Public-private mix data dashboards for enhanced action and accountability to end tuberculosis

Policy brief





Abbreviations

EMR Electronic Medical Records

MAF-TB Multisectoral Accountability Framework to end TB

MHFL Master Health Facility List
NSP National Strategic Plan

NTP National Tuberculosis Programme

PPM Public-Private Mix

TB Tuberculosis
UN United Nations

WHO World Health Organization

WRD WHO-recommended Rapid Diagnostics

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Scope

The need to measure and report indicators along the full tuberculosis (TB) care cascade is critical to ensure access to quality TB services for people with TB, as early as possible, and wherever they seek care. This policy brief presents evidence and shares experiences of seven priority countries in strengthening monitoring of public-private mix (PPM) efforts to engage all care providers in the TB response. The experience from countries has shown health care providers from the private sector and unengaged public sector are involved across the whole cascade of TB care, but previously the monitoring of their contribution has been limited to TB notification.

The policy brief builds on the implementation of an initiative led by the World Health Organization (WHO) to strengthen PPM monitoring through the development of comprehensive data dashboards, with the support of the Bill & Melinda Gates Foundation (BGMF). As part of this initiative, WHO has been working with seven PPM priority countries: Bangladesh, India, Indonesia, Kenya, Nigeria, Pakistan and the Philippines to support the development of enhanced PPM data dashboards to track performance and increase accountability. The policy brief aims to inform and promote interventions to strengthen monitoring of PPM approaches across the care cascade.

How this policy brief was developed



This policy brief has been developed based on the work undertaken to set up PPM data dashboards in seven priority countries. The process of development of the dashboards is outlined in section II.



This policy brief is intended for use by TB stakeholders working towards scaling up the engagement of all care providers. It will be most useful to people working in ministries of health specifically, particularly in national programmes or relevant departments responsible for TB notably those involved in monitoring and evaluation, and primary health care. The policy brief also targets international technical and funding organizations, researchers, and nongovernmental and civil society organizations, as well as primary health care workers, specialist health practitioners and community health workers who support the response to TB, in both the public and private sectors.



I. Background

Engaging all health care providers through public-private mix (PPM) approaches is essential to reach the over 3 million people with TB who miss out on access to quality care each year, either due to under-reporting or (1). Private sector health care providers and/or under-diagnosis unengaged public sector health care providers are often the first point of care for people with symptoms of TB (2). Engaging these care providers is therefore critical to close well-documented gaps in access to TB care and prevention services and is also essential for reducing unnecessary deaths and suffering caused by inappropriate treatment; slowing the emergence of drug resistance caused by substandard care; reducing transmission by shortening delays to treatment; reducing catastrophic costs and impoverishment; and accelerating uptake of new tools (3,4). This is highlighted as a priority in the End TB Strategy, the political declaration of the UN High Level Meeting on TB, and other commitments made by leaders.

Data collated and reported to WHO has predominantly focused on provider contributions to TB notifications, although care may be provided across the patient pathway by private and unengaged public health providers (1). The data collection process has also suffered from inconsistencies in definition. A summary of barriers and challenges in the access and utilization of quality data in the private and unengaged public sectors have been documented (5,6) and are outlined below:

- Policy and coordination: Lack of mandatory notification policies for TB or inadequate enforcement and/or insufficient support for implementation of such policies results in sub-optimal compliance of notifying TB diagnosis and treatment outcomes to national authorities. The impact of this is underreporting of TB patients managed by the private sector and unengaged public facilities, which then underestimates the national progress and response and leaves out many TB patients from ongoing quality improvement efforts. This also stems from the lack of incentives and enablers to facilitate reporting of people with TB.
- TB surveillance-related issues: the type and coverage of the surveillance systems in the private and unengaged public sectors may affect availability and quality of data from these sectors. This includes:
 - I. Insufficient expansion of NTP M&E systems to cover all care providers: standard TB recording and reporting forms were developed for public sector contexts and often need to be simplified and adapted for use in

private facilities, including through digital innovations like the use of an App or a call center. NTPs or intermediary organizations also typically have to deploy field workers to take on much of the work of recording and reporting, as private providers rarely have the capacity to take on such paperwork.

II. Standalone Electronic Medical Records (EMRs): EMRs are commonly used in more formal private hospitals, but often lacks the TB modules that capture the minimum indicators as per WHO normative guidance on TB surveillance. Lack of interoperability between these EMRs and the government's standard digital TB surveillance systems is another challenge limiting availability of complete data from the private and unengaged public sectors. There is also a lack of interoperability between NTP health information systems and those of social health insurance schemes. Finally, a vast majority of smaller private providers do not have EMRs.



- III. Limited coverage: the sub-optimal coverage of recording and reporting tools whether paper-based or digital may result in under-reporting of TB patients managed in the private or unengaged public sectors.
- IV. Lack of standardization: the diversity of PPM providers across many countries has resulted in uneven categorization of providers by ownership, i.e., private-for-profit and private-not-for-profit. In some cases, the work of private not-for-profit providers is reported as if they were integrated public sector providers.
- V. Limited indicators reported: currently TB notification is the main indicator tracked, even though in many settings the private sector and unengaged public sector provide TB services along the whole TB care cascade.

To address these gaps and strengthen PPM monitoring, WHO with the support of the BGMF, has been working with seven PPM priority countries to help them align and streamline reporting of PPM data through enhanced dashboards. The development of PPM dashboards is one of 10 priority actions outlined in the PPM roadmap: "Monitor progress and build accountability by continuously monitoring and evaluating the contributions of PPM, in relation to the specific objectives and targets set by the NTP" (3). The experiences of the seven priority countries will serve as a model for other countries to strengthen PPM monitoring.

The PPM dashboard includes a set of minimal selected indicators which will provide evidence to countries to strategically prioritize interventions, promote action and ensure accountability at global and country levels, and optimize quality monitoring and improvement to maximize patient outcomes. Enhanced PPM data dashboards will also strengthen the use of evidence in developing national policies, TB strategic plans and resource mobilization through funding applications. Furthermore, the evidence on the PPM contribution to the national TB response can support justifications for continued financial support for PPM activities and help in fine-tuning PPM operations and resource allocation.

II. The process:

Reaching consensus on indicators for enhanced TB PPM dashboard development

WHO has been working with NTPs to establish and expand the use of digital TB surveillance systems to improve the availability of quality data to support evidence-based programming. The PPM priority countries have various digital TB surveillance systems for data collection, analysis, visualization and reporting. In some countries, the government has supported deployment of digital innovations to cover both public and private health facilities to facilitate aligned data collection, including Indonesia, India, Kenya and Philippines (7–10). The PPM dashboard initiative therefore is leveraging on these digital innovations to expand the scope of indicators reported under the private sector and unengaged public sector, to increase the visibility of their contribution to TB care and prevention and to better monitor the quality of their outcomes.

To get the PPM dashboards set up in countries, WHO in consultation with its regional and country offices and partners put in place a systematic process to build a better understanding of the systems that exist in countries and to ensure consensus on key PPM reporting indicators (Figure 1). Given that PPM implementation is led by NTPs and undertaken in collaboration with a wide range of stakeholders including private care providers, a scoping review for each country was undertaken followed by country missions led by WHO to build consensus on a comprehensive dashboard. The country missions to the seven PPM priority provided insights into the TB surveillance approaches currently used and what priority indicators countries want to see included in the PPM dashboard. Consultations were held with relevant PPM stakeholders and the NTPs during the missions.



Figure 1. PPM dashboard development process

The DDM deephood

The PPM dashboard initiative was introduced to:

- WHO at all levels (HQ, regions and countries) and forums (TB Technical Expert Network and End TB Summit)
- NTPs of the 7 PPM priority countries.
- Partners: funding and implementing partners

Introduction and Ownership Nov, 2021 2

Country missions to the 7 PPM priority countries supported by WHO regional and country offices, and NTP to:

- Introduce the PPM initiative
- Review the TB surveillance system and data flow from private sector and unengaged public sector.
- Propose indicators to be reported globally and national level.

Country Missions, 2022 3

WHO PPM Consultation bringing NTPs from 7 PPM priority countries, WG, funding agencies and implementing partners to:

- Agree on minimum set of indicators
- Consensus on timelines to develop global and country level PPM data dashboards.

Consensus Meeting, Nov 2022

Following the missions, a WHO consultation was held in November 2022 bringing together the seven PPM priority countries, PPM experts, civil societies, funding and implementing partners. Country experiences were shared, including on innovations, and brainstorming sessions were held to build consensus on the typology and key minimum indicators for the PPM dashboards. The critical deliberations were done on PPM typology related to: i) ownership, i.e., private for-profit, private non-profit (including faith-based) and public (parastatal); and ii) assignment of diverse PPM provider types to the following health care levels: community; primary care; and secondary or tertiary care. A prototype of the PPM data dashboard was put together following the consultation.







WHO Consultation on enhanced PPM data dashboards, November 2022, Nairobi,

III.The PPM dashboard prototype

3.1 Provider typology

The PPM data dashboard prototype, built for replication across priority countries, is critical to enable standardization of the PPM typology/definitions in particular the ownership and level of health systems into which the private or unengaged public providers may fall. These considerations suggest TB programmes and their partners need to be able to monitor data on engagement, coverage and quality of services for the typology of providers outlined in Table 1, to the extent that they are relevant in each country's health system. Note that this does not imply that all countries must engage all types of providers, since not all of them may be present, relevant or prioritized in every setting. But it does imply that all providers that are engaged will be reported consistently according to this typology.

Disaggregation of the TB indicators by the types of provider and health system levels may be relevant in countries with large numbers of providers in the private and unengaged public sectors:

- private for-profit individual and institutional providers,
- not-for-profit mission hospitals, nongovernmental organizations and faith-based organizations,
- providers in the public sector that are not within the NTP network such as public hospitals, public medical colleges, prisons and detention centres, military facilities and public health insurance organizations.
- level of the health systems categorized as community, primary care, secondary care and tertiary care.

Disaggregation of TB indicators by ownership and health system levels helps programme managers to understand and act on identified variations in the coverage, provision and quality of TB services throughout the health system. This is especially helpful given the importance of diagnosing and treating patients as early as possible in their care-seeking pathways and at the lowest cost to both patients and the health system.

Table 1 summarizes providers that are the most common with categorization based on the levels of community, primary care and secondary/tertiary care. Secondary and tertiary care are combined, as they provide a similar expertise level related to TB services.

Table 1. Proposed typology of PPM providers and levels

	Level of health system				
Ownership	Community	Primary care	Secondary/ tertiary care		
Private for-profit	Traditional healers	General practitioners;	Hospitals; medical colleges		
		clinical officers; small			
		clinics; laboratories;			
		pharmacies; drug sellers			
Private non-profit	Community health	Clinics; laboratories	Hospitals; medical colleges		
(including FBO)	workers				
Public	Community health	Clinics	Hospitals; medical colleges		
	workers				

3.2 Core indicators

The proposed list of indicators to be reported globally to WHO will: support increased data analysis and utilization; monitor progress and ensure accountability; and support effective planning and prioritization. The indicators forming the PPM dashboard are aligned with Consolidated guidance on tuberculosis data generation and use. Module 1. Tuberculosis surveillance (11) and benchmarks and indicators on universal access to rapid TB diagnostics (12). The indicators are grouped into categories: provider coverage; surveillance; service coverage; and treatment outcome (see Table 2). As mentioned above. disaggregation by ownership and level of health facilities are critical components of the PPM dashboard to better understand patient pathways (2). The disaggregation will also inform the diversity of access to services like WHO-recommended diagnostics (WRD), which is an important benchmark for assessing universal access to rapid diagnostics (12).

Many of the indicators in Table 2 are existing WHO indicators (11), so the main changes being introduced via this policy brief are in two-fold: (1) standardizing and increasing the number of indicators where private sector disaggregation is expected; and (2) standardizing further the disaggregation efforts (as outlined above, by ownership and level of the health system) that are expected for those indicators.

The dashboard (see Annex) displays results for all of these indicators across all of the health facility types described in Table 1. The facility types under which a TB patient is classified, depends on where that patient was notified, even if the patients was tested and/or diagnosed and/or treated elsewhere.

Several of the indicators in Table 2 are presented only with numerators. Collecting these as absolute numbers (rather than percentages) provides maximal flexibility for powerful further analyses. This can be achieved via comparisons with other numbers available within the PPM dashboard itself (see Annex) or elsewhere in national TB information systems. As just one of many examples, WRD access could be analyzed

first by generating a WRD access percentage (the number with WRD access divided by total notifications) for a particular facility type. Then that percentage (e.g., for private-for-profit primary care) can be compared to corresponding percentages for public facilities, or for private for-profit secondary and tertiary care. These are the types of analyses that can indicate where a programme should focus its quality improvement efforts.

Priority countries were then supported by WHO in the development of national PPM dashboards, building on this prototype. WHO's landscape analysis of private healthcare providers (6) has an additional list of indicators for countries to consider reporting to better understand PPM contributions to TB care and prevention in their respective countries. In addition to the minimum indicators listed in the prototype, countries are encouraged to include more indicators based on the country context as they develop their own PPM dashboards.

Figure 2. People with TB notified and initial access to WHO-recommended rapid diagnostics in Bangladesh, India, Indonesia, Kenya and Pakistan in 2022.

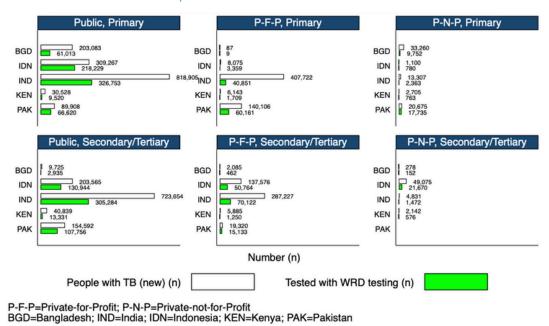
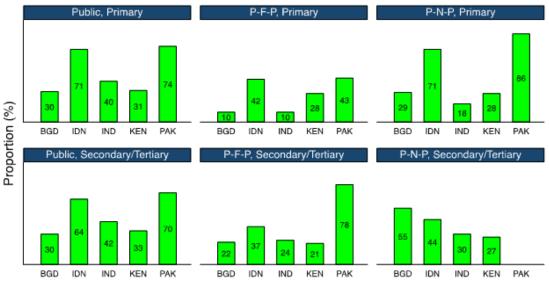


Figure 3. Proportion of people with TB notified with initial access to WHO-recommended rapid diagnostics in Bangladesh, India, Indonesia, Kenya and Pakistan in 2022.



3.3 Hosting

The PPM dashboards are envisaged to be hosted on national TB websites as well as on WHO's global website. The PPM dashboards will contain interactive visuals of the core indicators – and some of the types of analyses mentioned above – that will enable the comparison of performance within the country, between countries and the performance against global targets/performance where applicable.

Table 2. Proposed PPM dashboard core indicators

• WHO TB surveillance guidance* Core set of TB surveillance indicators					
			WHO TB surveillance guidance Core set of TB surveillance indicators		
			countries with a case-based digital surveillance system		
WHO standard: universal access to rapid TB diagnostics STEP 4. Receiving a diagnosis – Increase					
WRD-based diagnosis Benchmark 10: An initial WRD result is available to inform a diagnosis of pulmonary TB					
WHO TB surveillance guidance					
Core set of TB surveillance indicators					

Category	Indicator	Indicator Definition	Reference Documents		
Service Coverage	Treatment initiation Percentage of people diagnosed with TB and registered as a TB case in each of the following categories: started on TB treatment, died before TB	Numerator: Number of people diagnosed with TB and registered as a TB case in each of the following categories: started on treatment, died before starting treatment, lost to follow-up before starting treatment	WHO TB surveillance guidance Core set of TB surveillance indicators		
	treatment, lost to follow- up before starting TB treatment	Denominator: Number of people diagnosed with TB and registered as a TB case			
	Received programme drugs Percentage of notifications of people	Numerator: Number of notifications of people diagnosed with a new episode of TB receiving government-procured anti-TB drugs as per NTP protocol	WHO Engaging private health care providers in TB care and prevention: a		
	diagnosed with a new episode of TB receiving government-procured anti-TB drugs as per NTP protocol	Denominator: Number of notifications of people diagnosed with a new episode of TB	landscape analysis, second edition Adherence to NTP protocol		
	Preventive treatment of contacts Percentage of household contacts (or all close	Numerator: Number of household contacts (or all close contacts) who were started on TB preventive treatment, out of those eligible	WHO TB surveillance guidance Additional TB surveillance indicators that are recommended for countries with a case-based digital surveillance system		
	contacts) of a positive TB case who were started on TB preventive treatment, out of those eligible	Denominator: Number of household contacts (or all close contacts) eligible for TB preventive treatment			
Outcome	Treatment success rate (previous year cohort) Percentage of TB patients who were successfully	Numerator: Number of people who started TB treatment who were successfully treated (cured or completed TB treatment)	WHO TB surveillance guidance		
	treated out of those who started TB treatment	Denominator: Number of people who started TB treatment	Core set of TB surveillance indicators		
Provider Coverage	Providers active Number of providers notifying at least 1 TB patient to the NTP during a calendar year	Numerator: Number of providers notifying at least 1 TB patient to the NTP during a calendar year	WHO Engaging private health care providers in TB care and prevention: a landscape analysis, second edition Adherence to NTP protocol		
		Denominator: 1			
	Total providers Estimated total number of	Numerator: Estimated total number of providers			
	providers	Denominator: 1			

^{*1} New episodes of TB disease include both drug-susceptible and drug-resistant TB, unless otherwise stated. New episode: A person with TB disease who is classified as a new case, a recurrent case or a case with unknown previous treatment history (i.e. any case apart from a re-registered case).
*WHO TB Surveillance Guidance (11)

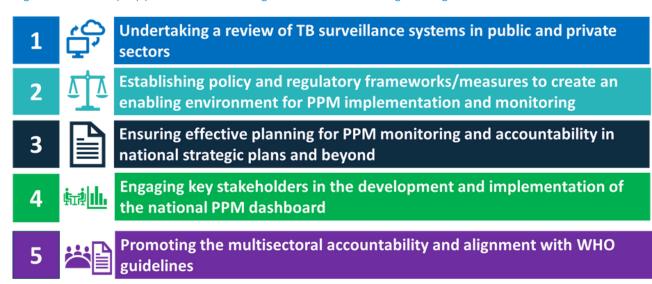


Country
consultation to
build consensus
on the PPM data
dashboard in
Pakistan with key
stakeholders

IV. Key approaches to strengthen PPM monitoring through enhanced data dashboards

Building on the lessons learned from the set-up of standardized TB PPM data dashboards in seven priority countries, some of the most critical considerations to develop and operationalize PPM data dashboards are outlined below. These approaches cover regulatory framework needs, inclusivity of all stakeholders, technical aspects of developing dashboards and overarching alignment to WHO's normative guidance.

Figure 4. Five key approaches to strengthen PPM monitoring through enhanced data dashboards



Undertaking a review of TB surveillance systems in public and private sectors

PPM priority countries have various digital TB surveillance systems for data collection, analysis, visualization and reporting. For both case-based and aggregate data, the transition to digital TB surveillance systems like DHIS2 can enable the capture of critical data elements from both the public and private sectors. The adoption of digital case-based surveillance systems by countries supported by WHO has made it easier to collect and disaggregate data by ownership and health care levels. To determine the readiness of countries to take on this task, an assessment may focus on the following components:



- The availability and use of a Master Health Facility List (MHFL; see boxed text) in digital TB surveillance, and its ability to correctly categorize the health facilities by ownership and health care levels.
- The coverage of digital TB surveillance systems for public and private sectors and the usage of such systems to report data to the national TB surveillance system.
- For countries with a "lite" version of the main digital TB surveillance system, the assessment should determine whether the lite version can report the minimum set of PPM indicators as outlined in the dashboard prototype.
- For standalone EMRs used by the private sector, assess TB modules in these EMRs and the level of interoperability between standalone EMRs and the government's standard digital TB surveillance systems.

Importance of the Master Health Facility List

Developing and maintaining a comprehensive master list of all health facilities provide the foundation for a highfunctioning surveillance system, in terms of both coverage and quality. Ensuring the availability of a list of reporting facilities relevant to TB prevention and care, and keeping this list up to date, should be among the priority activities for the national TB programme and the health sector more broadly. This is necessary to ensure national coverage of the TB surveillance system and in turn to provide the most accurate picture of the TB epidemic and the programmatic response. These activities should be undertaken in collaboration with other parts of the ministry of health and other relevant ministries (e.g. interior, labour, social services, welfare), as well as the private sector and other national and international partners and stakeholders. Ideally, overall oversight should be provided by the team that is responsible for overall governance of the health information system.

Establishing policy and regulatory frameworks/measures to create an enabling environment for PPM implementation and monitoring

Policies and regulation help build an enabling environment in the country to engage all care providers in the provision of quality TB prevention and care services. These policies can also support or enhance the use of surveillance systems to capture, and report standardized data from both private and public health facilities. Examples of policies and regulatory frameworks relevant to dashboard development may include:

- Mandatory TB notification policies to ensure all health care providers including those in the private and unengaged public sector comply and mandatorily report any diagnosed TB patients to national surveillance systems.
- Policies on linkages and ensuring interoperability between the EMRs used in the private sector and national digital TB surveillance systems.

Countries should aim to enforce these policies with easy-to-use digital tools and innovations, like mobile apps, to facilitate reporting from all care providers.

Ensuring effective planning for PPM monitoring and accountability in national strategic plans and beyond

A national strategic plan (NSP) for TB is a key document that guides national authorities and stakeholders on how to comprehensively address the TB epidemic through interventions within the health sector and across other The NSP translates global, regional, commitments into national and subnational targets and activities to be implemented to achieve these targets and provides the basis for mobilizing domestic and external resources for the TB response. It outlines the overall goal(s), strategies, and priority interventions, and provides quidance on how these are coordinated across sectors. PPM actions including on the setting up of the PPM data dashboard should be featured as one of the core components in the NSP, along with assigned resources. Deliberate actions should therefore be taken to ensure that the planning process facilitates input from those most affected by health inequities as well as providers and associations from the public and private sectors involved in the TB response. Ensuring the inclusion of PPM, including data from the PPM dashboard, in NSPs will provide an opportunity to increase awareness and strengthen the commitment of political and other leaders on the importance of engaging all care providers, mobilizing the required resources, and facilitating the measurement of impact.

4

Engaging key stakeholders in the development and implementation of the national PPM dashboard

Engaging key stakeholders from the private sector and unengaged public sector through the whole development process of the PPM dashboard is vital to ensure ownership, consensus and accountability. Stakeholders should also encompass affected communities and civil society. This is aligned with WHO's multisectoral accountability framework on TB (MAF-TB). Country consultations should be organized at the planning stage and periodically during implementation, to facilitate the set-up of the dashboard and its subsequent roll-out. This will contribute to:

- Providing guidance on the minimum set of indicators relevant to the country context to be included in the PPM dashboards.
- Reaching consensus on PPM typology to categorize all care providers by ownership and health care levels (community, primary, and secondary or tertiary) to monitor patient preference in seeking care.
- Establishing a framework to review progress and accountability of stakeholders complementing NTP efforts in providing quality TB care and prevention.

Promoti

Promoting multisectoral accountability and alignment with WHO guidelines

As part of multisectoral engagement efforts in the country, the national MAF-TB governing body should include the involvement of all health providers, including those from the private and informal sector. The mechanisms for monitoring and reporting in the PPM dashboard can be strategically utilized to enhance accountability as part of MAF-TB. This accountability effort includes the monitoring of key elements from the latest WHO guidelines including on digital surveillance and information systems, and the roll out of rapid diagnostics and new treatment regimens for prevention and care, as part of efforts to ensure access to the latest tools in the private or unengaged public sector. The PPM dashboard can be reviewed periodically by the national multisectoral coordination and review body in the country (if they exist) as part of MAF-TB adaptation.

V. Way forward

Strong commitments with concrete targets were made by world leaders in the political declaration of the second UN high-level meeting on TB held in September 2023; this provides a renewed impetus to accelerate the TB response over the next five years. The new targets include: reaching 90% of people in need with TB prevention and care services; using a WHOrecommended rapid test as the first method of diagnosing TB; ensuring that all people with TB have access to a health and social benefit package; ensuring the availability of at least one new TB vaccine that is safe and effective; and closing funding gaps for TB implementation and research by 2027. The increased engagement of private and unengaged public providers will be one of the important drivers to reach 90% of people in need with quality-assured TB prevention and care. It will be vital to expand PPM monitoring to increase the use of evidence to measure the performance of PPM providers, and to trigger practice and policy change to close gaps in the provision and quality of care. This will also help enhance accountability and prioritization of interventions based on patient needs and ensure people have access to high quality TB services wherever they seek care.



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Annex

PPM data dashboard with core indicators- Indonesia

Indicator		Primary	Secondary/ Tertiary	Total	Primary	Secondary / Tertiary	Total	Primary	Secondary/ Tertiary	Total
Successfully treated (2021 cohort)	338,738	747	18,574	19,321	1,606	40,386	41,992	223,618	53,807	277,425
	391,245	934	22,312	23,246	1,988	50,600	52,588	247,260	68,151	315,411
Bacteriologica Ily confirmed	355,881	629	15,599	16,228	3,113	36,759	39,872	209,420	90,361	299,781
Initial access to a WRD	425,746	780	21,670	22,450	3,359	50,764	54,123	218,229	130,944	349,173
Testing bacteriologica Ily confirmed for drug resistance	322,244	618	14,325	14,943	2,826	33,239	36,065	182,789	88,447	271,236
Initial WRD for PTB	415,336	760	20,856	21,616	3,331	49,491	52,822	215,563	125,335	340,898
Treatment initiation	617,655	991	38,179	39,170	6,033	104,068	110,101	345,251	123,133	468,384
Received program drugs	585,365	807	33,437	34,244	3,860	87,564	91,424	344,005	115,692	459,697
ТРТ	15,922	-	42	42	5	101	106	15,487	287	15,774
Presumptive TB patients	3,614,436	3,611	110,664	114,275	34,643	294,224	328,867	2,655,492	515,802	3,171,294
Notified TB Patients	708,658	1,100	49,075	50,175	8,075	137,576	145,651	309,267	203,565	512,832
Notified pulmonary TB patients	655,220	1,066	43,094	44,160	7,827	122,281	130,108	299,664	181,288	480,952
Providers active	13,471	41	426	467	911	1,113	2,024	10,017	963	10,980
Total providers	34144	159	521	680	19079	1411	20490	11869	1105	12974



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