

Implementation Guidelines for TB and HIV Collaboration in Nepal

FOURTH EDITION

NATIONAL TUBERCULOSIS CONTROL CENTER (NTCC)

&

NATIONAL CENTRE FOR AIDS AND STD CONTROL (NCASC)



Implementation Guidelines for TB and HIV Collaboration in Nepal

2024 – Fourth Edition.

First Edition:	2009
Second Edition:	2010
Third Edition	2012
Fourth Edition:	Sep 2024

This revised guideline is developed by the National Tuberculosis Control Centre (NTCC) and National Centre for AIDS and STD Control (NCASC) with technical support from the Save the Children (Global Fund Program), World Health Organization, and through key stakeholders engagement.

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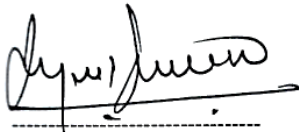
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PREFACE

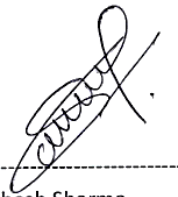
We are pleased to present the fourth edition of the National TB HIV Collaboration Guidelines, which aim to strengthen the collaborative efforts between the National Centre for AIDS and STD Control (NCASC) and the National Tuberculosis Control Centre of Nepal (NTCC). These guidelines serve as a comprehensive resource to enhance programmatic collaboration, clinical management, referral, and cross-referral coordination, as well as planning, monitoring, and budgeting at the national, provincial, local level, and service site levels.

Collaboration is key for an effective response to the overlapping challenges posed by tuberculosis (TB) and HIV. By aligning our efforts, we can provide integrated, patient-centered care that addresses the complex needs of individuals living with both TB and HIV. The guidelines emphasize programmatic collaboration, outlining strategies to strengthen coordination between NCASC and NTCC. They provide detailed clinical management protocols for TB-HIV co-infected individuals, ensuring standardized and evidence-based care. Moreover, the guidelines outline procedures for referral and cross-referral, enabling smooth transitions between services and optimizing patient outcomes. The guidelines offer practical guidance on planning, monitoring, and budgeting to monitor and track changes.

We would like to express our sincere gratitude to the dedicated teams at NCASC and NTCC who worked tirelessly to develop this document. We also extend our appreciation for the technical support provided by Save the Children (Global Fund Program), the World Health Organization, and other stakeholders. Their valuable contributions have enriched the content and applicability of this document.



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ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
ART	anti-retroviral therapy
ATT	anti-tuberculosis treatment
Bdq	bedaquiline
CPT	cotrimoxazole preventive therapy
Dlm	delamanid
DOTS	directly observed treatment short course
DST	drug susceptibility testing
HCW	health care worker
HIV	human immunodeficiency virus
HIVST	HIV self-testing
HMIS	health management information system
IGRA	interferon-gamma release assays
IRIS	immune reconstitution inflammatory syndrome
KP	key population
LTBI	latent TB infection
MDR-TB	multidrug resistant TB
MSM	men who have sex with men
NCASC	National Center for AIDS and STD Control
NPHL	National Public Health Laboratory
NTCC	National Tuberculosis Control Center
NTP	national tuberculosis program
OIs	opportunistic infections
OST	opioid substitution therapy
PEP	post-exposure prophylaxis
PHLMC	provincial health logistic management center
PI	protease inhibitor
PHTC	provincial health training center
PITC	provider initiated testing and counselling
PLHIV	people living with HIV
PP	priority population
PrEP	pre-exposure prophylaxis
PWID	people who inject drugs
RR-TB	rifampicin resistant TB
TB	tuberculosis
TBST	M-TB antigen-based skin test
TG	transgender
TLD	tenofovir lamivudine dolutagravir
TPT	TB preventive therapy
TST	tuberculin skin test
TTC	tertiary tuberculosis center

INTRODUCTION

BACKGROUND

Tuberculosis (TB) and human immunodeficiency virus (HIV) present significant global health challenges, particularly in developing countries like Nepal. The burden of TB and its co-occurrence with HIV have major implications for public health, necessitating targeted interventions. According to the World Health Organization's (WHO) Global TB Report 2023, Nepal faces a substantial burden of TB, including multidrug-resistant TB (MDR-TB) cases. The country has an estimated 70,000 incident TB cases and 540 cases of HIV-positive among TB cases, with mortality rates of 58 per 100,000 population for HIV-negative TB cases and 0.71 per 100,000 population for HIV-positive TB cases. These statistics underscore the urgent need for effective interventions to address the challenges of TB and HIV in Nepal. Monitoring HIV status among TB cases is crucial for effective management. In Nepal, approximately 74% of new TB cases have known HIV status, with 0.79% being HIV-positive. The majority of HIV-positive TB patients (97%) receive antiretroviral therapy, indicating progress in HIV-TB co-management(1) (2).

In 2023, among 2,416 clients newly initiating ART, 174 were diagnosed with TB. Furthermore, 98% (170/174) of the clients newly initiating ART who were diagnosed with TB received linked treatment. Additionally, only 5 clients received TB preventive therapy, despite its significant impact on preventable deaths among HIV clients. Expanding access to preventive measures is crucial to reduce the burden of TB and HIV co-infection(3).

Sentinel surveys in Nepal (2017/18 AD) found 2.5% of TB cases associated with HIV(4), while around 9.9% of people living with HIV (PLHIV) are affected by TB(5). Nepal has a concentrated HIV epidemic among key populations; people who inject drugs (PWID), migrants and their spouses, sex workers and their clients, men who have sex with men (MSM), transgender (TG) individuals, and prison inmates. HIV prevalence is 0.11, with heterosexual transmission dominant (72%). The National HIV Estimate 2022 reports 30,000 people living with HIV (15+ women: 43%). Annually, there are ~680 new HIV infections and 510 acquired immunodeficiency syndrome (AIDS) related deaths (6). Nepal is a high-burden DR-TB country designated by WHO. The urgency to address the TB and HIV dual burden is evident(1).

RATIONALE FOR TB-HIV COLLABORATION

TB is the most common opportunistic infection among PLHIV and a major cause of mortality(7). In addition to timely access to antiretroviral therapy (ART), proper TB screening, TB preventive therapy (TPT), and TB treatment are essential interventions to prevent TB-related morbidity and mortality in PLHIV(8). Effective collaboration between the National TB Program and the National HIV Program is crucial at both policy and implementation levels(9). Collaborative TB-HIV activities aim to reduce the burden of TB and HIV in populations affected by both diseases through program collaboration.

A joint analysis of the TB-HIV situation in Nepal was conducted in 2006 to facilitate the development of joint policies and strategies for the effective implementation of collaborative TB and HIV activities. Based on this analysis, the 'Policy and Strategy Guideline on Collaborative TB-HIV Control Activities in Nepal' was developed in 2008, providing strategic and policy recommendations for collaboration between TB and HIV programs to address the burden of TB-HIV coinfections. Subsequently, the 'Implementation Guidelines on

‘TB and HIV AIDS Collaboration in Nepal’ was developed in 2009 and revised editions were published in 2010, 2012, and now in 2023 to update necessary TB-HIV collaborative initiatives. These guidelines offer guidance for collaboration between the National Centre for AIDS and STD Control (NCASC) and the National Tuberculosis Control Centre (NTCC) of Nepal at all levels to conduct national HIV and TB programs.

OBJECTIVES, MECHANISM OF COLLABORATION, COMMITTEES

OBJECTIVES OF THE GUIDELINE

This implementation guideline will serve as a guide for the implementers of TB and HIV collaborative activities at various levels and is in line with the WHO recommendations(9). This is also complementary to the Policy and Strategy Guidelines on Collaborative TB/ HIV Activities in Nepal. Broadly, the objectives of this guideline are:

- A. To strengthen integrated TB-HIV services.
- B. To reduce TB burden in PLHIV and initiate early antiretroviral therapy and TB preventive treatment.
- C. Reduce HIV burden in patients with presumptive and diagnosed TB

KEY ACTIVITIES FOR EACH OBJECTIVE

Collaborative activities will focus on the interface of TB-HIV epidemics. Joint programs will be carried out as part of the health-sector response to TB and HIV co-infection. For each objective, the collaborative activities will be implemented by National TB Programs and National HIV/AIDS programs as follows.

A. TO ESTABLISH AND STRENGTHEN THE MECHANISMS FOR DELIVERING INTEGRATED TB AND HIV SERVICES.

A.1. Set up and strengthen a coordinating body for collaborative TB-HIV activities functional at all levels.

The National TB and HIV task team, led by the Director of NTCC and NCASC, oversees and improves collaborative efforts for TB and HIV. They provide policy guidance and strategies for implementing the national TB-HIV guideline. At the provincial level, the Provincial TB and HIV task team, chaired by the director of provincial health directorates, and at the local level government TB-HIV task team chaired by the Chief of Local-level Government or as assigned, the task team facilitates coordination of TB and HIV activities. (Annex 1.1,1.2 and 1.3)

A.2. Develop/strengthen cross-referral mechanisms between the National TB Program and the National HIV Program.

A.2.1. Strengthen the referral mechanism for PLHIV patients who need TB services and for TB patients who need HIV services with referral forms and format.

A.2.2. Determine HIV prevalence among TB patients and TB prevalence among people living with HIV by carrying out National TB-HIV sentinel surveys every 5 years by NTCC and NCASC on a rotation basis upon need.

A.3. Carry out joint planning to integrate the delivery of TB and HIV services.

The guideline stresses joint planning and resource mobilization for effective TB-HIV collaboration. NTCC and NCASC will jointly budget and plan for TB-HIV collaborative activities. Partner agencies and the private sector are also encouraged to initiate joint planning and support mechanisms. The key steps are:

A.3.1. At the end of each year before the annual budget and planning, NCASC and NTCC first analyze the burden of HIV among TB and TB among HIV.

A.3.2. Both entities share the data and jointly finalize the forecasting and estimated target for next year.

A.3.3. Both entities collaboratively plan to provide mutual support with the exchange of commodities.

- TB screening and testing – Support and supply from NTCC to NCASC.
- HIV screening – Support of initial screening test kits (e.g., Determine test kits, rapid test kits, etc.) from NCASC to NTCC. NCASC to procure and supply through PHLMC.
- TB preventive treatment (TPT) – NTCC to support NCASC for TPT for PLHIV needing preventive therapy. NCASC to distribute.

A.4. Monitor and evaluate collaborative TB-HIV activities section is detailed on page no. 13

B. REDUCE THE BURDEN OF TB IN PLHIV AND INITIATE EARLY ANTIRETROVIRAL THERAPY

B.1. Intensify TB case-finding and ensure high-quality antituberculosis treatment.

B.2. Initiate TB preventive therapy and early antiretroviral therapy.

B.3. Ensure control of TB Infection in health-care facilities and congregate settings

C. REDUCE THE BURDEN OF HIV IN PATIENTS WITH PRESUMPTIVE AND DIAGNOSED TB

C.1. Provide HIV testing and counseling to patients with presumptive and diagnosed TB.

C.2. Provide HIV prevention interventions for patients with presumptive and diagnosed TB.

C.3. Provide co-trimoxazole preventive therapy for TB patients living with HIV.

C.4. Ensure HIV prevention interventions, treatment, and care for TB patients living with HIV.

C.5. Provide antiretroviral therapy for TB patients living with HIV.

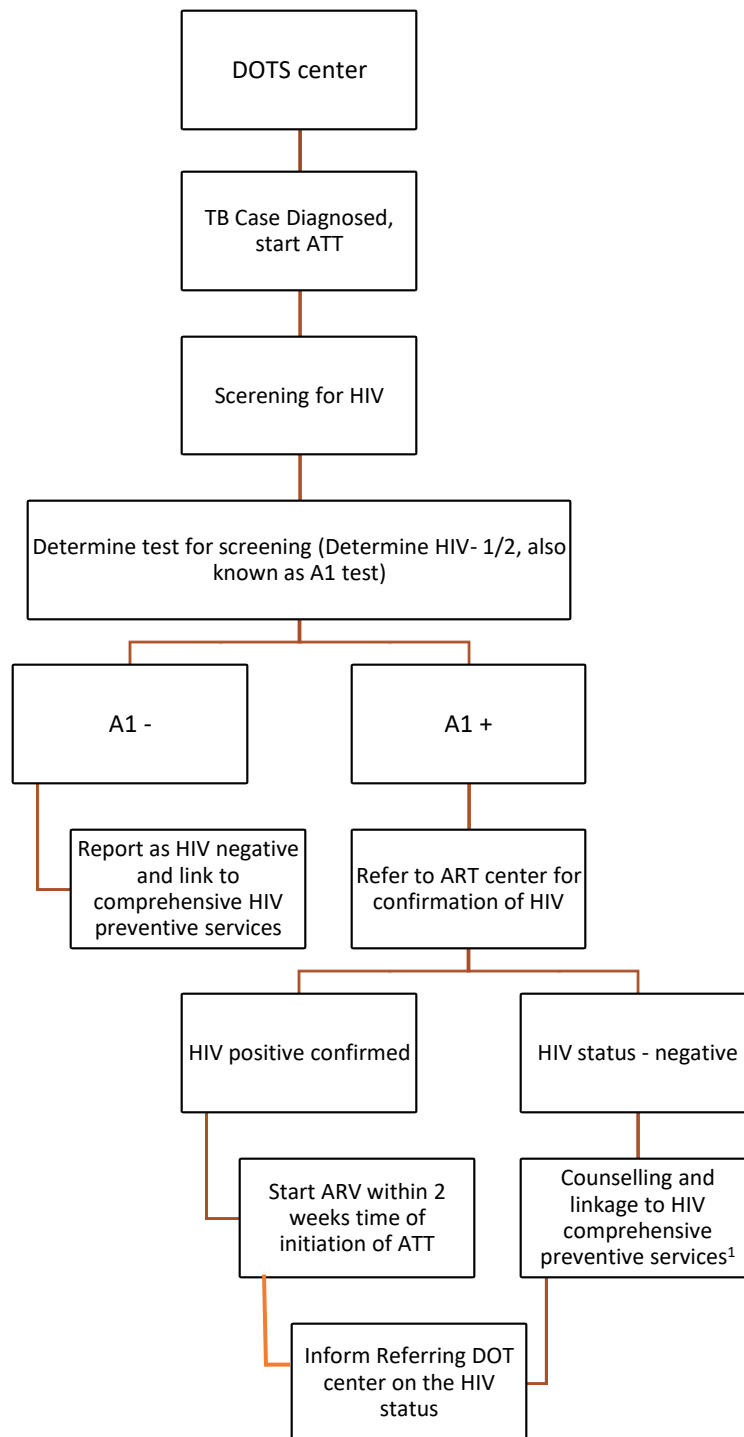
COLLABORATIVE ACTIVITIES FOR MANAGEMENT OF TB-HIV CO-INFECTIONS**AT DOTS CENTER – COLLABORATIVE APPROACH FOR MANAGEMENT OF TB-HIV**

TB diagnosis services, including bacteriological confirmation, are available at health facilities through Genexpert services at 117 sites and designated microscopic centers at 786. Additional services like culture DST are provided at 2 centers. Treatment is initiated at DOTS centers, with a total of 6209 centers(1). For all diagnosed TB cases, HIV screening tests should be conducted before starting anti-TB treatment at the

DOTS center. HIV test kits for screening should be available at the DOTS center and provided by the NCASC. Requests and reports for TB tests, including HIV, should be made using the TB Laboratory Request and Reporting Form (HMIS 6.2), and the results should be recorded in the TB Laboratory Register; Laboratory Register (Microscopy)- HMIS 6.3A, Tuberculosis Laboratory Register (GeneXpert)- HMIS 6.3B, Laboratory Register (Culture DST Phenotypic and Genotypic) HMIS 6.3C. Additionally, upon initiation of TB treatment, the information should be recorded in the TB Management Card; TB Register, HMIS 6.4A

Both reactive and non-reactive HIV test results should receive post-test counseling and appropriate linkage to services. Patients should be informed about the HIV test window period, which can lead to a non-reactive result. HIV-reactive cases, along with HIV-negative clients among Key populations and Priority populations, should be referred to ART centers for confirmation and access to preventive services like condom promotion, lubricants, harm reduction programs, and PrEP options. In case of HIV-positive diagnosis, immediate clinical assessment is necessary for rapid initiation of ART. ART can be initiated as early as 2 weeks after starting ATT (8 weeks for DR TB). Please refer below to Figure 1 for more information.(12)

Figure 1: Algorithm for HIV Screening and Linkage to ART Center for TB patients at DOT centers



¹ Comprehensive prevention package of services, which includes HIV testing, counseling, behavior change communication, pre and post-exposure prophylaxis, condoms and lubricants, harm reduction, and access to the Needle Syringe Program.

AT ART CENTER – COLLABORATIVE APPROACH FOR MANAGEMENT OF TB-HIV

ART services commenced in February 2004 at Sukraraj Tropical and Infectious Disease Hospital in Kathmandu, Nepal, offering free treatment to PLHIV. By July 2023, Nepal established 85 operational ART sites and 46 Dispensing Centers across 76 districts. Since February 2017, Nepal embraced the Test and Treat approach as per the 2022 National HIV Testing and Treatment Guidelines, with CD4 count services accessible at 17 sites across 16 districts (6). HIV infection is screened and confirmed by performing WHO-recommended highly sensitive and specific rapid test kits as per the national HIV testing algorithm(12). The confirmed positive cases are initiated ART on the same day or within 7 days of diagnosis (Rapid ART Initiation). Before initiating ART, the health care providers at ART centers screen for any possible opportunistic infection in PLHIV. One of the major causes of morbidity and mortality among PLHIV is TB disease.

Symptomatic TB screening for all PLHIV should be conducted on the initial diagnosis and during follow-up visits TB screening using the following questionnaire for early detection of TB:

Box 1: TB screening questions for adults and adolescents and children living with HIV.

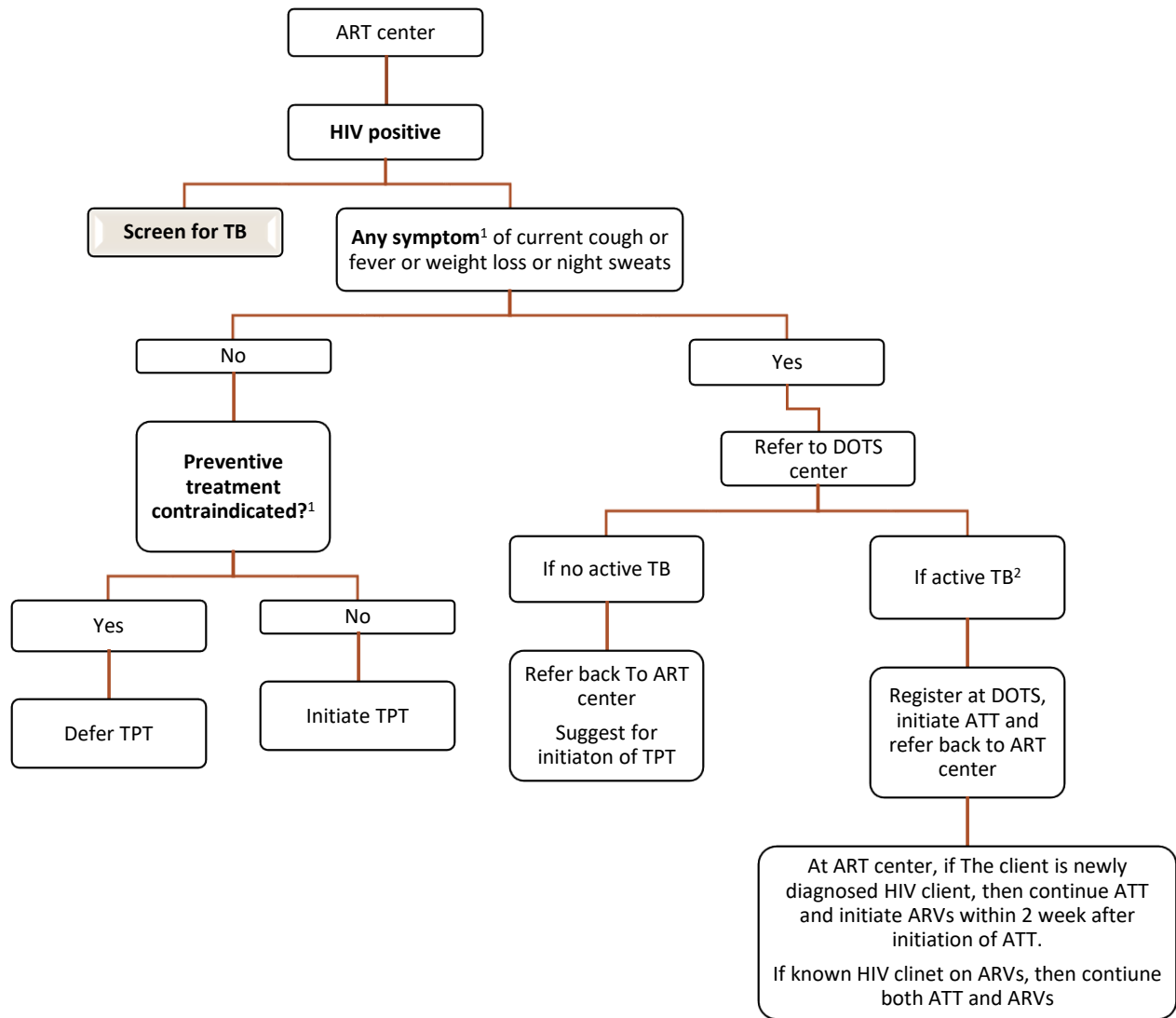
1. Is the client currently coughing? Yes/No
2. Has the client been having a fever? Yes/No
3. Has the client been experiencing unexplained weight loss in adults and adolescents and poor weight gain in children (<10 years of age*)? Yes/No
4. Has the client been having night sweats? Yes/No

* If <10 years, any one of current cough or fever or history of contact with TB or reported weight loss or confirmed weight loss >5% since last visit or growth curve flattening or weight for age <-2 Z-scores.

* for <1 year: Asymptomatic infants <1 year with HIV are only treated for LTBI if they are household contacts of TB. TBST, TST, or IGRA may identify PLHIV who will benefit most from preventive treatment. Chest radiography (CXR) may be used in PLHIV on ART, before starting LTBI treatment.

If there are no symptoms, then such clients can be initiated on preventive therapy for TB. But, if there are symptoms, then such a client needs to be referred to the DOTS center for further diagnosis of TB. If active TB is diagnosed, then the DOTS center will initiate TB treatment first. ARV should be initiated within 2 weeks following TB treatment for DS-TB and 8 weeks following DR-TB treatment. See Figure 2 for details.

Figure 2: Algorithm for TB Screening and Linkage to DOTS Center for HIV-Positive Individuals at ART Centers



¹ Including acute or chronic hepatitis; peripheral neuropathy (if isoniazid is used); regular and heavy alcohol consumption.

² To screen for active TB, perform radiological diagnosis (such as chest X-ray) to check for lung abnormalities. Conduct bacteriological tests (such as Xpert MTB/RIF assay) to detect Mycobacterium tuberculosis and drug resistance. Other serological and immunological tests help identify individuals with TB infection. If active TB is confirmed based on history, symptoms, radiological abnormalities, and bacteriological tests, start anti-TB treatment according to national guidelines. See National TB guidelines for details.

Note: Pregnancy or a previous history of TB are not contraindications.

CLINICAL MANAGEMENT OF TB-HIV COINFECTION:

All HIV-infected people with diagnosed active TB should be put on TB treatment immediately.

Antituberculosis treatment (ATT) should be initiated first, followed by ART as soon as possible within the first 2 weeks of treatment, and for MDR-TB within the first 8 weeks of treatment to reduce the risk of Immune reconstitution Inflammatory Syndrome (IRIS)(12).

TREATMENT OF HIV WITH TB

ARV OF CHOICE WHEN CO-INFECTED AND TREATED FOR DRUG SENSITIVE TB:

The first-line treatment option for patients is TLD, which stands for Tenofovir 300 mg, Lamivudine 300 mg, and Dolutegravir 50 mg fixed-dose combination. However, in the presence of rifampicin, the dose of the Integrase inhibitor needs to be doubled. This means that TLD should be once daily with Dolutegravir 50 mg additionally taken. Additionally, for patients on a protease inhibitor (PI)-based regimen who need to start anti-tuberculosis treatment (ATT), the dose of the PI should be doubled. See National Guides for details (12).

ARV OF CHOICE WHEN CO-INFECTED AND TREATED FOR DRUG RESISTANCE TB:

Within 8 weeks of anti-TB treatment (ART), initiation of antiretroviral (ARV) treatment is recommended, which is DTG-based (TLD) for HIV treatment. Whereas for HIV treatment, the use of standardized, shorter regimens for multidrug-resistant tuberculosis (MDR-TB) is also advised along with Bedaquiline (Bdq) and Delamanid (Dlm) based longer regimens for MDR-TB Treatment. See National TB guides for details(13).

COUNSELING FOR TB-HIV:

When providing counseling for TB-HIV co-morbidity, it is important to first provide counseling for TB in general at the DOTS center and counseling for HIV at the ART center, as per respective national guidelines for TB program(11) and HIV program (11,12).

In addition, the following specific counseling points should be addressed:

1. Highlight the importance of TB screening for all individuals living with HIV to detect TB early.
2. Emphasize that TB is a common and serious opportunistic infection among people with HIV.
3. Explain the increased risk of developing active TB disease in individuals with HIV.
4. Encourage regular TB screening, particularly for those living with HIV, to ensure timely detection and treatment of TB.
5. Stress the significance of completing both TB and HIV treatments for optimal health outcomes.
6. Promote adherence to TB medications and ART to effectively manage both conditions and prevent drug resistance.
7. Provide information on the common symptoms of TB and advise individuals to seek immediate medical attention if symptoms arise.
8. Educate individuals about infection control measures, such as practicing good cough hygiene and ensuring proper ventilation, to prevent the transmission of TB.

9. Provide information links to services for HIV preventive services (including PrEP) for those eligible.
10. Provide information and link to TB preventive therapy, for those eligible.
11. Emphasize the importance of regular follow-up visits to monitor the progress of TB and HIV treatments.
12. Offer support and counseling to address any concerns or challenges related to the co-morbidity of TB and HIV, guiding on managing both conditions simultaneously.

Remember to tailor the counseling session to the individual's specific needs and circumstances, ensuring a patient-centered approach.

TB PREVENTIVE THERAPY FOR PLHIV

TB preventive treatment (TPT) is an important intervention for preventing and reducing active TB among PLHIV. TPT is also one of the key interventions recommended by WHO to reduce the burden of TB in PLHIV. Screening for active TB should be performed for all newly HIV-infected clients on their first visit using a TB screening questionnaire, a full initial history, and a physical examination and other tests as recommended by the national guidelines. In contrast, at least symptom screening should be continued at each visit (each time the PLHIV visits the health facility for care, treatment, or ART refill(14)).

Box 2: Who should receive TB preventive treatment?

- All PLHIV should be screened for TB using a clinical algorithm. Those without symptoms of cough, fever, weight loss, or night sweats should be offered preventive treatment, regardless of their ART status or further tests.
- If active TB is ruled out through clinical, radiological, and bacteriological tests, PLHIV with symptoms can still be offered preventive treatment.
- Children living with HIV who show poor weight gain, fever, current cough, or have been in contact with someone with TB should be evaluated for TB. If TB is excluded, they should be offered TB preventive treatment (TPT) regardless of their age. Asymptomatic infants under 1 year of age with HIV should only receive treatment for LTBI if they are household contacts of TB cases.
- PLHIV who have completed treatment for TB should also receive TPT, starting immediately or at a later date based on clinical judgment.^{1,2}
- For PLHIV, the preferred regimen for TPT is 3 HP. If the 3-month HP regimen is not available or if the child is <2 years of age, a 6-month isoniazid (INH) regimen will be preferred

The 2023 update of the World Health Organization (WHO) guidelines on tuberculosis preventive therapy (TPT) offers various options, including 9H, 6H, 4R, 3HP, 3HR, and 1HP(14), which are recommended for use in all disease-burden settings and target populations, including people living with HIV (PLHIV).

¹ WHO consolidated guidelines on tuberculosis Module 1: Prevention, Tuberculosis preventive treatment 2020

In Nepal, the current recommendation for PLHIV is 6H(12,13). However, the country is planning to transition to a three-month regimen of rifapentine plus isoniazid taken weekly (12 doses) known as 3HP. However, if this regimen is unavailable, the recommended alternative for PLHIV for all ages is a six-month daily regimen of isoniazid monotherapy known as 6H. For more comprehensive information, please refer to the 2024 updated National TB Preventive Treatment Guidelines upon its publication.

CO-TRIMOXAZOLE PREVENTIVE THERAPY

Co-trimoxazole preventive therapy (CPT) should be implemented as an integral component of a package of HIV-related services. PLHIV should be evaluated for the possible need for prophylaxis at the time of preparing for ART or even in areas without ART accessibility.

CPT should be given to HIV-infected persons with a CD4 count <350 cells/mm³; or - all adults with severe and advanced HIV disease (WHO stage 3 or 4), which includes TB-HIV co-infection. Please see national guidelines for details(12).

JOINT PLANNING AND REVIEW FOR TB-HIV ACTIVITIES

Joint planning and regular review of TB-HIV collaborative activities serve as key mechanisms to ensure coordinated efforts, maximize resources, and enhance the impact of interventions. This section outlines the framework for joint planning and review of TB-HIV collaborative activities between NCASC and NTCC.

COLLABORATIVE PLANNING PROCESS:

The collaborative planning process between NCASC and NTCC involves the following steps:

- a) Identification of shared objectives:** NCASC and NTCC define common goals and objectives that address the intersection of TB and HIV, taking into account national policies, strategies, and global recommendations.
- b) Mapping of activities:** Both entities conduct a comprehensive mapping exercise to identify existing TB and HIV programs, services, and activities implemented separately or jointly at least once a year.
- c) Needs assessment and prioritization:** Based on the mapping exercise and evidence-based data, NCASC and NTCC perform a joint needs assessment to identify gaps, challenges, and opportunities for enhancing TB-HIV collaborative activities at least once a year.
- d) Formulation of a collaborative action plan:** A joint action plan is developed, outlining specific activities, timelines, responsible stakeholders, and allocated resources. The action plan incorporates strategies for prevention, diagnosis, treatment, care, and support, and aligns with national guidelines and global recommendations. This will be done once a year before both entities develop activities for the next FY.

e) Capacity building of TB and HIV: During the planning and implementing of any TB and HIV-related training from both entities, sessions to sensitize TB during HIV-related trainings and vice versa are to be done in close collaboration.

IMPLEMENTATION AND MONITORING:

a) Clear roles and responsibilities: NCASC and NTCC define and communicate their respective roles, responsibilities, and coordination mechanisms to ensure effective implementation and avoid duplication of efforts.

b) Regular communication and information Sharing: Regular communication channels are established between NCASC and NTCC to share updates, progress, challenges, and successes related to TB-HIV collaborative activities. There will be four monthly review meetings for this purpose at both central and provincial levels. At the central level, the meeting will be organized by each (NTCC and NCASC) entity consecutively.

c) Data sharing and analysis: NCASC and NTCC collaborate on data sharing, integration, and analysis every month to monitor key indicators related to TB and HIV, such as TB-HIV co-infection rates, TB treatment outcomes among PLHIV, and coverage of preventive therapy.

d) Joint review and evaluation: Four-monthly joint reviews and evaluation meetings at the central and provincial levels will be conducted to assess the implementation and impact of TB-HIV collaborative activities. This includes assessing the achievement of targets, identifying areas for improvement, and making necessary adjustments to the action plan.

INTEGRATED SUPPORTIVE SUPERVISION MONITORING VISITS:

Four-monthly integrated supportive supervision monitoring visits at the service sites will be conducted involving national task force members. Similar will also be done by provincial and local level government task team members. (The details of checklists during monitoring visits are in (Annex 3: Joint Monitoring and Supervising program in the context of HIV and TB Program)

RESOURCE MOBILIZATION AND ADVOCACY:

NCASC and NTCC engage in joint resource mobilization efforts and advocacy to garner support for TB-HIV collaborative activities. This includes assuring needed financial budget allocation from each center for the agreed collaborative activities and support, seeking financial resources, technical assistance, and support from development partners, civil society organizations, and other relevant stakeholders. Collaboration in resource mobilization strengthens the sustainability and scalability of TB-HIV interventions. Advocacy material to address the dual burden of TB and HIV to be jointly developed and used by each program.

In particular, NCASC will budget and support for supply of HIV test kits for all TB clients supplied to NTCC, where as NTCC will provision and supply needed TB preventive therapy medicine to NCASC for PLHIV clients.

CONTROL OF TB INFECTION IN HEALTH-CARE FACILITIES

Both HIV programs and TB-control programs should provide direction at national and subnational levels for the implementation of TB infection control in healthcare facilities. In health-care facilities where people with TB and HIV are frequently crowded together, infection with TB is increased. HIV promotes progression to active TB both in people with recently acquired infection or with latent *Mycobacterium tuberculosis* infection.

Any pulmonary TB (PTB) patient during the first two weeks of treatment is considered infectious; PTB patients may spread TB to others via airborne transmission. Measures to reduce TB transmission are aimed at generally reducing exposure to *M. tuberculosis* in healthcare workers and HIV-infected patients. Recommended interventions are listed below:

- Screening of all patients for respiratory or other TB symptoms should be done at every visit to the ART center to ensure early identification, referral for diagnosis, and initiation of treatment.
- Fast-tracking of chest symptomatic cases should be done through all waiting areas in ART centers to minimize time spent around other waiting patients or the risk of acquiring infection.
- Separate, well-ventilated waiting areas for respiratory symptomatic should be available wherever possible.
- Health education on cough hygiene should be stressed by counselors, medical officers, staff nurses, etc. simple measures like covering the mouth while coughing should be demonstrated.
- Display of IEC material reminding the patients to follow cough hygiene practices, the need for fast-tracking, etc.
- ART centers should have a well-ventilated waiting & seating area.
- As far as possible, the use of re-circulating air conditioners in the waiting area should be avoided as these have been found to lead to no air exchange.

MONITORING AND EVALUATION OF TB AND HIV COLLABORATIVE PROGRAMME

MONITORING OF TB AND HIV COLLABORATIVE PROGRAMME

In the case of the TB and HIV collaborative program, the treatment registers are the primary data source for the program. These registers help in monitoring the patient's progress and facilitate regular program monitoring. The records in the register (paper-based or e-register) are examined and monthly aggregated data are reported in the national HMIS system by the service sites. Furthermore, these reports can be assessed at all levels and analyzed during half-yearly review meetings for the program management.

TB AND HIV INDICATORS

A core set of indicators and data-collection tools have been developed within the national monitoring and evaluation framework. The key indicators are: (See details in Annex 1.2: Provincial TB-HIV Task Team

The committee will be chaired by the Provincial Health Director with a key role to oversee, support, monitor, and guide TB-HIV collaborative activities at the provincial level. The task team will meet at least once every 4 months.

Chair: Provincial Health Director

Members:

- Representative from the Provincial Health Ministry / Social Development Ministry
- Representative from PPHL
- Representative from PHLMC
- Representative from PHTC
- Representative from TTC (for Gandaki Province)
- Representatives of I/NGOs working with NTP or National HIV AIDS program
- Representative of PLHIV Network / All Key population network*: Member
- Provincial health directorate TB-HIV focal person: Members secretary

Terms of reference:

- Coordination of TB and HIV activities at the province level
- Joint planning and monitoring of TB and HIV collaborative activities at the province level.
- Ensure HIV test among TB patients and TB screening/test among PLHIV
- Review and ensure participation of institutes/organizations providing care and support to PLHIV in TB-HIV collaboration
- Support in the implementation of TB-HIV activities in the province
- Mobilize resources for the TB-HIV program activities
- Ensure community participation in joint TB-HIV activities

** Provided above are just general guidance and the province can change/modify committee members as needed.

ANNEX 1.3: LOCAL LEVEL GOVERNMENT TB-HIV TASK TEAM

The committee will be chaired by the Chief of Local-level Government or as assigned, with a key role to oversee, support, monitor, and guide TB-HIV collaborative activities at the local level. The task team will meet at least once every 4 months.

Chair: Chief of Local-level Government or as assigned.

Members

- Social Development Committee – Coordinator
- Two members to be selected among concerned persons/organizations by the Local Level
- TB-HIV focal person
- All key population network representatives
- Health unit chief: Member secretary

Terms of reference:

- Co-ordination between TB and HIV activities at the local level
- Joint planning and review of TB and HIV collaborative activities at the local level.
- Ensure all TB patients tested for HIV and all PLHIV for TB
- Identify and mobilize local resources for collaborative activities.
 - Ensure the involvement of TB program staff in implementing HIV activities and vice versa.
 - Review the training of health care providers in TB-HIV and recommend training and or orientation on TB-HIV collaboration to appropriate individuals.

Annex 2. TB and HIV Indicators

- TB-HIV mortality rate per 100,000 population
- Percentage of estimated HIV-positive incident TB cases that received treatment for both TB and HIV
- Total number of people living with HIV with active TB expressed as a percentage of those who are newly enrolled in HIV treatment during the reporting period.
- Number of people who started TPT, expressed as a percentage of the total number of people on antiretroviral therapy during the reporting period.
- Percentage of people living with HIV newly initiated on ART who were screened for TB.
- Percentage of registered new and relapse TB patients with documented HIV status
- Percentage of HIV-positive new and relapse TB patients on ART during TB treatment
- Treatment Success Rate for HIV-positive TB patients: Percentage of HIV-positive TB patients, all forms, bacteriologically confirmed plus clinically diagnosed, successfully treated among all HIV-positive TB patients notified during a specified period (includes only those with new and relapse TB).

RECORDING AND REPORTING OF THE TB AND HIV CO-INFECTION

TB-HIV co-infection reporting is crucial for policymakers and program implementers. Both programs manage routine reporting of TB-HIV co-infection. The service delivery sites, such as DOTS centers and ART sites (HMIS 7.4 and 7.5), record information based on specific indicators. Monthly reporting is performed using the DHIS2 aggregated or DHIS Tracker system. Subsequently, the reports are compiled.

JOINT MONITORING AND PROGRAM REVIEW

A monitoring system will be established to enhance the collaborative efforts between TB and HIV programs. Both TB and HIV programs will come together on a four-monthly basis to review the progress of the collaborative program and identify areas that need improvement. The joint monitoring and supervision will be conducted at least on a four-monthly basis to ensure effective implementation of the collaborative program. Additionally, an annual program review will be conducted to evaluate the overall performance and make necessary adjustments. This proactive monitoring approach will facilitate regular tracking of outcomes, address challenges in a timely manner, and optimize the effectiveness of the collaborative efforts between TB and HIV programs.

LOGISTICS MANAGEMENT

NCASC is responsible for managing the supply of HIV test kits. These kits include screening test kits like determine test kits and/or HIV self-test (HIVST) kits. The supply of these kits is carried out on a bi-monthly basis.

NCASC distributes the HIV test kits through a well-defined logistical chain. The distribution process begins at the Provincial Health Logistics Management Center (PHLMC) and continues to the health office at the district level. From there, the kits are further distributed to the local levels and finally reach the service delivery points, which include DOTS centers. This distribution includes test kits for HIV testing among TB

clients as well as additional test supplies for the Prevention of Mother-to-Child Transmission (PMTCT) program at these centers.

The demand for HIVST kits is generated from the same health facilities, particularly DOTS centers. When making a demand for these kits, the centers request them jointly for both the PMTCT program and HIV testing for TB clients. The request is made using a form called the "Combined Report – Requisition and Issue Form for HIV and STI Test Kits." The demand information is compiled at the local level, then sent to the district office, and eventually reaches the PHLMC, which consolidates the requests and forwards them to NCASC on a bi-monthly basis.

On the other hand, the supply of TB preventive treatment is managed by NTCC, which provides the necessary drugs to NCASC upon quarterly demand requests. NCASC then supplies these preventive medicines to the ART centers on a bi-monthly basis. The ART sites submit their demand requests for preventive medicines to NCASC every two months. NCASC compiles these requests and submits them to NTCC for the supply of drugs on a four-monthly basis.

Regarding testing, both centers will formulate a strategy for the efficient use of established testing platforms such as the GeneXpert testing for the TB network. This includes conducting using existing TB GeneXpert platforms for HIV tests like early infant diagnosis (EID) and urgent viral load (VL) testing when deemed necessary, and vice versa. The maintenance and logistics of GeneXpert machines will continue to be the responsibility of the centers (NTCC or NCASC) that initially supported their establishment through existing ongoing mechanisms of Global Fund support. All the GeneXpert established by either center will be connected to GXMIS (GeneXpert Information Management System) established by NTCC.

This logistic management system ensures the regular supply of HIV test kits and preventive therapy to the appropriate health facilities, supporting effective HIV testing and TB preventive interventions within the collaborative TB-HIV program.

HUMAN RESOURCE MANAGEMENT

The human resource management at all levels to implement the TB-HIV program will be managed in line with an integrated human resource management plan as per national policy.

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ANNEX

ANNEX 1: VARIOUS LEVEL TB-HIV TASK TEAMS

ANNEX 1.1: NATIONAL TB-HIV TASK TEAM

The task team will be chaired alternately by the Director of NCASC and the Director of NTCC, with the presence of a member secretary from the Monitoring and Evaluation (M&E) section aligned with the chairing director. This arrangement ensures effective coordination and alignment with the respective organizations. The task team has the responsibility of overseeing the overall implementation of TB-HIV collaborative efforts and providing guidance, technical support, and facilitation at the national level. The committee will at least meet once every 4 months. The task team will report to TWG under the chairmanship of DG for decision-making.

Chair: Director NTCC and NCASC

Members

- Clinical section chief – NTCC and NCASC
- Representative from NPHL
- Representative from Lab from NTCC
- Representation of NHTC
- Representation of IHMIS
- Representation of the Logistics Section of the Management Division
- MnE section chief - NTCC and NCASC: Member secretary

Invitee members:

- Representatives of NTCC and NCASC partners -(Principal Receipts of GF, USAID, FHI360 and AHF, TB partner organization- at least 3)
- Representation of academician /expert: Member academic
- Representation from WHO
- Representative of PLHIV networks: member
- Representative of TB activists and all key population network: member

Terms of reference:

- Co-ordination between NCASC and NTCC activities
- Program design/plan of collaborative activities of TB and HIV programs
- Ensure coordination in joint communication on TB-HIV activities.
- Monitor supply of joint logistics on TB-HIV activities
- Ensure coordination in community participation in joint TB-HIV activities.
- Joint monitoring and evaluation of TB and HIV/AIDs program

ANNEX 1.2: PROVINCIAL TB-HIV TASK TEAM

The committee will be chaired by the Provincial Health Director with a key role to oversee, support, monitor, and guide TB-HIV collaborative activities at the provincial level. The task team will meet at least once every 4 months.

Chair: Provincial Health Director

Members:

- Representative from the Provincial Health Ministry / Social Development Ministry
- Representative from PPHL
- Representative from PHLMC
- Representative from PHTC
- Representative from TTC (for Gandaki Province)
- Representatives of I/NGOs working with NTP or National HIV AIDS program
- Representative of PLHIV Network / All Key population network*: Member
- Provincial health directorate TB-HIV focal person: Members secretary

Terms of reference:

- Coordination of TB and HIV activities at the province level
- Joint planning and monitoring of TB and HIV collaborative activities at the province level.
- Ensure HIV test among TB patients and TB screening/test among PLHIV
- Review and ensure participation of institutes/organizations providing care and support to PLHIV in TB-HIV collaboration
- Support in the implementation of TB-HIV activities in the province
- Mobilize resources for the TB-HIV program activities
- Ensure community participation in joint TB-HIV activities

** Provided above are just general guidance and the province can change/modify committee members as needed.

ANNEX 1.3: LOCAL LEVEL GOVERNMENT TB-HIV TASK TEAM

The committee will be chaired by the Chief of Local-level Government or as assigned, with a key role to oversee, support, monitor, and guide TB-HIV collaborative activities at the local level. The task team will meet at least once every 4 months.

Chair: Chief of Local-level Government or as assigned.

Members

- Social Development Committee – Coordinator
- Two members to be selected among concerned persons/organizations by the Local Level
- TB-HIV focal person
- All key population network representatives
- Health unit chief: Member secretary

Terms of reference:

- Co-ordination between TB and HIV activities at the local level
- Joint planning and review of TB and HIV collaborative activities at the local level.
- Ensure all TB patients tested for HIV and all PLHIV for TB
- Identify and mobilize local resources for collaborative activities.
 - Ensure the involvement of TB program staff in implementing HIV activities and vice versa.
 - Review the training of health care providers in TB-HIV and recommend training and or orientation on TB-HIV collaboration to appropriate individuals.

ANNEX 2. TB AND HIV INDICATORS

Indicators	Numerator	Denominator
TB-HIV mortality rate per 100,000 population	Number of HIV-positive people who die of HIV with TB as a contributory cause of death	Number of people in the population x 100,000
Mortality among HIV-positive TB patients	Number of deaths among documented TB-HIV co-infected patients	Total no. of registered TB-HIV co-infected patients
Percentage of people living with HIV newly initiated on ART who were screened for TB	Number of people living with HIV (PLHIV) newly initiated on ART who were screened for TB during the specified reporting period	Number of people living with HIV (PLHIV) who newly initiated ART during the reporting period
Percentage of registered new and relapse TB patients with documented HIV status.	Number of new and relapse TB patients registered during the specified reporting period who had an HIV test result (whether positive or negative) recorded in the TB register.	Number of new and relapse TB patients registered in the TB register during the same reporting period.
Percentage of HIV-positive new and relapse TB patients on ART during TB treatment	Number of HIV-positive new and relapsed TB patients started on TB treatment during the reporting period who are already on ART or who started on ART during TB treatment	Number of HIV-positive new and relapsed TB patients registered during the reporting period.
Percentage of people living with HIV currently enrolled on antiretroviral therapy who started TPT during the reporting period.	Total number of people living with HIV currently enrolled on antiretroviral therapy who started TPT during the specified reporting period	Total number of people living with HIV currently enrolled on antiretroviral therapy during the same reporting period
Treatment Success Rate for HIV-positive TB patients: Percentage of HIV-positive TB patients, all forms, bacteriologically confirmed plus clinically diagnosed, successfully treated among all HIV-positive TB patients notified during a specified period; *includes only those with new and relapse TB.	Number of HIV-positive TB patients (i.e., bacteriologically confirmed plus clinically diagnosed) notified in a specified period who were successfully treated (sum of WHO outcome categories "cured" plus "treatment completed")	Total number of HIV-positive TB patients (bacteriologically confirmed plus clinically diagnosed) notified in the same period".
Percentage of estimated HIV-positive incident tuberculosis (TB) cases that received treatment for both TB and HIV	Number of HIV-positive new and relapse TB patients started on TB treatment during the reporting period who were already on antiretroviral therapy or started on antiretroviral therapy during TB treatment within the reporting year	Estimated number of incident TB cases in people living with HIV
People living with HIV with active tuberculosis disease	Total number of people living with HIV newly enrolled in HIV treatment who have active TB disease during the reporting period	Total number of people newly enrolled in HIV treatment (i.e., those who registered for antiretroviral therapy during the reporting period)

Indicators	Numerator	Denominator
Percentage of HIV-positive TB patients who receive at least one dose of cotrimoxazole preventive therapy during TB treatment	Number of HIV-positive TB patients registered over a given period who receive (are given at least one dose of) cotrimoxazole preventive therapy during their TB treatment.	Total number of HIV-positive TB patients registered over same given period

ANNEX 3: JOINT MONITORING AND SUPERVISING PROGRAM IN THE CONTEXT OF HIV AND TB PROGRAM

The goal of Monitoring and Supervision of HIV and TB programs is to improve the quality-of-service delivery at sites. The purpose of the checklist is to collect information and provide feedback to improve the management of HIV & TB services & programs accordingly.

The objectives of the Monitoring and Supervision tool are:

1. To identify facilitators and barriers in delivering quality HIV and TB services
2. To review the quality and adequacy of the drugs, Laboratory tests & counseling process

To review the recording and reporting system of HIV and TB programs and provide necessary feedback

Users of this tool (Who should use it?)

This tool can be used by officials from NCAS and TB and other partners including implementing agencies in conducting supervision and monitoring of HIV and TB-related services. This tool can be used to analyze the status of HIV and TB-related services including the logistics and recording/reporting system by observing the site, reviewing related documents (records, register, and report), and interviewing with the concerned personnel at the site.

Frequency **of using this tool (How often should it be used?)**

This tool is recommended to fill and prepare in every supervision and monitoring visit conducted by the officials at the site. Key officials at NTCC, NCASC, and partners should visit jointly at least once a quarter at the service site.

Name of Visited Facility:	District:
Date of Visit:	
Name & Designation of Visitors:	

Program: DOTS Center

SN	Component	indicator	Status	Remarks
	Program Management	All health workers trained/oriented on the TB-HIV collaborative approach		

		The health facility has R&R tools for TB-HIV collaborative activities		
		Updated TB treatment manual/guideline available at Health Facility		
		HIV test kits are available at HFs		
		HIV Test kits are available for TB patients		
	Screening and Diagnosis	All TB patients screened and tested for HIV infection		
		Proportion of TB patients screened and tested for HIV or HIV status known		
		Number of HIV- positive TB patients detected		
		Number of HIV- positive TB patients referred to ART Center to initiate ART		
	Referral and treatment	Number of HIV-positive TB patients who are eligible for ART but not enrolled on ART at the time of onsite visit		
		Percentage of HIV-positive TB patients enrolled on ART during the TB treatment at the time of onsite visit		
	Infection Control	Personal protective measures (mask, sanitizer, water, soap, etc) are available at health facility		
		Healthcare workers are trained to use personal protective measures when examining patients with presumptive TB or when overseeing sputum production		
		Triage policies are implemented to rapidly identify patients suspected of having TB (e.g. coughing patients) and separate them from other patients for rapid evaluation		
		Patient educational materials about HIV signs and symptoms are visibly displayed in the health facility		

	Recording and Reporting	All TB patients are well-recorded for TB HIV collaborative services in TB Treatment Card		
		All TB patients are well-recorded for TB HIV collaborative services in TB Treatment Register		
		All TB patients recorded in the TB Treatment register reported in HMIS		
		All TB patients recorded in the treatment register reported in the eTB register		
		Is there a data discrepancy between the eTB register and HMIS data for TB-HIV collaborative services?		

Program: ART/HTC Center/PMTCT

SN	Component	Indicator	Status	Remarks
	Program Management	All health workers trained/oriented on the TB-HIV collaborative approach		
		Drugs for TB Preventive Treatment (TPT) are sufficiently available		
		Health facilities have R&R tools for TB-HIV collaborative activities		
		Updated HIV treatment manual/guideline available at Health Facility		
		HIV test kits are available at HF's		
		HIV Test kits are available for TB patients		
	Screening and Diagnosis	All PLHIV screened for TB as per national guideline at the time of onsite visit		
		Percentage of PLHIV screened for TB following national guideline		
		Number of PLHIV with TB sign/symptoms tested for TB (mWRD/sputum microscopy)		
		Number of PLHIV with TB referred to DOTS Center to initiate ATT		

	Referral and treatment	Number of PLHIV TB patients who are eligible for ATT but not enrolled on ATT at the time of onsite visit		
		Percentage of PLHIV TB patients enrolled on ATT during the ART at the time of onsite visit		
	Infection Control	Personal protective measures (mask, sanitizer, water, soap etc.) are available at health facility		
		Healthcare workers are trained to use personal protective measures when examining patients with presumptive TB or when overseeing sputum production		
		Triage policies are implemented to rapidly identify patients suspected of having TB (e.g., coughing patients) and separate them from other patients for rapid evaluation		
		Patient educational materials about TB signs and symptoms and cough etiquette are visibly displayed in the health facility		
		Number of PLHIV enrolled on ART eligible for TB preventive treatment (TPT) at the time of onsite visit		
		Number of PLHIV enrolled on ATT who started TB preventive treatment (TPT) at the time of onsite visit		
	Recording and Reporting	All PLHIV with TB are well recorded for TB-HIV collaborative services in HIV Treatment Care Record (HMIS 7.5)		
		All PLHIV with TB are recorded for TB-HIV collaborative services in HIV Treatment Care Register (HMIS 7.4)		
		All PHHIV TB patients recorded in HIV Treatment Care Register (HMIS 7.4) reported in HMIS		
		All PHHIV TB patients recorded in HIV Treatment Care Register (HMIS 7.4) reported in HIV care and ART tracking system		

		Are there data discrepancies between HIV Treatment and Care Register (HMIS 7.4) and HIV care and ART tracking system for TB-HIV collaborative services		
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Overall Recommendation and Suggestion:

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ANNEX 4: LIST OF CONTRIBUTORS

Name	Designation	Organization
Dr. Prajwol Shrestha	Director	NTCC
Dr. Sarbesh Sharma	Director	NCASC
Dr. Naveen Prakash Shah	Chief consultant chest physician	NTCC
Dr. Mukti Nath Khanal	Chief, PMESR section	NTCC
Dr. Man Bahadur K.C	Medical Superintendent	NCASC
Deepak Dahal	Statistic Officer	NTCC
Basundhara Sharma	Sr. Public Health Officer	NTCC
Padmanav Ghimire	Senior Medical Laboratory Technologist	NTCC
Meera Hada	Medical Laboratory Technologist	NTCC
Thuma Pun	Nursing Officer	NTCC
Shiv Shankar Mahatto	Public Health Officer	NTCC
Shankar Prasad Kandel	Public Health Inspector	NTCC
Ishwori Prasad Bhusal	Lab Technician Inspector	NTCC
Sarashswoti Adhikari	Community Nursing Officer	NCASC
Nanda Raj Awasthi	Senior Public Health Officer	NCASC
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