

Review of Monitoring and Evaluation of collaborative TB/HIV activities

**Experience from six countries: Cambodia, Dominican
Republic, Malawi, Kenya, Tanzania, Zambia**

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Acronyms

AIDS	Acquired Immune-Deficiency Syndrome
ART	Antiretroviral Therapy
CDC	Centres for disease control
CENAT	National Centre for TB and Leprosy Control
COPRESIDA	Presidential AIDS Council
CPT	Cotrimoxazole Preventive Therapy
DHO	District Health Officer
DHMT	District Health Management Team
DIGECITSS	HIV/AIDS Control Program
DOTS	Directly Observed Treatment Short-course
DR	Dominican Republic
DTO	District TB Officer
EPTB	Extrapulmonary TB
FHI	Family Health International
GFTAM	Global Fund to Fight TB, AIDS and Malaria
HC	Health Centre
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HTC	HIV Testing and Counselling
IC	Infection control
IPT	Isoniazid Preventive Therapy
KNCV	Royal Netherlands Tuberculosis Foundation
M&E	Monitoring and Evaluation
MDR- TB	Multi-Drug Resistant TB
MESS	M&E Systems Strengthening
MoH	Ministry of Health
MSH	Management Sciences for Health
NAC	National AIDS Commission
NCHADS	National Council of HIV/AIDS
NTP	National Tuberculosis Control Program
OI	Opportunistic infection
PEPFAR	President's Emergency Plan for AIDS Relief
PLHIV	People Living with HIV
PMTCT	Prevention of mother-to-child transmission
SOPs	Standard Operating Procedures
SWAp	Sector Wide Approach
TB	Tuberculosis
TB CAP	Tuberculosis Control Assistance Program
TB - IC	TB Infection Control
USAID	United States Agency for International Development
VCT	Voluntary counselling and testing
VCCT	Voluntary confidential counselling and testing
WHO	World Health Organization

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Executive summary

WHO recommended the monitoring and evaluation (M&E) guideline for collaborative TB/HIV activities to be incorporated in the national programs. However, the implementation of the TB/HIV collaborative and M&E activities lack harmonization and standardization in data collection and compilation among national TB and HIV programs and partner organizations. Country-specific reviews were conducted to systematically identify the gaps, opportunities and share experiences of a range of countries on their TB/HIV collaborative activities and the M&E systems. The reviews were conducted in six countries using a standardized data collection instruments and the reports were synthesized to generate relevant recommendations to improve implementation and scale-up of TB/HIV M&E system.

Key findings and lesson learnt:

The review findings suggest that the level of implementation, integration and scale-up of collaborative TB/HIV monitoring and evaluation systems vary widely within and among the countries visited. Although the review teams observed collaborative activities in place and examples of good practices and opportunities; there were several challenges in harmonizing and synchronizing of information, completeness of registers and reports, utilization of information for local planning and decision making. These challenges call for a concerted global effort for strengthening the M&E of TB/HIV activities so that to address issues arising during the implementation and scale-up of the activities.

The following key recommendations are suggested to improve TB/HIV M&E systems

- The national TB/HIV coordinating body between NTPs and HIV Programs should be strengthened to support monitoring and evaluation of TB/HIV indicators.
- The reporting and recording systems for M&E of NTPs and NACP need increased resources allocated if they are to record monitor and cross-check TB/HIV collaborative data.
- Develop country adaptations of the WHO recommended recording and reporting system for ART and Pre ART registers to include TB screening, TB treatment and IPT provision.
- Decentralise the HIV care recording and reporting system to peripheral clinics at least to where there are TB diagnostic facilities.
- Establish a functional information sharing and referral systems between TB and HIV clinics and establish a mechanism of actively tracking and cross-checking of registers for referred patients.
- Establish a clear terms of reference on data ownership and promote sharing of information among all partners engaged in TB/HIV activities.
- Establish mechanisms of regular data quality auditing (data checking between the programmes at health centre, district and national level)

- Update and revise standard National TB/HIV guidelines to address infection prevention and control issues and implement relevant measures at the health facilities and include indicators related to infection control in the routine recording and reporting system.
- Engage all parties in supporting local capacity building for the implementation of standardised TB/HIV recording and reporting system, data analysis and harmonization and for using the information for planning, advocacy and decision making.
- Work towards harmonization of data in integrated TB/HIV clinics to avoid multiple R&R systems and overworking of staff

Introduction

The dual epidemic of tuberculosis (TB) and human immunodeficiency virus (HIV) is a major global public health challenge. HIV infection is fuelling the number of TB cases and TB is the main cause of mortality and morbidity among HIV infected individuals. According to the recent World Health Organization (WHO) report, among the 9.4 million new TB cases occurred globally in 2008, 15% were HIV co-infected and the co-infection rate was the highest (38%) in African region (1). There were 2 million deaths due to HIV in 2007 and of these, 23% had TB. HIV-related TB increased during the last decade even in countries with well-organized national TB control programs (NTPs) that are implementing the directly observed therapy, short course (DOTS) and TB remains the main cause of morbidity and mortality in people living with HIV/AIDS (PLWHA) in countries where HIV/AIDS control programs are functioning well. Therefore, HIV prevention and care should be a priority concern of NTPs and TB care and prevention should be a priority concern of national HIV/AIDS control programs (2) requiring a collaborative and coordinated effort to control TB and HIV.

The Stop TB strategy (3) is being implemented and scaled up in most countries for the control of TB. Between 1995 and 2008, a cumulative total of 36 million TB patients were successfully treated in DOTS programs, and up to 6 million deaths were averted. Addressing HIV/AIDS and scaling up the collaborative TB/HIV activities is one of the six components of the Stop TB strategy and being implemented widely.

There has been major progress in implementing collaborative TB/HIV activities. A number of interventions such as testing TB patients for HIV and providing cotrimoxazole preventive therapy (CPT) and antiretroviral therapy (ART) to HIV-positive TB patients have been implemented. Globally, 22% of notified TB cases knew their HIV status in 2008. The greatest progress in the last 5 years in HIV testing has been in the African Region, where 0.5 million TB patients (45% of all notified cases) knew their HIV status in 2008. In the same year, 0.3 million people were enrolled on CPT and 0.1 million people were enrolled on ART (4).

However, there are several challenges in the implementation and scale-up of the collaborative activities in most countries. Isoniazid preventive therapy (IPT) provision and infection control (IC) are the two components/indicators that are neither systematically implemented nor being scaled up. IPT is an important intervention for preventing and

active TB among PLHIV. However, provision of IPT remains at very low levels globally, with reported numbers treated with IPT reaching only 27,056 in 2006 – equivalent to less than 0.1% of the estimated 33 million people to be infected with HIV. Increasing resources are being allocated for collaborative TB/HIV activities, with national scale-up of TB/HIV activities being implemented in several countries. These activities are at different stages of implementation in different countries and there is a growing need to monitor these activities and evaluate their impact in order to inform future expansion of the most effective ones. WHO endorsed the monitoring and evaluation (M&E) guideline for collaborative TB and HIV activities to be incorporated in the national programs (6).

However, the information about TB/HIV M&E system are not readily available and country-specific experiences have not been assessed systematically. Moreover, there are several gaps and challenges in the implementation of the M&E activities in different countries and at different levels of their health services. These include:

1. Lack of harmonization and standardization of TB/HIV data collection and compilation among NTPs, HIV/AIDS programs, and partner organizations.
2. In most countries, communication, data sharing and reporting systems between the Ministry of Health and partner organizations are inadequate and the formats and indicators used are not uniform.
3. M&E of the TB/HIV collaborative activities are inadequate and inconsistent within and among countries

The rationale

Therefore, it is important to systematically review and share the experiences of a range of countries about their M&E systems to identify gaps, discrepancies and challenges in the implementation and scale-up of the M&E systems.

The aims of the review and the synthesis report are:

1. To document practical country experiences with TB/HIV M&E system to inform best practices to bring about standardization and harmonization of the system.
2. To identify gaps, challenges and opportunities in the implementation of TB/HIV M&E activities and draw appropriate recommendations for strengthening and scaling-up of the M&E system globally.

Methods

The reviews were conducted in six countries (Cambodia, Dominican Republic, Kenya, Malawi, Tanzania and Zambia) and the methodology followed a standardized protocol developed for this purpose. The methodology included visits and examination of the TB/HIV component of the TB/HIV M&E system of the TB and HIV/AIDS Programs at national, intermediate (regional/district), and health facility levels and partners involved

in supporting the implementation of TB/HIV collaborative activities in the countries. The review was organized to allow visits to follow all stages of the flow of TB/HIV data from the health facility level to the national level.

Data collection methods

The country-specific reviews implemented both quantitative and qualitative designs. Quantitative data were collected using specially designed questionnaires and by retrieving information from the registers and formats at each level. Interviews were completed with key stakeholders at each level and activities were observed to generate qualitative information.

The review process

The country review processes were led by international consultants from WHO (in Cambodia), MSH (Management Science for Health) (in Dominican Republic and Malawi) and KNCV (The Royal Dutch TB Association) (in Kenya, Tanzania and Zambia) and completed between January and September 2009.

The teams have visited the national programs at the Health Ministry, intermediate level (Regions/districts) and peripheral health facilities (hospitals and clinics) and partner organizations which support the TB/HIV activities in the six countries as described in table 1 below.

	Cambodia	Dominican Republic	Kenya	Malawi	Tanzania	Zambia
Review dates	July 11-19 09	July-Sep 09	Jan 27-31 09	June 15-26 09	June 7-14 09	April 6–11 09
Review leader	Dr N Nishikiori Dr C Gunneberg (WHO)	Dr. PG. Suarez Dr. MI Tavarez Dr. MA Rosa (MSH)	Prof. F Salaniponi (KNCV)	Dr. E Wandwalo (MSH)	Prof. F Salaniponi (KNCV)	Prof. F Salaniponi (KNCV)
Sites visited/staff interviewed						
National	CENAT and NCHADS	NTP, DIGECITSS COPRESIDA	NTP, National AIDS Council	NTP, HMIS, HIV/AIDS unit	NTP	NTP,
Region/district	2 Provinces	1 region, 10 Areas	1 Province	1 Zonal office, 5 districts	1 Region, 4 districts	1 Province, 2 districts
Health facility	2 hospitals and 1 HC	6 hospitals and 4 HC	1 hospital, 3 HC	5 hospitals and 1 HC	3 hospitals and 2 HC	1 hospital and 2 HC
Partners interviewed, contacted, attended joint meeting	CDC, FHI	GFTAM, PAHO, TBCAP-KNCV USAID	PATH, MALTESER, KANCO, PEPFER	WHO, TBCAP	CDC	CDC

Table 1: Country review process and teams

Target audience

- TB and HIV/AIDS manager at the national , intermediate and local levels
- Health policy makers at national, intermediate and local levels
- Health workers at service delivery levels
- Partner organizations

The synthesis report

The information collected by the country-specific review teams and the reports were summarized and synthesized by an independent reviewer (Dr Mohammed A Yassin – Liverpool School of Tropical Medicine) and coordinated by WHO (Dr Christian Gunneberg).

The synthesis report presents key information on the TB/HIV M&E activities in different countries, the challenges and opportunities at national, intermediate and district levels. The report highlights country-specific good practices and suggests relevant recommendations for harmonization and scale-up of the TB/HIV M&E systems in settings where the activities are being implemented or planned to be initiated.

Key findings

TB/HIV M&E system at country level

The TB/HIV M&E systems are well developed in most of the visited countries in the areas of collaboration, integration of activities, networking, sharing of information, planning and provision of services at all levels. Most NTP and HIV/AIDS program conduct joint meetings, supportive supervision, training and share information. However, there were several gaps and challenges in the implementation of the TB/HIV collaborative activities and their M&E system at different levels. Generally we noticed that the limited human and financial resources also affect the implementation monitoring and evaluation systems. In particular on the HIV side there is a mismatch between speed of scaling up of services and data capture of TB/HIV related activities..

Health facility level

Achievements:

- **HIV indicators are collected and summarized from the TB register in all countries visited**
- **TB screening of people living with HIV is being carried out and HIV care records generally capture the data on TB screening and TB treatment.**

Challenges/gaps:

- There were more TB diagnostic and treatment centres than HIV testing and ART centres in all countries and hence not all facilities provide both services at the same time and therefore this affected smooth flow of TB/HIV data between TB and HIV/AIDS clinics
- There was no M&E framework or guideline for implementing TB/HIV collaborative activities in some countries and staff were unfamiliar with what information should be recorded and reported in addition to the routine disease specific (TB or HIV) information.
- Registration of patients is highly centralized in hospitals for HIV/AIDS in DR and for TB in Malawi although other health centres are involved in the diagnosis and follow up of patients.

Examples of good practice:

- ✓ Some facilities in Malawi (e.g. Mangochi and Zomba hospitals), there are common TB/HIV clinic, where TB/HIV patients are given the same appointment for their TB and HIV medications.
- ✓ Both the TB and ART clinicians and nurses attend the clinics and share TB/HIV information.
- ✓ There are functioning tracking systems including cross checking of data between TB and HIV clinics at Amana district hospital, Mnazi Mmoja HC, and Mbagala Rangi Tatu Clinics in Tanzania

Intermediate level (District/Province/Region)

Achievements:

- In some of the countries visited, the NTP and HIV/AIDS program coordinators at intermediate level conduct joint quarterly meetings and supportive supervisions to share information and mitigate constraints.
- Quarterly M&E summary data collected at district level from the tuberculosis registers include the TB/HIV variables in all countries visited.

Challenges/gaps:

The coordination mechanisms between TB and HIV programmes to cross-check TB/HIV data collected are not developed. For example:

- In Cambodia, although TB/HIV summary data is sent from the districts to the national level through the quarterly case finding reports, there was no formal mechanism for checking the district TB register data against the equivalent Opportunistic infection (OI)/ART clinic data.
- In DR, treatment outcome of cohort of TB/HIV patients are reported, but there was no formal and systematic coordination between the NTP and HIV program during collection, analysis and evaluation of information related to TB/HIV.

National level

Achievements:

- The NTP and HIV program in DR have recently established a National TB/HIV working committee consisting of various TB and HIV program stakeholders to support the implementation and strengthening of TB/HIV M&E system.

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Challenges/gaps:

- There was no M&E framework or guideline for implementing TB/HIV collaborative activities in some countries and staff in the TB and HIV units are unfamiliar with what information should be recorded and reported in addition to the routine disease specific (TB or HIV) information.

- In DR, there are three parallel M&E systems working without formal feedback and coordination during collecting, analyzing, and evaluating information related to TB/HIV activities.
- In Cambodia, the ART and Pre-ART reports don't include routine national reporting of TB screening, TB case detection or IPT provision.

Roles of Partners:

- Although the numbers and the level of the support varies, partner organizations are engaged and are supporting the TB and/or HIV activities and the M&E systems at different levels in all countries.
- In some of the countries visited, the partners work closely with the national programs and conduct joint review meetings, involved in planning and local capacity building and share information regularly. In others however, there was lack of communication and harmonization.
- Some partners (e.g. CDC, FHI) use the national data and make additional analysis, whereas others (PEPFAR and the Global Fund) introduced additional indicators.
- In some areas the information gathered by the partners are more comprehensive and complete than the ones collected and retained by the national programs.
- Some partners such as the Global Fund are engaged in local capacity building in M&E system.
- There is no clear guidelines or terms of reference between the partners and national programs about the ownership of the data collected by partners and it is not clear how and where the data are used, stored and retained.

Recording and reporting of TB/HIV indicators and their usefulness

Achievements:

- Data from current indicators have been useful in advocacy discussions for more decentralized services. For example in Cambodia monitoring of HIV testing rates in TB patients have supported the development of more decentralized testing. Likewise the monitoring of ART uptake by TB patients has fuelled the discussion on how to improve access to ART.
- The current indicators are utilized in some countries for planning and management, procurement and distribution of drugs, consumables and equipment. They are also said to have been useful for targeted

interventions, designing training tools and justification for resources for decentralization of the services.

Challenges:

- Although most of the activities related to TB and HIV are being implemented, the practice of capturing and sharing information among different actors (partners, private practitioners and government programs) was limited.
- In most places, reporting and recording are not considered as a priority and often the importance of M&E system is overlooked.
- In DR, the TB/HIV information was not used to inform planning and management decisions by both TB and HIV programs at all levels.
- In Malawi, the TB/HIV information collected is not used locally for planning and programming purposes.

Suggestions for additional indicators

- ✓ In Cambodia, it was recommended to add TB/HIV indicators namely; “TB screening, TB diagnosis and treatment for PLHIV and IPT provision in the quarterly reports from the provinces to National HIV program.”
- ✓ In Kenya, to add “Proportion of patient offered IPT in the facilities, Number of TB/HIV collaborative meetings completed in the reporting period, Number of patients referred from TB clinic with HIV testing form.”
- ✓ In Zambia; “Number of TB patients tested for HIV in the continuation phase of TB treatment. HIV/ART documentation to have key information on TB and the information on TB to segregate cases by age and sex.”
- ✓ In Tanzania, it was suggested to have two “Counter registers” with key indicators in each register (TB/HIV registration book and TB/HIV follow up register).
- ✓ In DR, it was recommended to incorporate key TB/HIV indicators that are adopted from the WHO revised indicators in their M&E systems.

Harmonization of TB/HIV Recording and reporting tools

Achievements

- ✓ Makadara Clinic, a Faith Based facility, has an excellent TB and HIV recording and reporting system, cross-checking, and capturing of data and they share the same information with the national programs. **(Kenya)**
- ✓ Malawi has a functional Health Management Information System (HMIS) and the TB registers and formats have been updated to include HIV/AIDS indicators and TB/HIV data are available at the national, zonal and district levels of the two programs.

Challenges/Gaps:

- There are redundancies/duplications and non harmonization of recording and reporting tools and data in most centres/countries and overlapping of TB and HIV/AIDS indicators
- Some partners introduced their own recording and reporting systems and there was lack of standardization and harmonization of data and indicators obtained from different sources.

4) Lessons learnt

The field visits created an opportunity to observe and assess the real and operational situations and garner relevant information which enabled documentation and sharing of best practices. The teams have communicated with the authorities, health personnel and partners in the countries visited and made relevant recommendations for improvement of the TB/HIV M&E system.

- **Integration of TB/HIV M&E systems**

The results of the reviews indicate that there are functional TB and HIV programs for disease specific activities in all the countries visited. However, the level of integration and collaboration of the TB/HIV activities and their M&E systems varies across and within the countries and require concerted effort. Some countries are just starting the TB/HIV collaborative activities and others have extensive experience and at advanced stages of implementation and integration of collaborative program. In general, the recording and reporting systems of the NTPs in almost all countries are well functioning and the flow of information at different levels of the NTPs is clear and registers and formats are updated in most countries. NTPs are more likely to record and report information on HIV related activities at all levels compared to the recording and reporting of TB related data by the HIV/AIDS program. These could be related to the availability of the guideline and

implementation of the TB/HIV collaborative activities and the knowledge and perception of the staff engaged in TB and HIV control programs.

- **Referral and sharing of Recordings and Reports**

There seems a big discrepancy between the reported ART uptake among TB patients and the actual uptake. This could be due to lack of sharing information between the TB and ART programs and patients may be on ART in another centre or a separate clinic within the same centre. The ART uptake among TB patient in facilities with one-stop services was much higher and conform the argument that lack of communication between the two programs and failure to harmonize the information could lead to underestimation of the national data collected and undermine the efforts of the programs. Improving the M&E system on ART uptake and routine cross checking with ART registers and sharing information between the programs would rectify this problem.

Although the HIV/AIDS programs have developed a good recording and reporting system for HIV related activities, the components related to TB are often overlooked except in few health facilities/districts where the integration and collaboration of the two programs are functioning well. The review teams identified that although it appears that most of the PLHIV in care are screened for TB in almost all centres visited as there are TB screening tools, the problem is that the data are not documented or if documented not aggregated at the intermediate or national level. Thus it is difficult to know the accurate number of TB patients being enrolled in ART program at national level.

- **Recording and reporting IPT and Infection control**

Although the HIV patient summary sheet provides an IPT column which would allow IPT treatment recording and patient compliance analysis at a glance, IPT provision was not documented and included in the routine reports of the countries visited. None of the countries has rolled out or scaled up the IPT provision at national level. For those patients with symptoms, further testing should allow allotment of patients to either TB treatment or IPT provision. The high level of TB infection in countries visited and the poor prognosis of untreated TB suggest that if after further investigations TB still cannot be clinically excluded; it might be wiser to err on the side of treatment for TB. Therefore, IPT should be considered as a priority for HIV control programs and scaled up and the M&E for IPT should be improved to capture the data and assess the progress of the program.

HIV-infected persons are highly susceptible to TB infection and development of TB disease (5). Although IC is a cross-cutting issue for both TB and HIV, none of the sites visited has written documents and strategies for IC and reports indicators related to IC at any level of their services. In most health facilities visited, there was no sign of infection prevention or control and the working environment is rather conducive for TB transmission. This situation calls urgent action and countries should adopt and implement the infection control strategies in all health facilities and staff should be aware of all locally applicable measures.

The indicators related to IC should be incorporated in the routine M&E system and reported regularly.

- **Partners and donors**

Partner organizations are key supporters of the implementation and strengthening of the TB/HIV activities and the M&E system in general. They provide financial and technical support to the national programs and are involved in local capacity building. However, the teams observed some gaps in communication, data sharing and harmonization of the activities, recording and reporting system in some countries. These TB/HIV M&E issues were discussed with the major partners supporting the TB and HIV programs and the MOH. All parties agreed to collaborate more and synchronize their activities and the recording and reporting system so that a consistent and representative information will be generated at all levels for planning and informed decision making. This could be done by collaborating and working together at all stages from the planning to evaluations and by using the same set of standardized recording and reporting formats, sharing, harmonizing and synchronizing the information collected at all levels.

5) Recommendations

- The national TB/HIV coordinating body between NTPs and HIV Programs should be strengthened to support monitoring and evaluation of TB/HIV indicators by:
 - a) conducting quarterly and annual workshops at all levels for the purpose of information sharing and analysis of TB/HIV indicators;
 - b) implementing a link between the information system guidelines used by NTP and HIV programs for the purpose of consolidating and cross checking information to avoid duplication and inconsistencies on TB/HIV indicators;
 - c) improving the flow of information, and cross checking of TB/HIV data from both NTP and HIV programs at the local, intermediate and national levels.
- Develop country adaptations of the WHO recommended recording and reporting system for ART and Pre ART registers to include TB screening, TB treatment and IPT provision (7).
- Decentralise the HIV care recording and reporting system to peripheral clinics at least to where there are TB diagnostic facilities.
- Establish a functional information sharing and referral systems between TB and HIV clinics and establish a mechanism of actively tracking of referred patients.
- Establish a clear terms of reference on data ownership and promote sharing of information among all partners engaged in TB/HIV activities.

- Establish mechanisms of regular data quality auditing (data checking between the programmes at health centre, district and national level)
- Update and revise standard National TB/HIV guidelines to address infection prevention and control issues and implement relevant measures at the health facilities and include indicators related to IC in the routine recording and reporting system.
- Engage all parties in supporting local capacity building for the implementation of standardised TB/HIV recording and reporting system, data analysis and harmonization and for using the information for planning, advocacy and decision making.

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Annex 1: Detailed findings of the reviews

Activity	Cambodia	Dominican Republic	Kenya	Malawi	Tanzania	Zambia
Population (2007) M	14.4	9.4	37.4	13.9	40.5	11.9
Information on TB and HIV activities						
TB diagnostic centres	150	160	900	202	800	156
TB treatment centres	1000	1033	1796	572	4000	1500
HIV testing centres	212	78	900	716	2000	1563
ART (PreART) centres	60	78	300	233	200	72
Prevalence of all forms of TB/10 ⁵ pop	96	82	319	346	337	387
Smear-positive TB case detection rate	61%	66%	72%	41%	51	58%
% TB patients tested for HIV	57% (2008)	50% (2008)	79%	86.5%	50%	47%
TB patients with HIV co-infection	14.5%	8.6%	48%	68%	47%	69%
Adult HIV prevalence	0.8%	1.1%	7.1-8.5% (2007)	12%	6.2%	13.1%
Estimated no of PLHIV	75 000	59,000 (2007)	1.5-2.0 m	930,000	940,000	1.48 m
HIV+ TB patients started/continued ART	21%		37%	31%	31%	41%
HIV+ TB patients started or continued CPT	38%	No report	100%	89%	72%	40%
Proportion of HIV+ initiated IPT	No report	No report	No report	No report	No report	No report
Level of integration of TB/HIV activities and M&E of TB/HIV	National framework for TB/HIV developed in 2002 and the M&E section of the revised framework incorporates the WHO	No regular and systematic coordination of TB/HIV activities A National TB/HIV working committee consisting of various TB and HIV	M&E systems well developed in the areas of Collaboration, Partnership, Coordination, integration of activities, networking,	The TB/HIV M&E system is integrated into the NTP and National HIV/AIDS unit of the MoH M&E system. At the national level, each program has	Fully integrated M&E system with relation to TB/HIV at all levels. TB/HIV coordinating body with clear TORs at all levels	Fully integrated M&E system with relation to TB/HIV at all levels. TB/HIV coordinating body with clear TORs at all levels

	recommended indicators with the exception of the screening indicator.	program stakeholders established for the implementation and strengthening of TB/HIV M&E system	sharing of information, planning, and provision of services at all levels.	its own TB/HIV recording and reporting system.		
- Health facility level	Although screening for TB at VCCT is welcome it is necessary to have the main R&R system for screening based at the OI/ART with the ability to count the screening indicator at each visit from the pre ART and ART registers.	The HIV/AIDS R&R system is highly centralized in hospitals. There is limited coordination between the TB and HIV/AIDS personnel to implement collaborative activities. No clear channels of communication to refer and follow-up TB/HIV patients.	Case identification/suspect, diagnosis, treatment, follow-up and progress report.	The TB registers updated to include HIV indicators such as HIV status, CPT, ART. The ART column has been segregated to capture patients who started ART before, during or after TB treatment.	Case identification/suspect, diagnosis, treatment, follow-up and progress report.	Case identification/suspect, diagnosis, treatment, follow-up and progress report.
- District/regional level	TB/HIV summary data is sent in the quarterly case finding reports to the national level from the Districts. There is not a formal mechanism for checking the district TB register data against the equivalent OI/ART clinic data.	There is no formal and systematic coordination between the NTP and DIGECITSS during collection, analysis and evaluation of information related to TB/HIV.	Quarterly meetings, case identification, HIV testing at all districts, HIV care and ART, progress report, joint meetings, TB supportive supervision and sharing of information and mitigation of constraints.	Districts in the Southern zonal have adopted a strategy of 'delaying' submission of TB/HIV information for one quarter to allow updating of patient's information.	Quarterly meetings, case identification, HIV testing at all districts, HIV care and ART, progress report, joint meetings, TB supportive supervision and sharing of information and mitigation of constraints.	Quarterly meetings, case identification, HIV testing at all districts, HIV care and ART, progress report, joint meetings, TB supportive supervision and sharing of information and mitigation of constraints
- National level	The ART and Pre-ART reports don't include routine national reporting of TB screening, TB case detection or IPT provision	Three parallel M&E systems working without formal feedback and coordination during collecting, analyzing, and evaluating information related to TB/HIV activities.	Quarterly meetings, Training, joint planning	TB registers and forms have been updated to include HIV/AIDS indicators. TB/HIV data are available at the national, zonal and district levels. There is a functional HMIS	Quarterly meetings, Training, joint planning	Quarterly meetings, Training, joint planning
Areas requiring	Currently neither the TB	Less attention to IC	Referral system of	Assign M&E qualified	Synchronization and	Harmonization of policy

improvement	nor HIV programs collect indicators on IC. Failure to prioritize at least the manual registration system means that the national HIV program could end up with no accurate quarterly reports from some units.	procedures. There is no regular and suitable mechanism to implement and follow-up IPT, CPT and ART at intermediate level. Decentralisation of TB/HIV recording and reporting system TB and HIV diagnostic and treatment centres. Conduct and participate in joint quarterly review meetings	patients between ART and DOTS clinics. Current TB/HIV guidelines do not include IPC issues.	staff at NTP. Standardized TB/HIV reporting forms at all levels. TB/HIV data from ART clinics, such as no of PLHIV screened for TB and diagnosed to have TB are not routinely reported. Optimize referral systems of patients between TB and ART clinics. Updating of TB treatment cards and district TB registers.	harmonization of some key areas of M&E for TB and HIV. Linking and cross checking of M&E data between TB and HIV clinics Initiating and/or strengthening IC practices Equal ownership of disease and co-infection burden	in some key areas of M&E Cross checking of data at different levels Strengthen procedures in linking both TB and HIV programs Strengthening IC practice Equal ownership of disease and co-infection burden
Usefulness and effectiveness of current indicators	To justify for more resources and more access and to decentralization of HIV testing for TB patients, Data on the provision of CPT and ART have formed part of the debate about data quality and access to HIV services for HIV positive TB patients.	Currently, TB/HIV information available has not been used to inform planning and management decisions by both TB and HIV programs at all levels.	Helps Health Care Worker provide better clinical Management. Informs about burden and trend of the disease. Gives a picture of the performance of facility. Mechanism for feedback from Health Facility to Province. Enables to track changes in performance.	TB/HIV data is not used locally for planning or programming purposes	Source of Information for planning and management, procurement and distribution of drugs and equipment For targeted interventions to operational areas requiring specific attention For design of training tools	Information for planning, Resource allocation problem Identification To know the profile of the disease To tailor targeted intervention Identify and share best practices Design training tools Create demand for training and capacity building
Recommendation for additional indicators	add TB screening, TB diagnosis and treatment for PLHIV and IPT provision in the quarterly reports from the provinces to National HIV program	Incorporate TB/HIV indicators that are adopted from the WHO/UNAID revised indicators in their M&E systems.	Proportion of patient offered IPT in the facilities. Number of TB/HIV collaborative meetings. Number of patients referred from TB clinic with HIV testing form		Two "Counter registers" with key indicators in each register (TB/HIV registration book and TB/HIV follow up register	No. of TB patients tested for HIV in the continuation phase of TB treatment HIV/ART documentation to have key information on TB. Information on TB Care to capture and segregate age and sex

Gaps in integration of M&E	ART/OI registers do not contain any TB/HIV data, though some HIV/TB data is collected at peripheral levels on other treatment forms. There is currently no formal triangulation of TB/HIV data sent to donors and the Ministry of Health.	No M&E framework or guidelines for implementing TB/HIV collaborative activities Although the HIV/AIDS unit has updated its R&R forms and registers to include TB variables, the TB/HIV information from the HIV/AIDS unit is not routinely reported. There is no systematic and regular feedback from the national level to the districts and health facilities.	Challenges in tracking and linking of TB/HIV services Limited sharing of information between private partners and the public sector, Omission of some key reporting and recording system and data capturing.	No M&E guidelines for TB/HIV collaborative activities. There is only one indicator for TB/HIV in HMIS: % of TB patients accessing HIV VCT. The TB/HIV M&E system is mainly skewed towards reporting patient's indicators. There are few/no indicators reported for programmatic evaluations such as training, presence of TB/HIV coordinating bodies, etc.	Segregation of data by sex is done only for smear positive TB. The quarterly report from the HIV clinic lacks key TB component information HIV testing acceptance is limited and captured only at the initial notification. Some key information on HIV care summary sheet is omitted Redundant information on CPT option Age category of children (only as 0-14 yrs) No of TB suspects not recorded	Data segregation by sex only for smear-positive TB cases. Quarterly report and HIV care summary sheet lacks key TB information HIV testing acceptance for TB patients not captured beyond the initial notification. No linking procedure to communicate CPT recording and feedback from ART to TB setting. No mechanisms at district level to check if those diagnosed with both diseases are counted by both TB and HIV registers.
Barriers to local standardization and harmonization of TB/HIV data capture and analysis system	The VCCT service presents an opportunity for TB symptom screening and referral, but the anonymised nature of the data presents challenges for patient follow-up and poses the danger of double counting for monitoring.	Limited skilled human resources Although data and indicators for various diseases are recorded and reported directly from health facilities, TB and HIV information is reported separately to the system.	Private partners implementing TB/HIV activities don't share information with the Government programs. Co-infected patients receive treatment and care at different clinics that are not linked to each other and patients are not tracked by either system. Referral for HIV test without a form. No link of TB patients (eligible for ART) to ART clinic. Redundancy/duplication and non harmonization of TB/HIV R&R data to some extent.	TB/HIV registers are only found in few hospitals that act as registration centres, although patients' treatment cards are updated at health centres. There are many overlapping R&R tools with the same TB/HIV indicators at the health facility level.	Limited human and financial resources to uptake various initiatives More TB facilities than ART facilities Setting ART site creates demands for resources Infrastructure and/or office space limitation Mismatch between staff training and speed of scaling up for services Low priority/neglect for reporting and recording	Limited human and financial resources More TB facilities than ART facilities ART creates demands in terms of coming up with a system/site. Space limitation Policy option of partners (infrastructure issues not a priority). Staff training not matching the speed of scaling up demands. Oversight/neglect of recording and reporting.

Examples of good practice	Measures in IC such as delaying the timing for TB clinics, sending TB patients' blood to VCCT instead of patients, and passive ventilation are all being applied in various settings in Cambodia.		Makadara Clinic, a Faith Based facility, has an excellent R&R system, cross-checking, and capturing of data and they share the same information with the national programs.	In Mangochi hospital, a common TB/HIV clinic where TB/HIV patients are given the same appointment for their TB and HIV medication. Both the TB and ART clinicians and nurses attend the clinic and share TB/HIV information. In Zomba hospital, TB and ART services are provided in a 'one stop shop' and the same staff provide both TB and ART services.	Cross checking of data between TB and HIV clinics/setting at Amana District hospital, Mnazi Mmoja HC, and Mbagala Rangi Tatu Clinics in Dar e Salaam) A well functioning triaging of TB patients for infection prevention and control for follow different dates for treatment according to their risk of infectivity to others in place at PASADA Centre.	Lusaka Province initiated exchange program for Kafue and Luangwa with Joint supervision which improved performance Deployment of treatment supporters to collect sputum specimens in patients' localities increased screening rates. Community sensitization improved the adherence. HIV testing increased after community involvement in Health education with drama groups and treatment supporters.
Recommendations to the TB program to strengthen and harmonize the TB/HIV M&E	There is an urgent need to improve the completeness of HIV related information in TB registers	Revise and improve the NTP R&R system to include HIV/AIDS indicators. Ensure that NTP and DIGECITSS should incorporate TB/HIV indicators in their M&E systems Establish a functional information sharing and referrals systems between TB and HIV clinics and establish a mechanism of actively tracking referred co-infected patients.	Scale-up the integrated one-stop services at all health facilities. Provide TB screening tool and a referral mechanism between clinics providing treatment to capture, track and link all reporting formats.	Decentralize the TB/HIV R&R system to centres providing TB diagnosis. Strengthen information sharing and referral between TB and HIV unit at all levels. Establish mechanisms of regular data quality auditing Support peripheral health facilities which provide TB/HIV services to compile and use TB/HIV information locally for planning, advocacy and education.	The NTP program should synchronize and harmonize key areas that are still running parallel, in isolation or independently for TB and HIV. Scale up cross checking of data of the TB and HIV clinics/setting that are weak. NTP should initiate and operationalize IC practices in the health facilities	
Recommendation to HIV/AIDS program to strengthen and harmonize the TB/HIV	Include TB screening, treatment and IPT start dates on HIV treatment cards, care registers	NTP and HIV programs should incorporate TB/HIV indicators in the M&E systems	Update and revise the current standard National TB/HIV guidelines to address IPC issues.	Strengthen information sharing and referral between TB and HIV/AIDS unit at all	Both NTP and HIV programs should continue addressing together the co-infection	Both NTP and HIV programs should continue addressing together the co-infection

M&E	and summary data on the quarterly reporting forms Establish routine cohort outcome analysis by use of paper based register and include these in quarterly reports to national level and intermittently analyse TB /HIV outcome data.	HIV prog. should align its information system with internationally recommended one and ensure the flow of information is systematic and coordinated Implement TB-IC guidelines at the health facilities.	Enhance the implementation of collaborative TB/HIV activities at National Provincial, District and facility levels.	levels. Strengthen the R&R of TB indicators in ART clinics. Specifically, the screening of TB among PLHIV and the number starting anti-TB treatment. Establish mechanisms of regular data quality auditing	burden in TB and HIV clinic settings	burden in TB and HIV clinic settings
Recommendation to partners/private sectors to and harmonize strengthen the TB/HIV M&E	Partners and the MoH should engage in the exchange and triangulation of data to be sent to donors. Support the adoption of standardised TB/HIV indicators reporting to all donors.	Partners and MoH to engage in exchange and triangulation of data to be sent to donors. Strengthen the information sharing between private providers and the public health facilities	Partners and the MoH should engage in the exchange and triangulation of data to be sent to donors.	Partners and the MoH should engage in the exchange and triangulation of data to be sent to donors.	Partners and the MoH should engage in the exchange and triangulation of data to be sent to donors.	Partners and the MoH should engage in the exchange and triangulation of data to be sent to donors.