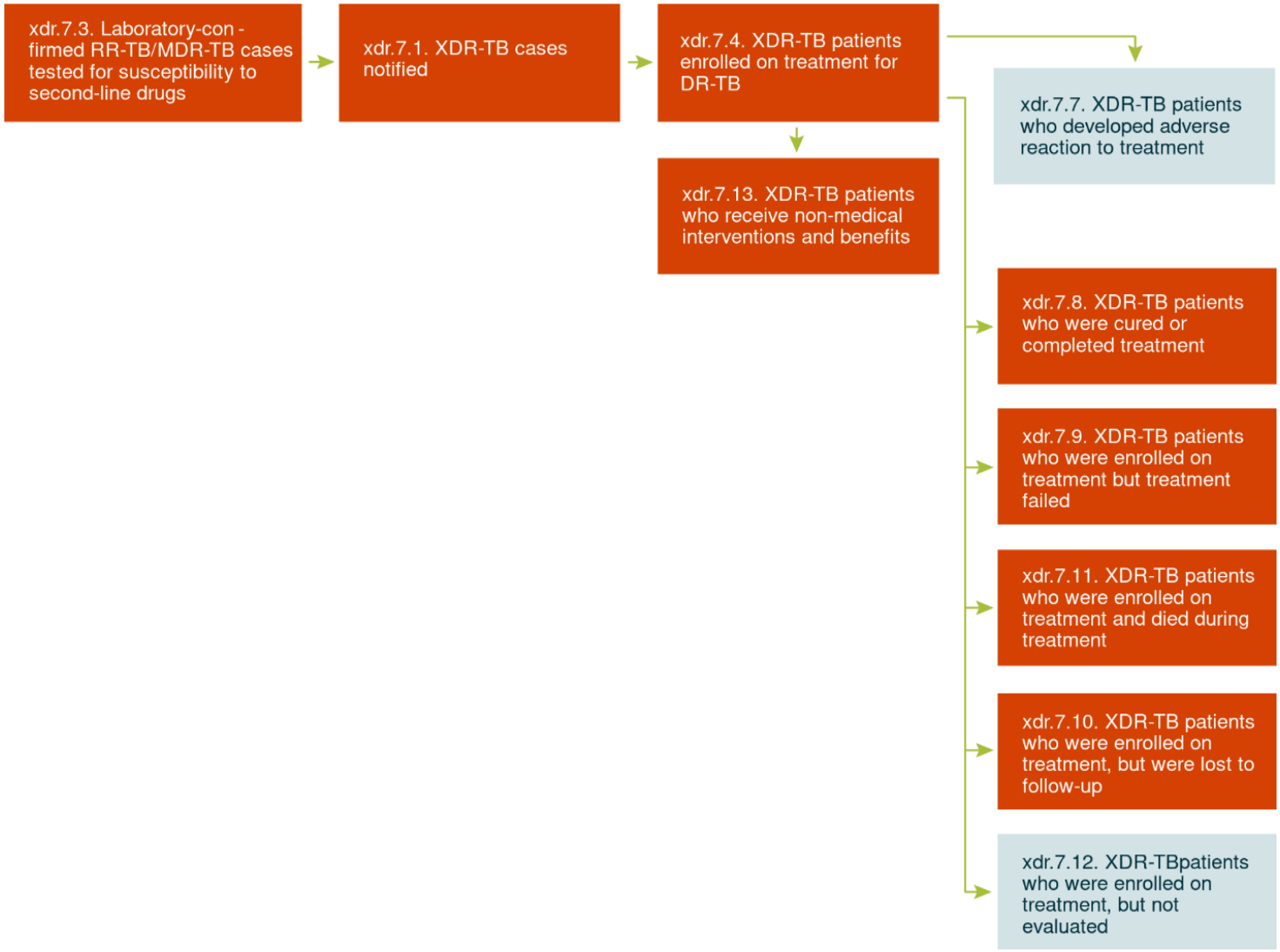
DS TB:



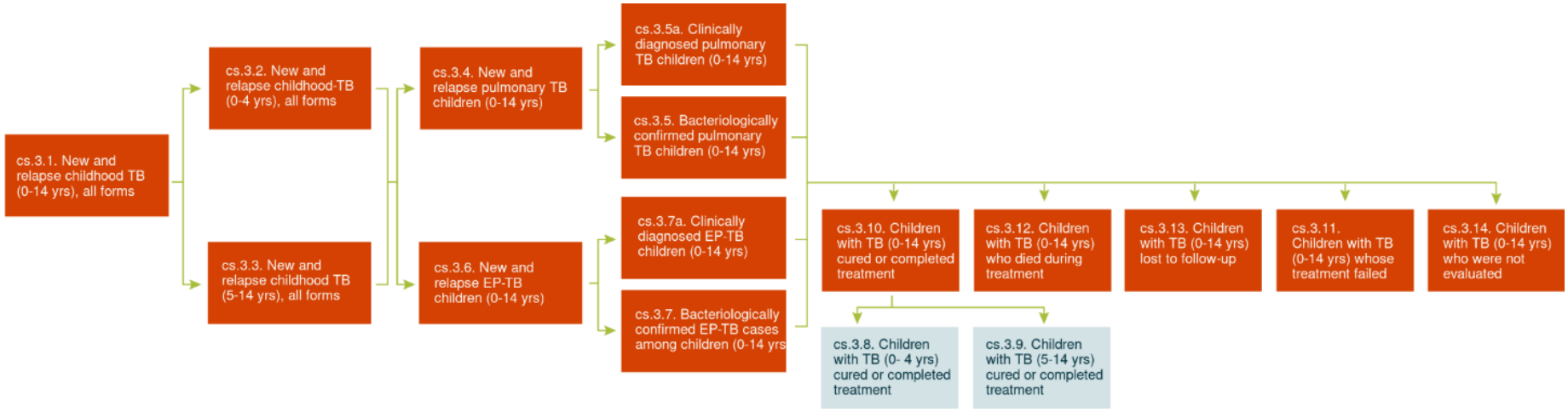
MDR TB:


ds.1.1b New and relapse TB cases (pulmonary or EP)
ds.1.9. New and relapse TB cases tested for rifampicin susceptibility using phenotypic DST or WRD before or after starting treatment
dr.7.2. Laboratory-confirmed DR- TB (RR/MDR-TB) cases
dr.7.3. Laboratory-confirmed RR-TB/MDR-TB cases tested for susceptibility to second-line drugs
dr.7.1. DR-TB (RR/MDR-TB) cases notified
dr.7.4. DR-TB (RR/MDR-TB) patients enrolled on treatment for DR-TB
dr.7.13. DR-TB patients who receive non-medical interventions and benefits
dr.7.5. DR-TB cases on "all oral" longer treatment regimen
dr.7.6. DR-TB cases on "all oral" short treatment regimen
dr.7.7. DR-TB cases who developed adverse reaction to treatment
dr.7.8. DR-TB (RR/MDR-TB) cases who were cured or completed treatment
dr.7.9. DR-TB (RR/MDR-TB) cases who were enrolled on treatment but treatment failed
dr.7.11. DR-TB (RR/MDR-TB) cases who were enrolled on treatment and died during treatment
dr.7.10. DR-TB (RR/MDR-TB) cases who were enrolled on treatment, but were lost to follow-up
dr.7.12. DR-TB (RR/MDR-TB) cases who were enrolled on treatment, but not evaluated

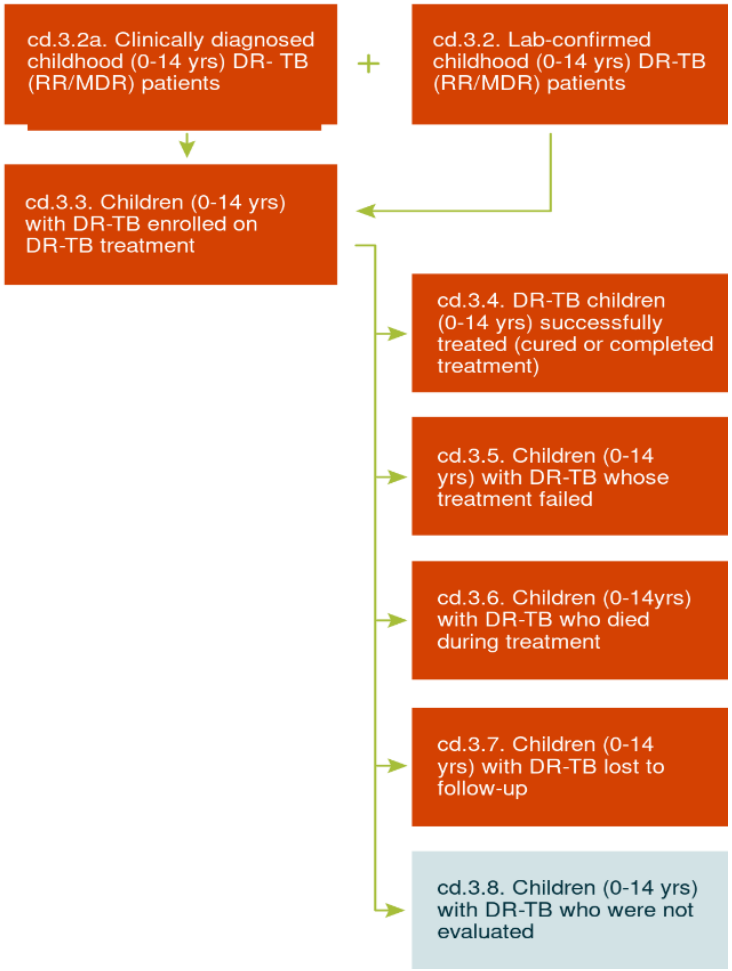
XDR TB:


xdr.7.3. Laboratory-con - firmed RR-TB/MDR-TB cases tested for susceptibility to second-line drugs
xdr.7.1. XDR-TB cases notified
xdr.7.4. XDR-TB patients enrolled on treatment for DR-TB
xdr.7.7. XDR-TB patients who developed adverse reaction to treatment
xdr.7.13. XDR-TB patients who receive non-medical interventions and benefits
xdr.7.8. XDR-TB patients who were cured or completed treatment
xdr.7.9. XDR-TB patients who were enrolled on treatment but treatment failed
xdr.7.11. XDR-TB patients who were enrolled on treatment and died during treatment
xdr.7.10. XDR-TB patients who were enrolled on treatment, but were lost to follow-up
xdr.7.12. XDR-TBpatients who were enrolled on treatment, but not evaluated

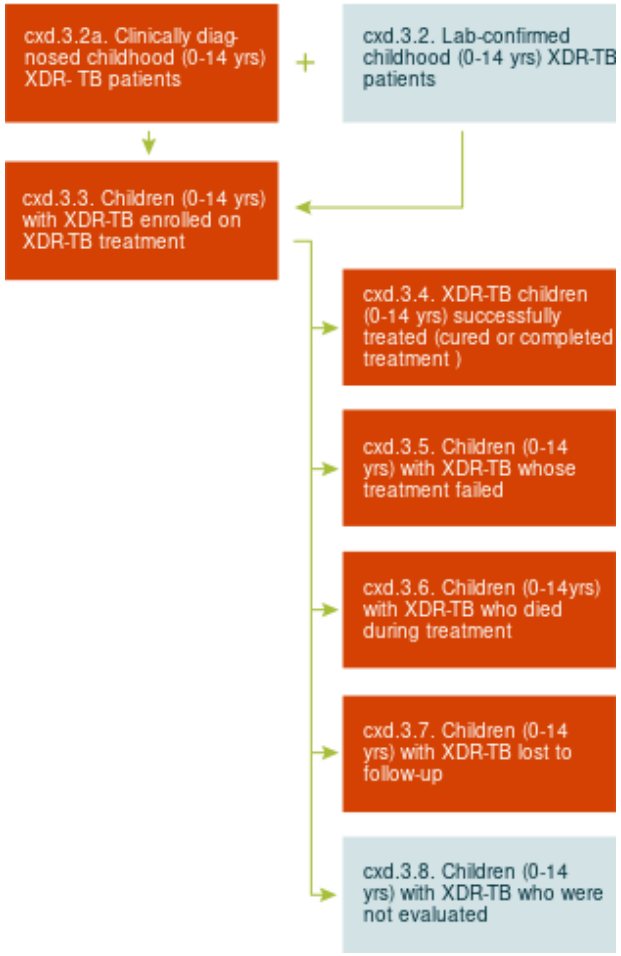
Childhood DS-TB:



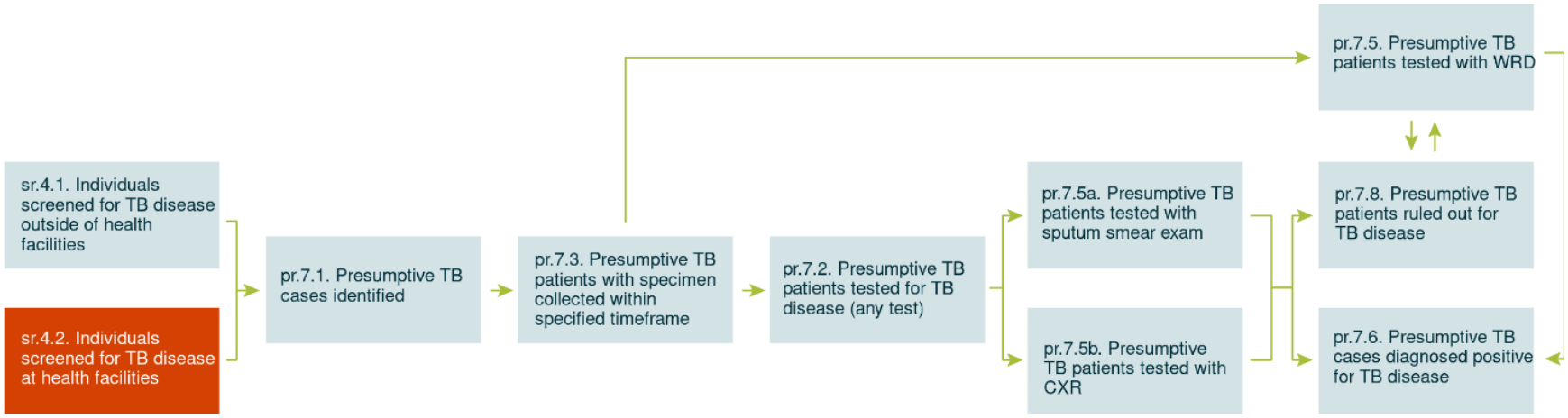
Childhood MDR TB:



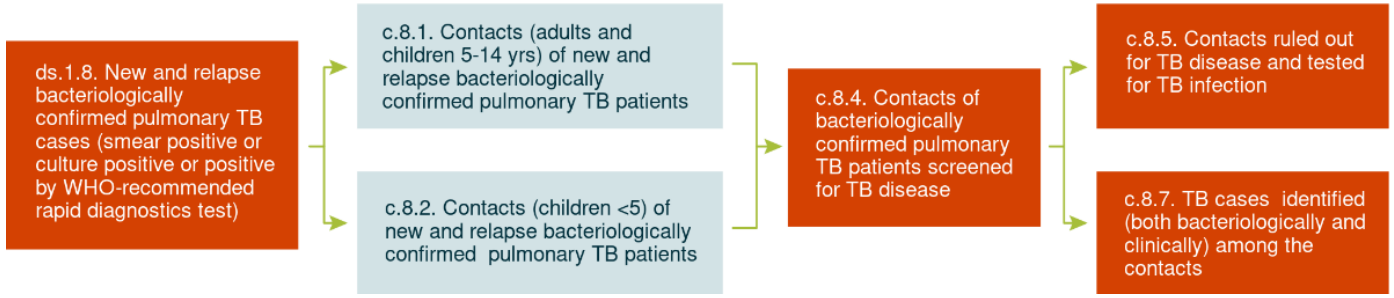
Childhood XDR TB:



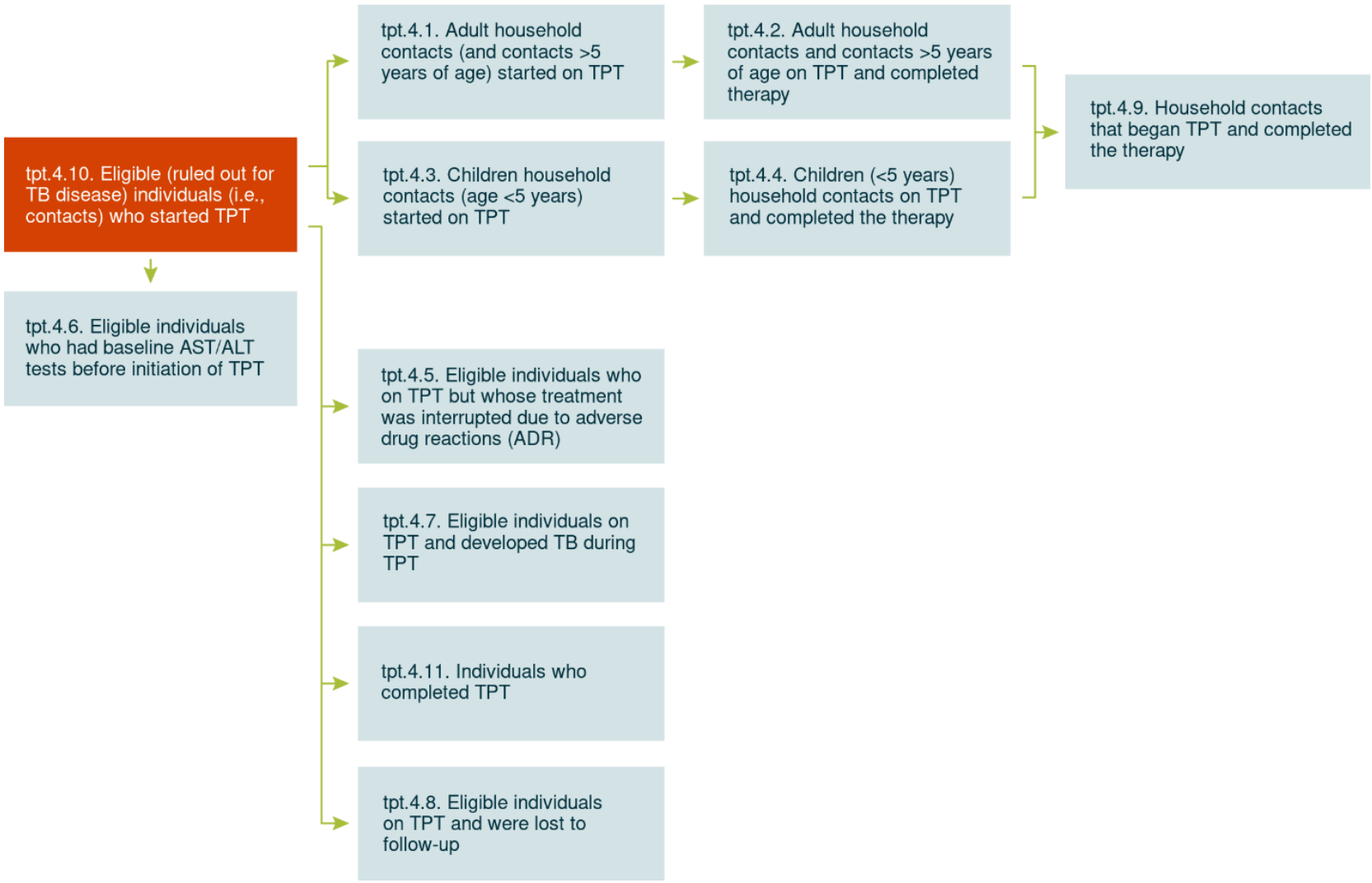
Screening:



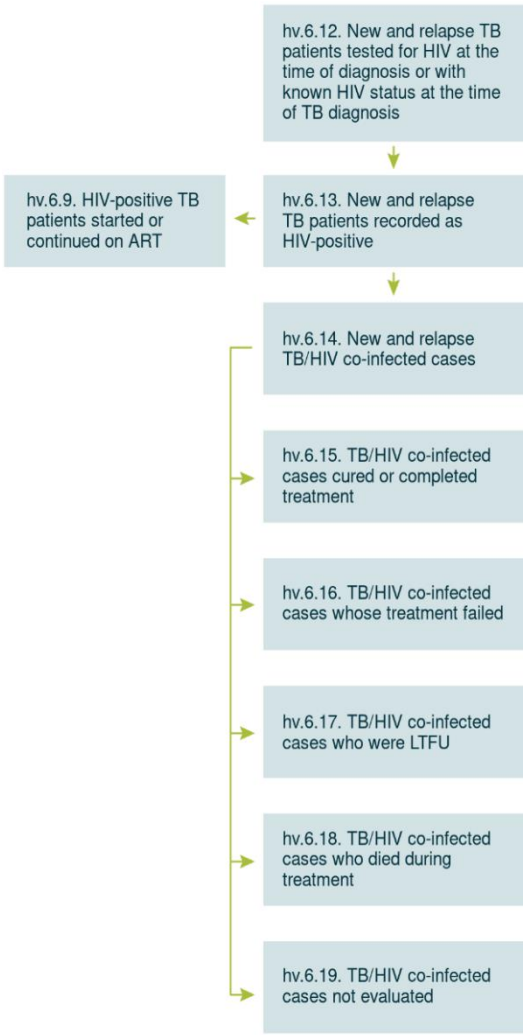
Contacts:



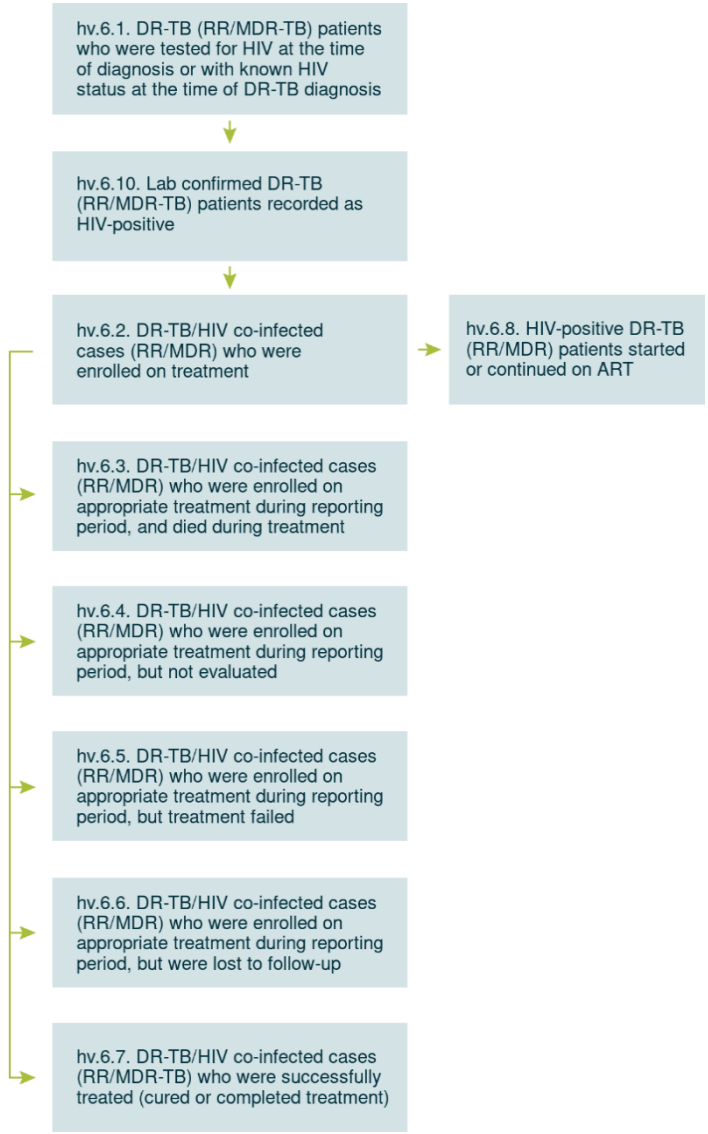
TPT:


tpt.4.10. Eligible (ruled out for TB disease) individuals (i.e., contacts) who started TPT
tpt.4.6. Eligible individuals who had baseline AST/ALT tests before initiation of TPT
tpt.4.1. Adult household contacts (and contacts >5 years of age) started on TPT
tpt.4.2. Adult household contacts and contacts >5 years of age on TPT and completed therapy
tpt.4.3. Children household contacts (age <5 years) started on TPT
tpt.4.4. Children (<5 years) household contacts on TPT and completed the therapy
tpt.4.9. Household contacts that began TPT and completed the therapy
tpt.4.5. Eligible individuals who on TPT but whose treatment was interrupted due to adverse drug reactions (ADR)
tpt.4.7. Eligible individuals on TPT and developed TB during TPT
tpt.4.11. Individuals who completed TPT
tpt.4.8. Eligible individuals on TPT and were lost to follow-up

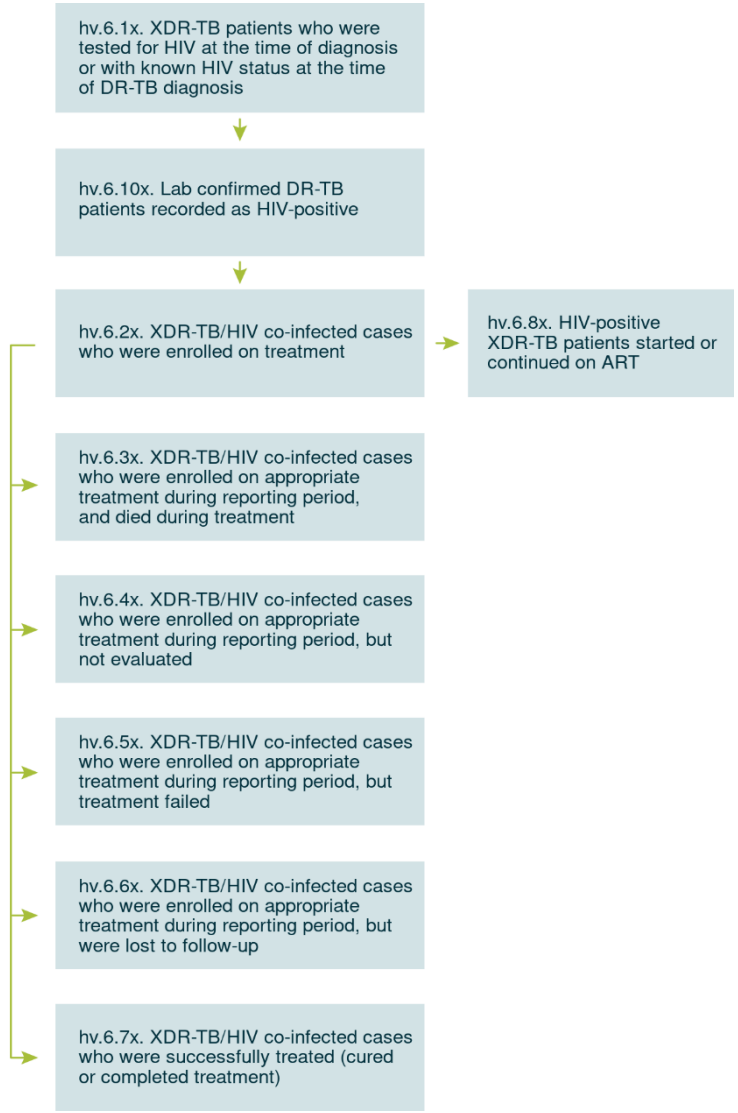
TB and HIV:



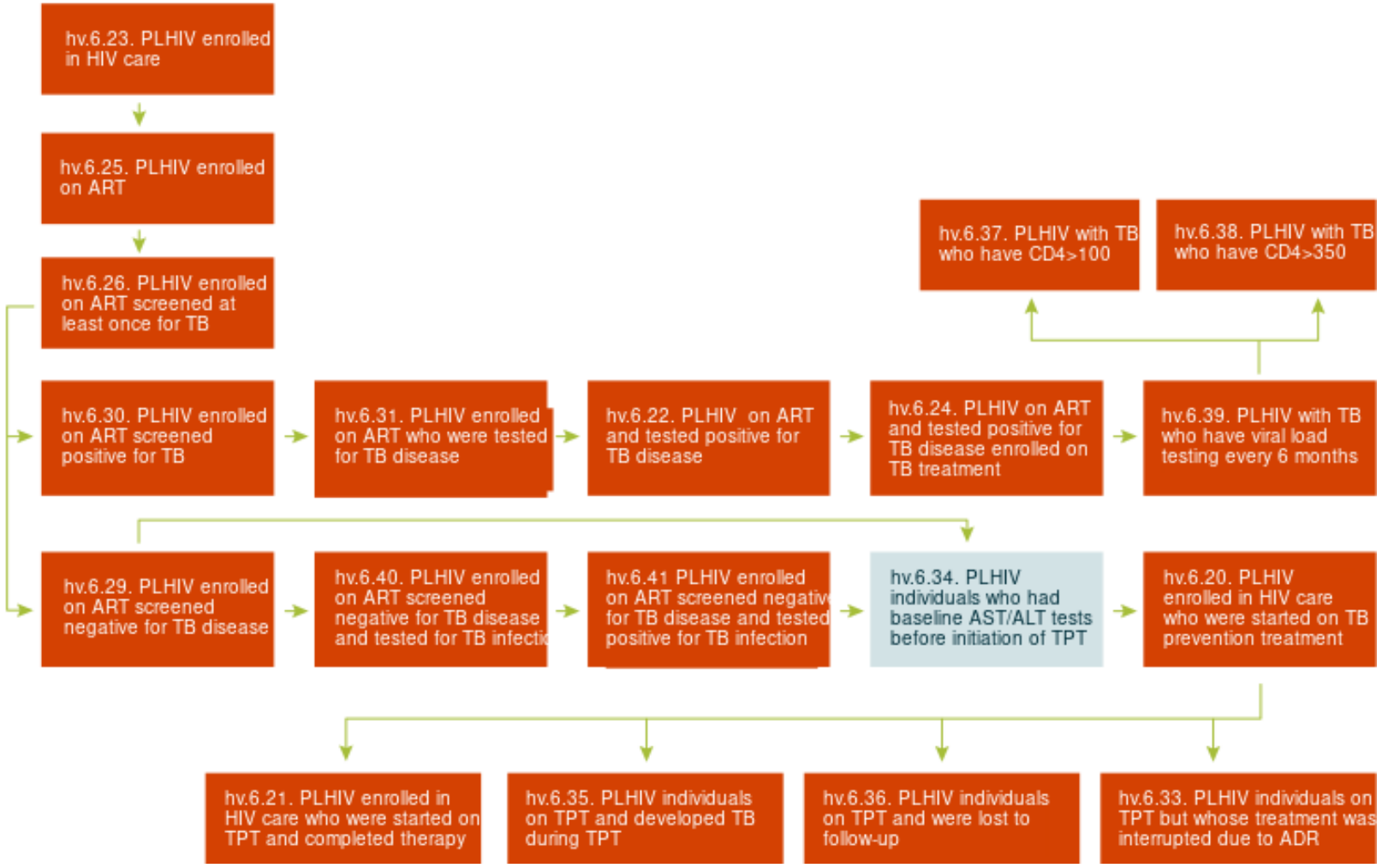
MDR TB and HIV:



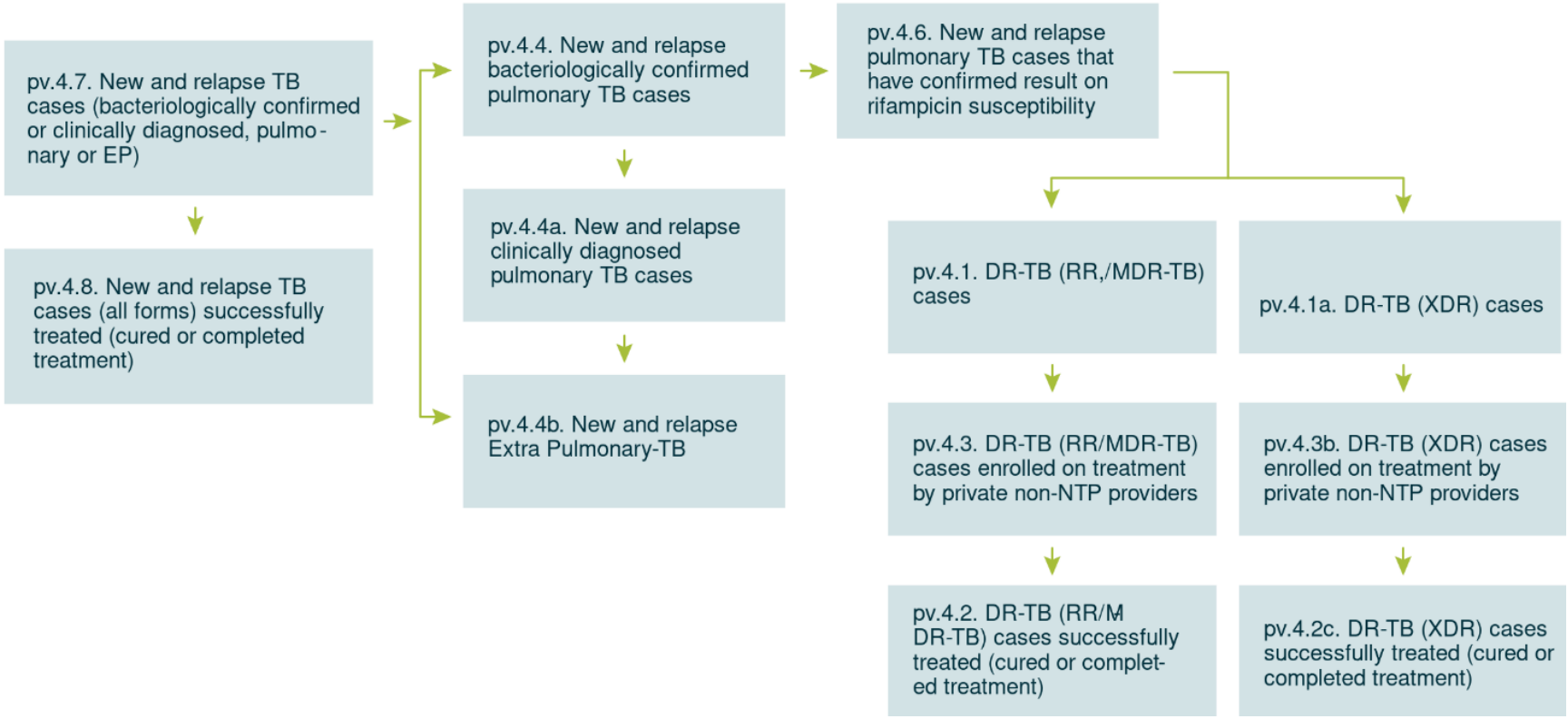
XDR TB and HIV:



PLHIV and TB:


hv.6.23. PLHIV enrolled in HIV care
hv.6.25. PLHIV enrolled on ART
hv.6.26. PLHIV enrolled on ART screened at least once for TB
hv.6.37. PLHIV with TB who have CD4>100
hv.6.38. PLHIV with TB who have CD4>350
hv.6.30. PLHIV enrolled on ART screened positive for TB
hv.6.31. PLHIV enrolled on ART who were tested for TB disease
hv.6.22. PLHIV on ART and tested positive for TB disease
hv.6.24. PLHIV on ART and tested positive for TB disease enrolled on TB treatment
hv.6.39. PLHIV with TB who have viral load testing every 6 months
hv.6.29. PLHIV enrolled on ART screened negative for TB disease
hv.6.40. PLHIV enrolled on ART screened negative for TB disease and tested for TB infecti
hv.6.41 PLHIV enrolled on ART screened negativ for TB disease and tested positive for TB infection
hv.6.34. PLHIV individuals who had baseline AST/ALT tests before initiation of TPT
hv.6.20. PLHIV enrolled in HIV care who were started on TB prevention treatment
hv.6.21. PLHIV enrolled in HIV care who were started on TPT and completed therapy
hv.6.35. PLHIV individuals on TPT and developed TB during TPT
hv.6.36. PLHIV individuals on TPT and were lost to follow-up
hv.6.33. PLHIV individuals on TPT but whose treatment was interrupted due to ADR

Private Sector Reporting:



Appendix 2. List of PBMEF data elements not recorded at HFs providing TB services

ARC Tool Reference No.	Data Element Currently Not Recorded at the HFs	Issues in Data Recording and Reporting
DS-TB		
ds.1.3.	New and relapse TB cases referred by CHWs/community volunteers to the Basic Management Units with data on referrals by CHWs	There are no tools for recording this data.
ds.1.4.	TB patients (all forms) who receive any social or economic benefits during the first month of treatment	Benefits are allocated but not regularly, it depends on the local government's commitment.
DR-TB		
dr.7.7.	RR-/MDR-TB patients who developed adverse reaction to DR-TB treatment	The tools at the stage of development.
dr.7.12.	RR-/MDR-TB patients who were enrolled on treatment, but not evaluated	No data from 2016.
xdr.7.6.	XDR patients initiated on "all oral" short treatment regimen (i.e., treatment up to 12 months of duration)	NTP is planning to start the implementation of "all oral" shorter treatment regimen for XDR (BPaL) in 2021. Currently NTP uses only long-term regimens (18-20 months) for XDR-TB treatment.
xdr.7.7.	XDR patients who developed adverse reaction to DR-TB treatment	The tools at the stage of development.
xdr.7.12.	XDR patients who were enrolled on treatment, but not evaluated	No data from 2016.
Childhood TB		
cs.3.8.	Children with TB (ages 0-4 years), all forms, who were cured or completed treatment	Only ages 0-14 years are collected in the NTP.
cs.3.9.	Children with TB (ages 5-14 years), all forms, who were cured or completed treatment	
cd.3.8.	Childhood (0-14 years) RR-/MDR-TB patients who were not evaluated	No data from 2016.
cxd.3.2.	Laboratory-confirmed childhood (0-14 years) XDR patients	No laboratory confirmed, only contacts with XDR-TB index cases.
cxd.3.8.	Childhood (0-14 years) XDR patients who were not evaluated	
Presumptive TB		
pr.7.1.	Presumptive TB cases identified	
pr.7.2.	Presumptive TB cases tested for TB	
pr.7.3.	Presumptive TB patients with specimen recorded within specified target timeframe	

ARC Tool Reference No.	Data Element Currently Not Recorded at the HFs	Issues in Data Recording and Reporting
pr.7.5.	Presumptive TB patients tested with WHO-recommended rapid diagnostic test	
pr.7.5a.	Presumptive TB patients tested with sputum smear exam	
pr.7.5b.	Presumptive TB patients tested with chest x-ray	
pr.7.6.	Presumptive TB cases who received a diagnostic evaluation and were tested/ diagnosed positive for TB disease (i.e., diagnosed with active TB disease)	
pr.7.8.	Presumptive TB patients who were ruled out for TB disease and tested for TB infection during reporting period (TB infection testing includes TST, IGRA, or both)	
c.8.1.	Contacts of new and relapse bacteriologically confirmed pulmonary TB patients (adults, children ages 5-14)	The forms don't include indicators on contacts with new and relapses and pulmonary TB, only the part of contacts with TB, MDR-TB and dividing by age recorded.
c.8.2.	Contacts (children <5) of new and relapse bacteriologically confirmed pulmonary TB patients	
TPT		
tpt.4.1.	Adult household contacts (and contacts >5 years of age) of bacteriologically confirmed pulmonary new and relapse TB cases who were started on TPT	The forms don't include indicators on contacts with new and relapses and pulmonary TB, only the part of contacts with TB, MDR-TB and dividing by age who were started on TPT.
tpt.4.2.	Adult household contacts (and contacts >5 years of age) of bacteriologically confirmed pulmonary new and relapse TB who were started on TPT and completed therapy	
tpt.4.3.	Children household contacts (age <5 years) of bacteriologically confirmed pulmonary new and relapse TB cases who were started on TPT	
tpt.4.4.	Children (<5 years) household contacts who were started on TPT and completed the therapy	No record tools.
tpt.4.5.	Eligible individuals who began on TPT but whose treatment was interrupted due to development of adverse drug reactions	
tpt.4.6.	Eligible individuals who had baseline AST/ALT tests before initiation of TPT	
tpt.4.7.	Eligible individuals who were started on TPT and developed TB during TPT	
tpt.4.8.	Eligible individuals who were started on TPT and were LTFU	
tpt.4.9.	Household contacts that began TPT and completed the therapy	
tpt.4.11.	Individuals who completed treatment for TB infection	
TB-HIV		TB program only collected data on HIV testing, TB-HIV cases, TB-HIV on ART, and TB-HIV on Cotrimoxazole preventive therapy (CPT).

ARC Tool Reference No.	Data Element Currently Not Recorded at the HFs	Issues in Data Recording and Reporting
hv.6.1.	RR-/MDR-TB patients who were tested for HIV at the time of diagnosis or with known HIV status at the time of DR-TB diagnosis	
hv.6.1x.	XDR-TB patients who were tested for HIV at the time of diagnosis or with known HIV status at the time of DR-TB diagnosis	
hv.6.2.	RR-/MDR-TB & HIV coinfected patients who were enrolled on appropriate treatment	
hv.6.2x.	XDR-TB & HIV coinfected patients who were enrolled on appropriate treatment	
hv.6.3.	RR-/MDR-TB & HIV coinfected patients who were enrolled on appropriate treatment during reporting period, and died during treatment	
hv.6.3x.	XDR-TB & HIV coinfected patients who were enrolled on appropriate treatment during reporting period, and died during treatment	
hv.6.4.	RR-/MDR-TB & HIV coinfected patients who were enrolled on appropriate treatment during reporting period, but not evaluated	
hv.6.4x.	XDR-TB & HIV coinfected patients who were enrolled on appropriate treatment during reporting period, but not evaluated	
hv.6.5.	RR-/MDR-TB & HIV coinfected patients who were enrolled on appropriate treatment during reporting period, but treatment failed	
hv.6.5x.	XDR-TB & HIV coinfected patients who were enrolled on appropriate treatment during reporting period, but treatment failed	
hv.6.6.	RR-/MDR-TB & HIV coinfected patients who were enrolled on appropriate treatment during reporting period, but were LTFU	
hv.6.6x.	XDR-TB & HIV coinfected patients who were enrolled on appropriate treatment during reporting period, but were LTFU	
hv.6.7.	RR-/MDR-TB & HIV coinfected patients who were successfully treated (cured or completed treatment)	
hv.6.7x.	XDR-TB & HIV coinfected patients who were successfully treated (cured or completed treatment)	
hv.6.8.	HIV-positive RR-/MDR patients started or continued on ART	
hv.6.8x.	HIV-positive XDR-TB patients started or continued on ART	
hv.6.9.	HIV-positive TB patients started or continued on ART	
hv.6.10.	Laboratory-confirmed RR-/MDR-TB patients recorded as HIV-positive	
hv.6.10x.	Laboratory-confirmed XDR-TB patients recorded as HIV-positive	
hv.6.11.	Laboratory-confirmed RR-/MDR-TB patients recorded as HIV-positive, and enrolled on appropriate treatment	
hv.6.11x.	Laboratory-confirmed XDR-TB patients recorded as HIV-positive, and enrolled on appropriate treatment	

ARC Tool Reference No.	Data Element Currently Not Recorded at the HFs	Issues in Data Recording and Reporting
hv.6.12.	New and relapse TB patients who were tested for HIV at the time of diagnosis or with known HIV status at the time of TB diagnosis	
hv.6.13.	New and relapse TB patients recorded as HIV-positive	
hv.6.14.	New and relapse TB/HIV coinfected cases (all forms)	
hv.6.15.	New and relapse TB/HIV coinfected cases (all forms) who were cured or completed treatment	
hv.6.16.	TB/HIV coinfected cases whose treatment failed	
hv.6.17.	Number of TB/HIV coinfected cases who were LTFU.	
hv.6.18.	TB/HIV coinfected cases who died during treatment	
hv.6.19.	TB/HIV coinfected cases who were not evaluated	
hv.6.34.	PLHIV individuals who had baseline AST/ALT tests before initiation of TPT	Data exists in the HIV patient card.
TB Lab Services		
lb.5.7.	Patients whose results were reported, initiated on treatment within specified timeframe	Data exists in the TB register but is not reported at the NTP.
Private Sector		Not involved in TB services in the country.
pv.4.1.	DR-TB (RR-/MDR-TB) cases	
pv.4.1a.	DR-TB (XDR) cases	
pv.4.2.	DR-TB (RR-/MDR-TB) cases successfully treated (cured or completed treatment)	
pv.4.2c.	DR-TB (XDR) cases successfully treated (cured or completed treatment)	
pv.4.3.	DR-TB (RR-/MDR-TB, and XDR) cases enrolled on appropriate treatment by private non-NTP providers	
pv.4.3b.	DR-TB (XDR) cases enrolled on treatment by private non-NTP providers	
pv.4.4.	DR-TB (RR-/MDR-TB) cases enrolled on appropriate treatment by private non-NTP providers	
pv.4.4a.	New and relapse clinically diagnosed pulmonary TB cases	
pv.4.4b.	New and relapse extrapulmonary TB cases	
pv.4.6.	New and relapse pulmonary TB cases that have confirmed result on rifampicin susceptibility	

ARC Tool Reference No.	Data Element Currently Not Recorded at the HFs	Issues in Data Recording and Reporting
pv.4.7.	New and relapse TB cases (all forms)	
pv.4.8.	New and relapse TB cases (all forms) that were successfully treated (cured or completed treatment)	
Health Facilities		
hf.2.4.	Health facilities reporting on number of presumptive TB patients	No tools.
TB Program Sustainability		
st.1.8	Domestic funding for TB lab commodities procurement (WHO-recommended TB rapid diagnostics [WRD] reagents or cartridges, WRD machines)	
st.1.10	Costs paid for TB services under insurance claims (as recorded by insurance scheme implementers, if applicable)	
st.1.11	Notified TB patients (new and relapse) whose TB clinical care was covered by insurance	
st.1.12	TB-affected households who incur catastrophic costs due to TB	
st.1.13	Tendering for contracts with NGOs or using other social contracting mechanisms with government funds	
st.1.17	TB civil society and TB survivors invited by NTP to participate in the most recent joint monitoring mission/external reviews	
st.1.19	Civil societies and TB survivors' involvement in TB research development/planning, implementation, and dissemination	
st.1.21	NTP staff participating in TB and gender sensitization training	
st.1.23	Women TB survivors included in any NTP event in reporting year	
st.1.24	Gender-disaggregated data for treatment outcomes available for most recent cohort	

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