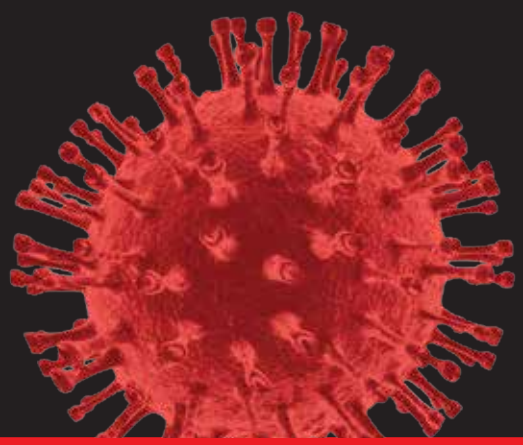
National Guidelines on TB/HIV Management Program Collaboration & Implementation Manual

TB HIV



2nd edition

National TB Control Program

National AIDS/STD Program

World Health Organization
Country Office for Bangladesh

National Guidelines on TB/HIV Management and Program Collaboration and Implementation Manual

Second Edition 2016

National Tuberculosis Control Program
Mycobacterial Disease Control
National AIDS/STD Program

Directorate General of Health Services
Ministry of Health and Family Welfare
Dhaka, Bangladesh

National TB Control Program

National AIDS/STD Program

World Health Organization
Country Office for Bangladesh

LIST OF ABBREVIATIONS

AAS	Ashar Alo Society
ADR	Adverse Drug Reaction
ART	Antiretroviral Therapy
CPT	Co-trimoxazole Preventive Therapy
CXR	Chest X- ray
CSTC	Care Support and Treatment Centre
DOTS	Directly Observed Treatment, Short course
DGHS	Directorate General of Health Services
EPTB	Extra Pulmonary Tuberculosis
FHI	Family Health International
FSW	Female Sex Worker
GFATM	Global Fund to fight against AIDS, Tuberculosis and Malaria
HIV	Human Immunodeficiency Virus
HPSP	Health and Population Sector Program
HNPSP	Health, Nutrition and Population Sector Program
HPNSDP	Health, Population and Nutrition Sector Development Program
HASAB	HIV/AIDS & STD Alliance Bangladesh
HTS	HIV Testing Services
HAART	Highly Active Antiretroviral Therapy
IDUs	Intravenous Drug Users
IPT	Isoniazid Preventive Therapy
IEC	Information, Education and Communication
KP	Key Population
MBDC	Mycobacterial Disease Control
MDGs	Millennium Development Goals
MoH & FW	Ministry of Health and Family Welfare
MoU	Memorandum of Understanding
MSW	Male Sex Worker
MSM	Men who have Sex with Men
MDR-TB	Multi Drug Resistant Tuberculosis
NIDCH	National Institute of Disease of Chest & Heart
NTP	National TB Control Program
NGO	Non-Government Organization
NASP	National AIDS/STD Program
OIs	Opportunistic Infections
PLHIV	People living with HIV
PTB	Pulmonary Tuberculosis
PMTCT	Prevention of Mother to Child Transmission
PWID	People Who Inject Drug
STI	Sexually transmitted infection
SW	Sex Worker
TLTI	Treatment of Latent Tuberculosis Infections
TB	Tuberculosis
TST	Tuberculin Skin Test
TB/HIV	Tuberculosis and HIV co-infection
UNAID	Joint United Nations Program on HIV/AIDS
WHO	World Health Organization

MESSAGE

Globally, Tuberculosis remains the leading cause of death among people living with HIV, accounting for around one in three AIDS-related deathes. Similarly, HIV epidemic is a major challege to TB control effect globally. The two infections are strongly linked. In Bangladesh, HIV-prevalence in the general population is less than 0.1%, with the epidemic concentrated among key populations, including MSM, female sex workers, people who use drugs, transgender and migrants. Synergies of coordination by the MoH&FW, NGOs and development partners have enabled us to restrict the prevalence of HIV AIDS cases below 0.1%. TB butden countries like Bangladesh is going to revise its TB control strategy in line with the WHO End TB Stategy. Furthermore, the global health sector stategy on HIV is moving towards the ending AIDS epidemic as a public health threat by 2030.

National Guidelines on TB/HIV Program Collaboration and implementation is the demand for strengthening collaboration between NTP and NASP for smooth implementation of ongoing TB/HIV activities. This document is a guide for health care professionals when integrating TB and HIV services at public health care sector.

We belive that health professionals will be benefitted by this guideline and able to improve their knowledge and skill in managing TB/HIV co-infection in Bangladesh.

Md. Sirazul Islam
Secretary
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh

MESSAGE

HIV and duberculosis are the leading independent global causes of death among patients with infectious diseases. Bangladesh remains a low HIV prevalence country with less than 0.1% overall prevalence in general population over the years. The HIV prevalence remains less than 1% both among key and bridge populations.

However, Bangladesh has succeeded in Keeping the HIV prevalence at a low level but could not control the concentrated epidemic. The number of new HIV infections is still increasing. The National AIDS/STD Program (NASP) is one of the wings of Directorate General of Health with all stakeholders and development partners involved in HIV/AIDS program activities throughout the country. Bangladesh is one of the few countries in the developing world that has maintained low HIV prevalence throuth deliberate and concerted action.

Moreover, Tuberculosis still remains as a major public health problem in Bangladesh. TB services are integrated under the health, Population and Nutrition Sector Development Program. The services for TB have been made available throuthout the country. The National Tuberculosis Control Program (NTP) under DGHS has achieved significant success in TB countrol to reach the Global target. The country has adopted the End TB Strategy to accelerate the TB control effort. Formation of National TB/HIV coordination committee is an effective development of TB/HIV programme collaboration for Bangladesh.

This guideline will prodive information to health care professionals at different levels of health care system and can be used as a 'hands-on' approach to implementation of integrated TB/HIV service delivery in country.

I sincerely thank and appreciate the initiative of revising this National TB/HIV guideline and implementation manual and contribution of the NTP, NASP, TB/HIV partners. I would also like to express my sincere thanks to WHO for providing technical support to develop this guideline.

Professor Dr. Abul Kalam Azad
Director General
Directorate General of Health Services
Ministry of Health & Family Welfare

MESSAGE

World Health Organization
Country Office for Bangladesh

Tuberculosis (TB) ranks as a leading cause of death worldwide along with HIV/AIDS. In 2015, an estimated 11% of TB patients were HIV positive, resulting in 0.4 million deaths among HIV-positive people globally.

Bangladesh has less than 0.1% HIV prevalence, however the country still faces a concentrated emidemic among Most at Risk Populations (MARPs) where the prevalence rises to 0.7%. HIV presents a massive challenge to the control of TB at all levels. TB can be fatal among people with HIV if undetected or untreated. TB infection is responsible for 1 or every 3 HIV-associated deaths. Hence, HIV needs to be addressed for TB control strategies to work in HIV-prevalent settings.

In 2014, the World health Assembly approved the “End TB Strategy” - a 20-years plan to end the global TB epidemic. Among the 3 pillars of the End TB Strategy, one of the key components under pillar 1 is collaborative TB/HIV activities and management of co-morbidities. In September 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Develpoment (SDG) where target 3.3 is: “By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, waterborne diseases and other communicable diseases.”

WHO is committed to continue our partnership and technical assistance to Ministry of Health and Family Welfare (MOH&FW) and partners towards achieving the “End TB Strategy”. WHO supported the revisions to and publication of the second edition of National Guidelines on TB/HIV management that will strengthen the collaboration between the NTP and National AIDS/STD Programme (NASP).

Dr N. Paranietharan
WHO Representative to Bangladesh

Acknowledgement

The National Tuberculosis Control Programme,(NTP), under the Mycobacterial Disease Control (MBDC) unit of the Directorate General of Health Services (DGHS), is working with a mission of eliminating TB from Bangladesh. The goal of NTP is to reduce morbidity, mortality and transmission of TB, until it is no longer a public health problem

Global tuberculosis control is facing major challenges today. Co-infection with Mycobacterium tuberculosis and HIV (TB/HIV) and drug-resistant tuberculosis in all regions make TB control activities more complex. Additionally, due to the shared immune defense mechanisms, they are the leading cause of co-morbidities globally.

The challenges of TB/HIV co-infection need to be addressed by identifying the current program gap, strengthening the collaboration by NTP and NASP with focused attention, implementation of the joint activities and engaging the stakeholders. The country has recently adopted the WHO End TB Strategy. Collaborative TB/HIV activities and management of comorbidities is one of the focused areas in the End TB Strategy. To achieve the targets set in the End TB Strategy, NTP is going to revise the National Strategic plan for TB control in line with the global strategy.

This second edition of National guidelines on TB/HIV management, program collaboration and implementation manual were updated based on the recent evidence and advances in TB/HIV co-infection management.

I hope this revised guideline will provide appropriate guidance to the NTP managers, and health professionals with standards of preventing, diagnosing and treating TB/HIV co-infection in a systemic manner with a programmatic approach.

Dr. Rouseli Haq
Director, MBDC and Line Director,
TB-Leprosy
DGHS, Mohakhali, Dhaka

Acknowledgement

HIV remains a potential threat to TB Control efforts globally. Bangladesh still has a low prevalence of HIV; According to the Round 9 Serological Surveillance, 2011, of Bangladesh, the HIV prevalence among people who use drugs, sex workers, men who have sex with men and Hijras was 0.7%. The HIV prevalence was below 1% in most groups of female sex workers. The findings of the Serological Surveillance conducted in 2016 in two sites of Bangladesh indicate thar HIV is increasing rapidly among the people who inject drugs in Dhaka city.

Tuberculosis (TB) and HIV are closely linked. TB is the most common opportucistic infection affecting HIV-positive individuals, and it remains the most common cause of death in patients with AIDS. HIV infection has contributed to a significant increase in the wordwide incidence of TB. Bangladesh ranks among the 22 high burden TB countries. Given related vulnerabilities around possible TB/HIV co-infections, TB/HIV collaboration program has been established between NTP and NASP to address and reduce the burden of TB/HIV co-infection related morbidly and mortality.

The capacity for managing TB/HIV co-infection has been increased through providing training of HIV counselors and other staff to identify and refer TB suspects To designated DOTS centers. The National TB/HIV coordination committee is functional to facilitate implementation of key interventions addressing TB/HIV co-infection. Further strengthening of the collaboration between the NTP and the national AIDS program is well addressed in the NSP.

The implication of co-infections for the HIV/AIDS response is that managing TB infection and disease is a major part of caring for and supporting those with HIV/AIDS; reversely prevention of HIV is crucial to control TB. Thus, given all considerations, TB and HIV need to be addrssed together. This document is a guide for health core workers when integrated TB and HIV services are implemented in Bangladesh.

I expect that the recised national guidelines will give the valuable guidance to all health professionals of the Government and NGOs involved in the National Tuberculosis Control Program and National AIDS/STD Program of Bangladesh.

I express my sincere thanks and gratefulness for the technical experts and stakeholders who contributed their time and efforts for developing the second edition of the guidelines.

02.03.2017

Line Director
National AIDS/STD Program
DGHS, Mohakhali, Dhaka

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Part I

TB/HIV SCENARIO AND NATIONAL TB/HIV POLICY IN BANGLADESH

1.1 Background

The HIV/AIDS pandemic presents a significant challenge to the global efforts to control tuberculosis (TB). There is a positive co-relation between the TB incidence and mortality and HIV prevalence. While HIV is the most powerful risk factor for progression of Mycobacterium tuberculosis (MTB) infection to TB disease, TB infection is known to accelerate progression of HIV infection to Acquired Immunodeficiency Syndrome (AIDS) and reduce survival of the infected person. People living with the Human Immunodeficiency Virus (HIV) are 29 times (26-31) more likely to develop tuberculosis (TB) disease as people without HIV and living in the same country[1]. TB is therefore leading preventable cause of death among people living with HIV (PLHIV).

In 2015, there were an estimated 10.4 million new (incident) TB cases worldwide including1.2 million (11%) of incident TB cases were HIV positive. The proportion was highest in countries in the WHO African region, and exceeded 50% in parts of southern Africa. In addition to the 1.4 million TB deaths among HIV negative people, there were 0.4 million deaths from TB among HIV-positive people in 2015. In 2015, 3.4 million notified TB patients had a documented HIV test result, equivalent to 55% of notified TB cases. Globally, 15% of TB patients with an HIV test result were HIV-positive[2].

TB is one of the top 10 causes of death worldwide and caused more deaths than HIV in 2015. Globally, the number of TB deaths fell by 22% between 2000 and 2015.About 84% of TB deaths among HIV-negative people occurred in the WHO African region and South-East Asia region in 2015; these regions accounted for 86% of the combined total of TB deaths in HIV-negative and HIV-positive people.

In SEAR, an estimated 227,000 cases of the 4.7 million incident cases were HIV positive, an estimated 74,300 cases died of HIV-associated TB in 2015. In Bangladesh, the incidence rate of HIV positive TB cases increased from 0.36 per 100,000 in 2014 to 0.39 per 100,000 in 2015.

1.2 Tuberculosis situation in Bangladesh

Tuberculosis is a major public health problem in Bangladesh and is among 30 high tuberculosis burden countries in the world. According to WHO Global TB report 2016, the incidence and prevalence of all forms of tuberculosis in 2015 were 225 and 382 per 100,000 population respectively. An estimated 45 per 100 000 people died due to tuberculosis during the year. National TB Control Program in Bangladesh notified 206,915 patients (130 per 100,000 population) of all forms of tuberculosis including 113,948 (72 per 100,000 population) new smear-positive tuberculosis patients in 2015. The treatment success rate reported for 2014 cohort of patients was 94%[3].

Bangladesh is also in the list of 27 high MDR-TB burden countries in the world. According to the first drug resistant survey in Bangladesh conducted in 2010-2011, 1.6% of new and 29% of retreatment tuberculosis patients had MDR-TB. It is estimated that there were about 4700 MDR-TB patients among the notified pulmonary tuberculosis cases in Bangladesh in 2013[2].

[1] A guide to monitoring and evaluation for collaborative TB/HIV activities 2015- WHO
[2] Global Tuberculosis Report 2016 - WHO
[3] National Tuberculosis Control Program, Annual Report, 2016

1.3 HIV/AIDS situation in Bangladesh[6]

Bangladesh has succeeded in keeping the HIV prevalence at a low level and is one of four countries in South and South-East Asia with <0.1% prevalence among adults aged 15-49 years. Bangladesh has, however, failed in reversing the epidemic and is one of the two countries in Asia/Pacific (along with the Philippines) where the number of new infections is still increasing. The first HIV case in Bangladesh was detected in 1989, and when the first prevention programs for street and brothel based sex workers were initiated in 1995, less than 50 cases had been diagnosed in the country. This first intervention was followed by programs for men who have sex with men (MSM) and people who inject drugs (PWID) in 1998 and then there has been subsequent expansion and scaling up of prevention programs directed towards a range of key populations. These early interventions along with high levels of male circumcision and monogamous behavior of most women are factors likely to contribute to the low prevalence. However,numerous risk factors remain such as a large sex industry with structural barriers to condom use for many sex workers, porous borders to higher-prevalence neighbors, continued high-risk behaviors (needle-sharing, unsafe sex etc.) among some key affected populations and a widespread lack of knowledge on how to avoid infection. These factors highlight the need for intensified and renewed intervention efforts in order to contain and reverse this epidemic before it spirals out of control. The numbers of detected HIV-infections and AIDS-deaths are growing steadily in Bangladesh. The true number of PLHIV in Bangladesh is difficult to assess as representative testing of the general population is almost impossible to perform at such a low prevalence.

The prevalence of HIV in Bangladesh is estimated to be less than 0.1%[7] in general population. It remains less than 1% both among key population groups (KP) and the most at risk and bridging populations such as men who are likely to be clients of sex workers, such as truckers and rickshaw pullers[8]. According to latest HIV serological surveillance (Round 9, 2011) in Bangladesh, HIV prevalence in persons who use drugs (PWUD), Female Sex Workers (FSW), male sex workers (MSW) and men who have sex with men (MSM) was 0.7%. Although the prevalence was below 1% in most groups, the FSW engaged in casual sex work in Hilli (a small border town in northwest Bangladesh the prevalence was 1.6%. The Round 9 surveillance tested 7,529 drug users (male PWID, male and female heroin smokers combined with PWID, and male heroin smokers) from 30 different sites. The overall HIV prevalence was 1.2% (PWID and heroin smokers), but prevalence among male PWID in Dhaka was found to be 5.3%. A survey conducted by icddr,b in 2013 showed prevalence of less than 1% among MSM, MSW and transgender.[9] However since MSM are highly networked, if HIV were to be introduced, it has potential to spread very rapidly in this population unless prevention efforts are adequately scaled-up.[10]

Total number of people living with HIV in Bangladesh in 2014 is estimated to be 9,548. The cumulative number of HIV infected persons reported in Bangladesh till December 2014 is 3674 with 563 deaths.[11] As of December 2014, 1,083 persons were receiving ARV drugs in Bangladesh. In 2014, there were 433 new HIV infections and 91 deaths notified to National AIDS/STD Program (NASP) .[12]

1.4 TB/HIV situation in Bangladesh

The following table summarizes data reported by the country pertaining to HIV testing among tuberculosis patients, provision of co-trimoxazole preventive therapy (CPT) and anti-retroviral treatment (ART) in HIV positive TB patients over past five years. It can be noted that just 1% of the registered tuberculosis patients in the country have documented HIV status.

[6]UN Joint Program of Support on HIV/AIDS Work Plan and Budget Bangladesh 2012-2015
[7]20 years of HIV in Bangladesh: World Bank and UNAIDS, 2009
[8]The Round 9 surveillance, 2011 and Round 8 surveillance, 2007
[9]Icddr,b, Midline Survey, 2013 (unpublished)
[10]20 years of HIV in Bangladesh: World Bank and UNAIDS, 2009
[11]WAD report 2014, NASP, MoHFW
[12] Program data

Table: 1 HIV positive cases among tested TB patients[13]

Year	Notified TB patients	Number (%) TB Patients Tested for HIV	Reported TB cases among HIV positive cases	Number on CPT	Number on ART
2009	160875	1446 (0.9%)	1	1	1
2010	158698	1778 (1.12%)	4	4	4
2011	159023	1900(1.19%)	53	53	53
2012	173619	2086(1.20%)	63	63	63
2013	190891	2067 (1.08%)	68	61	68
2014	196797	769 (0.4%)	45	45	45

It can be noted from discussion above that while Bangladesh has a generalized tuberculosis epidemic, HIV epidemic is at low levels and concentrated in selected population groups. A study, conducted between 1999 to 2002, to assess the prevalence of HIV in TB patients, conducted by icddr,b with NIDCH, WHO, GGH Glasgow, UK, shows that the estimated TB/HIV co-infection is 0.1% among a sample of 958 patients . Hence tuberculosis control activities are implemented across the country and at all levels from central to peripheral health facilities. On the contrary HIV control services are concentrated at central and district levels around the pockets of high HIV burden areas. It can be inferred from data in the table above that there is very little linkage between tuberculosis and HIV/AIDS programs. To bridge this gap and address challenge of HIV associated tuberculosis the government of Bangladesh established a mechanism for collaboration between the NTP, NASP and key implementation partners in country since 2009. These mechanisms aim to establish programmatic linkages at each level including all health facilities.

1.5 National response to TB/HIV and HIV associated tuberculosis

1.5.1 Rationale for TB/HIV collaboration

Tuberculosis and HIV Prevention and Control programs share mutual concerns: HIV prevention care and treatment should be a priority for tuberculosis control program; tuberculosis prevention and treatment should be priority concern for HIV prevention and control program.

Operational areas lead to development of new interventions in the area of TB/HIV activities. The reduced morbidity and mortality associated with Co-trimoxazole Preventive Therapy (CPT) of HIV-positive TB-patients has now been confirmed in many studies. These benefits have strong implications for TB control in areas of high HIV prevalence.

On the other hand, Isoniazide Preventive Therapy (IPT) has a significant protective effect on those HIV positive clients (without active TB) by preventing the development of TB disease. Therefore the need for TB and HIV collaboration is very much justified due to the fact that: most of the time TB and HIV occur commonly and impact on each other. There is a shared benefit from the implementation of TB/HIV collaboration that is, HIV positive clients benefit from routine TB screening and IPT, and TB patients detected HIV positive benefit from CPT, ART and chronic care linkage. It promotes efficient utilization of resources allocated by both programs and eventually reduces overall costs of program implementation and management.

1.5.2 National Tuberculosis Control Program (NTP)

The NTP functions under the Mycobacterial Disease Control (MBDC) Directorate of the

[13] TB case notification report to WHO by NTP
[14] Low HIV Infection rates among TB patients in Dhaka, published in International Journal of STD & AIDS Volume 16, January 2005

Directorate General of Health Services (DGHS). NTP adopted WHO recommended DOTS strategy during fourth population and health plan (1992-98) under "Further Development of TB and Leprosy Control Services" project. The overall goal of tuberculosis control efforts in the country is to reduce morbidity, mortality and transmission of TB until it is no longer a public health problem. The objective is to achieve full coverage with DOTS services and achieve and maintain case detection rate of more than 70% and treatment success rate of more than 85% among new smear positive tuberculosis cases. NTP aims to achieve the Millennium Development Goals for 2015 i.e. to halve TB mortality and prevalence in the country and halt and 'begin to reverse incidence, as stated under goal 6, target 8, of the MDG.

Implementation of NTP strategy started in November 1993 in four thanas (upazilas) and gradually expanded to cover all upazilas by June 1998. NGO partners were involved right from inception of DOTS strategy in the country. In July 1998, NTP was integrated into the communicable disease control component of the essential services package under the Health and Population Sector Program (HPSP). In 2003, HPSP was renamed Health, Nutrition and Population Sector Program (HNPSP: 2003-2011) and NTP has continued its activities under the directorate of MBDC of DGHS under the ministry of health and family welfare. Now Ministry of Health and Family Welfare (MOHFW) has been implementing the Health, Population and Nutrition Sector Development Program (HPNSDP) for a period of five years from July 2011 to June 2016. In all sector programs tuberculosis control is recognized as one of the priority Program. The DOTS strategy was rolled out to all metropolitan cities in collaboration with city corporation health authority and non-government organization (NGOs). Government of Bangladesh and its multiple partners from public and private sector are committed to strengthen tuberculosis control program. The Stop TB strategy was adopted in 2006 to sustain achievements of previous years and reach MDG targets.

1.5.3 National AIDS/STD Program (NASP)

Government of Bangladesh started efforts to prevent and control HIV/AIDS even before detection of first case in the country. A strong political will is clearly demonstrated by the fact that chief patron of the National AIDS committee is the President of Bangladesh. The National AIDS/STD Program (NASP) was established under Directorate General of Health Services (DGHS) to coordinate efforts with key stakeholders and development partners in the country. NASP is directly involved in supervising implementation of HIV prevention, treatment, and care and support interventions since 2003. These interventions evolved into projects and programs such as HIV/AIDS prevention program, HIV/AIDS targeted interventions, HIV/AIDS intervention services and the currently ongoing HIV/AIDS prevention services.

The NASP oversees implementation of services to prevent new HIV infections ensuring universal access to treatment, care and support services for people infected and affected by HIV; strengthen coordination mechanisms and management capacity at different levels to ensure effective multi-sector HIV/AIDS response; and strengthen strategic information systems and research for evidence based response. NASP developed manuals, guidelines and strategic plans for ART availability and distribution harm reduction intervention management etc. NASP is collaborating across multiple sectors actively involved in the response e.g., the public sector and private specialized laboratories conducting HIV tests, ministry of Home Affairs to facilitate opioid substitution therapy, NGOs implementing the programs, networks of PLHIV playing leadership role in advocacy, etc.

To strengthen the HIV/AIDS prevention services further the Government of Bangladesh decided to convert temporary appointments under NASP with a permanent organogram consisting of 13 newly created posts. This restructuring is currently underway. Along with this, modalities to strengthen monitoring and evaluation, procurement and supply chain management and finance management are being worked out. The name of the program is also likely to be changed from National AIDS/STD Program to National AIDS/STD Control (NASC). NASC will take a

stewardship role as nodal body and coordinate all HIV/AIDS related activities in the country with an aim to halt spread of HIV and reverse the situation by 2015 in line with AIDS related targets of the MDG 6. The vision is to create a HIV/AIDS free society with rights and social justice for all, improved quality of life for high-risk and vulnerable population groups and tolerance for people living with HIV/AIDS.

1.5.4 National response to address burden of HIV associated TB

NTP incorporated collaborative TB/HIV activities into national strategic plans for the year 2006 to 2011 and 2012 to 2016. Collaborative TB/HIV activities are mainly supported by the Global fund with technical support from the WHO. National TB/HIV coordination committee approved by Directorate General of Health Services steers the process of policy development, planning and monitoring and evaluation of collaborative TB/HIV activities at national level in 2009. This committee was reconstituted in 2013 with formation of a TB/HIV core group consisting of focal persons nominated from all organizations supporting and implementing TB and HIV programs to facilitate establishment of programmatic linkage.

Following key TB/HIV activities were implemented over past few years:

1. Establishment of functional linkage between NTP and NASP
2. Six monthly TB/HIV meeting involving public sector and NGO organized by NTP
3. A large number of orientation trainings for both TB and HIV workers completed-
   a. Doctors both from government and private sector are being oriented by NTP on TB/HIV activities since January 2012
   b. Orientation training for counselor and other HIV staff on identification and referral of presumptive tuberculosis cases organized every six monthly by NTP
   c. Around 10,000 personnel from different categories at different level oriented to increase awareness regarding TB/HIV through different partners of NTP
4. Screening for TB and MDR-TB among PLHIV using rapid diagnostic tool (Xpert MTB/RIF) introduced
5. AAS which serves for HIV in the general population signed an agreement with NTP through the NASP to receive TB drugs and is currently treating TB/HIV co-infected patients
6. NASP is also providing orientation to different level of health care providers.
7. The NTP and NASP plan to work closely to;
   a. Develop a comprehensive package of services including HIV and TB prevention, care and treatment for implementation in above settings
   b. Document effective service delivery models in above settings
   c. Provide support to individual service providers and ensure provision of comprehensive set of services
   d. Identify and mobilize resources and funding for implementation of TB/HIV activities

1.5.5 Public - Private Mix for TB/HIV collaboration

Public - Private Mix (PPM) approach is adopted for TB/HIV collaboration in Bangladesh. It aims to mobilize and link resources of public and private health services to achieve national goals of collaborative TB/HIV activities. Following three approaches are being adopted:

1. Public with private- collaboration between the NTP, NASP and the NGO& private partners
2. Public with public- close collaboration between the NTP, NASP and defense and police health services and medical colleges
3. Private with private health care providers-NGOs engaging other NGOs and private health care providers

1.5.6 TB/HIV policy in Bangladesh

WHO published policy recommendations for collaborative TB-HIV activities in 2014 and Bangladesh adopted the following activities:

1. Establish mechanisms for coordination between National Tuberculosis control Program and National AIDS/STD Program
2. Interventions to decrease burden of tuberculosis among people living with HIV and

3. Interventions to decrease burden of HIV among TB patients

The overall purpose of collaborative activities is to ensure early detection of HIV associated TB, prompt linkage to both TB and HIV care and treatment and minimize morbidity and mortality due to HIV associated TB. The NTP and NASP in Bangladesh adopted these activities as strategic priority. However considering low level and concentrated nature of HIV epidemic in Bangladesh, the national programs decided to scale-up interventions gradually. Accordingly coordination mechanisms between NTP and NASP are established, joint national policies are adopted and implementation of key interventions is started. It is planned to scale-up interventions based on experience of implementation and operational research findings in future. Current policy scenario and implementation status of TB/HIV interventions in the country in comparison toWHO recommended TB/HIV policies is shown in Table-2.

Table: 2.TB/HIV policy implementation status in Bangladesh

WHO recommended collaborative TB/HIV activity		Current status of implementation
A. 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	Policy endorsed: National TB/HIV Coordination Committee formed in 2009 and re-constituted in 2013.Committees yet to be formed at divisional and district level
A.2	Determine HIV prevalence among TB patients and TB prevalence among people living with HIV	Current strategy is to offer HIV test to TB patients among the HIV key populations (KPs) all over the country except 23 High Priority districts where all TB patients should be screened for HIV. All HIV patients should be screened for TB.
A.3	Carry out joint TB/HIV planning to integrate the delivery of TB and HIV services	NTP incorporated this recommendation in the National Strategic Plan 2015-2020 and the National TB/HIV guideline. Joint planning is not undertaken currently.
A.4	Monitor and evaluate collaborative TB/HIV activities	Policy endorsed: Limited implementation of collaborative TB/HIV activities
B. Reduce the burden of TB in people living with HIV and initiate early antiretroviral therapy (the three I's for HIV/TB)		
B.1	Intensify TB case-finding and ensure high quality anti-tuberculosis treatment	Policy endorsed: Functional across the country
B.2	Initiate TB prevention with Isoniazid preventive therapy and early antiretroviral therapy	Policy endorsed: Provide IPT as per guidelines
B.3	Ensure control of TB Infection in health-care facilities and congregate settings	Policy endorsed: Limited implementation
C. Reduce the burden of HIV in patients with TB		
C.1	Provide HIV testing and counselling to patients with TB	Policy endorsed: Offer of HIV test to all TB patients in 23 high priority districts and offer HIV test among Population (KPs) in rest of the 41 districts.
C.2	Provide HIV prevention interventions for patients with TB	Policy endorsed: Limited implementation among KPs
C.3	Provide co-trimoxazole preventive therapy for TB patients living with HIV	Policy endorsed: Implemented across the country
C.4	Ensure HIV prevention interventions, treatment and care for TB patients living with HIV	Policy endorsed: Implemented across the country
C.5	Provide antiretroviral therapy for TB patients living with HIV	Policy endorsed: Implemented across the country

Part II

OPERATIONAL GUIDELINE FOR IMPLEMENTATION OF COLLABORATIVE TB/HIV ACTIVITIES IN BANGLADESH

The NTP and NASP in Bangladesh have endorsedall key TB/HIV policy recommendations. However systematic implementation of TB/HIV activities is lagging. This section provides operational guidance on implementation of collaborative TB/HIV activities at national, regional, district and health facility level.It follows the same structure as WHO policy recommendations for collaborative TB/HIV activities as mentioned in Table-2.

2.1 Goal

The goal of collaborative TB/HIV activities is to reduce HIV associated TB mortality and morbidity through close coordination between National AIDS/STD Program and National Tuberculosis control Program.

2.2 Objectives

A. To establish mechanisms for coordination between the National Tuberculosis control Program and National AIDS/STD Program
B. To decrease the burden of tuberculosis among people living with HIV
C. To decrease the burden of HIV among TB patients

2.3 Strategy

Implementation of collaborative TB/HIV activities in Bangladesh is based on three pillars

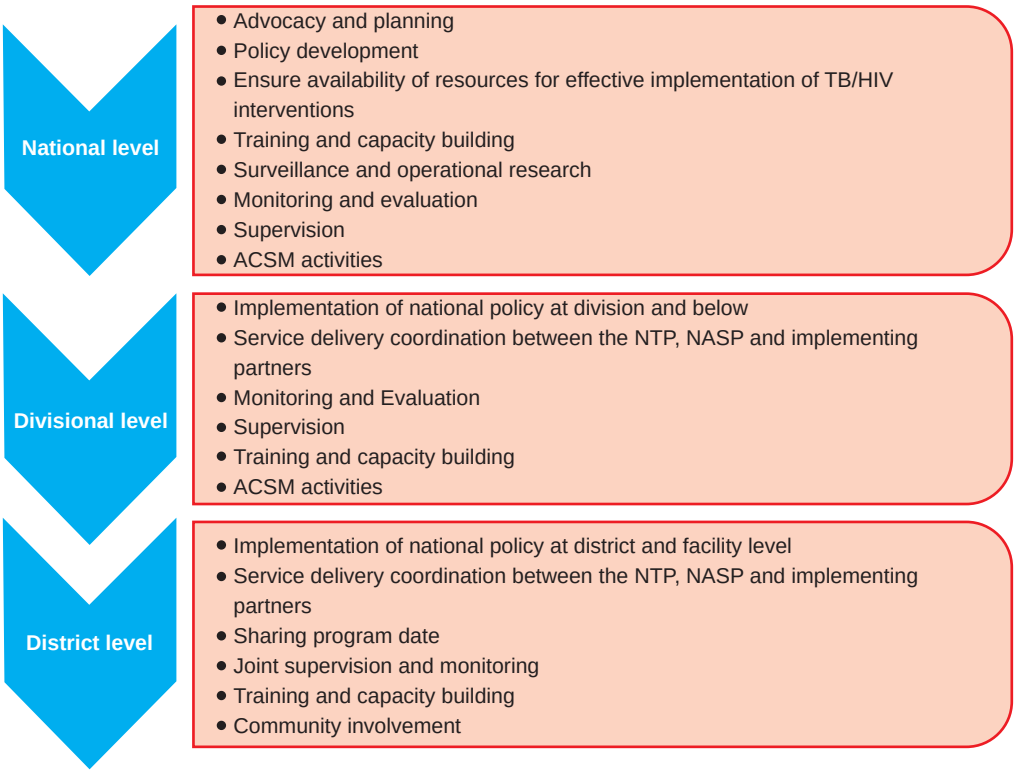
1. Establishing functional collaboration between the NTP, NASP and all implementing partners with clear and mutually agreed roles and responsibilities
2. Integrating the TB/HIV services into existing program implementation structures considering feasibility and sustainability
3. Generating national evidence on the burden of disease, appropriate interventions and feasible model for implementation

A tripartite Memorandum of understanding (MoU) between the NTP, NASP and implementing partners approved by Director General of Health Services will guide implementation of collaboration TB/ HIV activities in the country. NTP and NASP plan gradual scale-up considering HIV vulnerabilities, available resources and infrastructure. Collaborative activities were launched in Dhaka City. In the second phase it is planned to expand implementation to selected districts known as “High Priority” for HIV/AIDS.

2.4 Coordination between NTP and NASP

The NTP and NASP agree to work in close collaboration at national, division, district and health facility level. Key to successful collaboration is building upon the strengths of both programs and work jointly to address weakness if any. The two programs agree to build the collaboration around following key strategic areas:

Figure 1: Strategic areas for co-ordination between the NTP and NASP at National, Division and District level



3 Surveillance mechanism for TB/HIV collaborative activities

Surveillance is essential to inform program planning and implementation. WHO recommends for surveillance of HIV among tuberculosis patients and surveillance of active TB disease among PLHIV, irrespective of HIV and TB prevalence rates and program implementation. There are three key methods for surveillance of HIV among TB patients:

1) Periodic surveys (cross-sectional HIV sero-prevalence surveys among a small representative group of tuberculosis patients in the country);
2) Sentinel surveys (using tuberculosis patients as a sentinel group within general HIV serological surveillance system); and
3) Data from routine HIV testing and counselling of patients with presumptive or diagnosed tuberculosis.

In low level HIV epidemics such as Bangladesh i.e. where HIV prevalence has not consistently exceeded 5% in any defined sub population from HIV sero-prevalence (periodic or sentinel), survey of HIV prevalence among tuberculosis patients should be undertaken to assess the situation. It is desirable that the national TB and HIV programs collaborate to generate national evidence on HIV prevalence among TB patients. It is important to have national representative data for developing national policy on HIV testing. Periodic nationwide cross-sectional survey is likely to provide a point estimate for HIV prevalence among TB patients, by geography as well as key risk groups.

Incorporating HIV testing into tuberculosis prevalence surveys and anti-tuberculosis drug resistance surveillance, offer another opportunity to understand the burden of HIV associated TB and DR-TB at population level. NTP and NASP plan to integrate this in future.

3.1 Mechanisms to facilitate coordination between NTP and NASP

Following bodies are recommended to establish to facilitate close collaboration between the NTP and NASP:

1. National TB/HIV co-ordination committee
2. National TB/HIV technical working group
3. Divisional TB/HIV co-ordination committee
4. District TB/HIV co-ordination committee

While co-ordination committees are established to review implementation of collaborative TB/HIV activities and facilitate scale-up of interventions across the country, the national TB/HIV technical working group is entrusted to review global and national evidence with regards to technical and programmatic aspects and advice national programs on adoption of global recommendations and TB/HIV interventions.

3.1.1 National TB/HIV co-ordination committee

The National TB/HIV co-ordination committee approved by the Director General, DGHS, Government of Bangladesh, is established after extensive consultations with all stakeholders in implementation of tuberculosis and HIV programs and the key policy makers. This committee was reconstituted in 2013 with more comprehensive terms of reference.

Terms of reference of the national TB/HIV co-ordination committee:

1. To meet six monthly or as required and provide policy guidance on implementation of collaborative TB/HIV activities in Bangladesh
2. Recommend adoption of new national/international/global initiatives on collaborative TB/HIV activities
3. To provide guidance and advice in development and review of TB/HIV policy documents and national technical and operational guideline
4. Organize necessary human, financial, and material resources necessary to implement TB/HIV plan of operations, including capacity building
5. To form need based sub-committees to address specific issues pertaining to collaborative TB/HIV activities
6. Receive and assess periodic technical and financial progress reports
7. To provide recommendations on joint planning and resource mobilization for implementation of TB/HIV interventions
8. To co-ordinate efforts of all partners and stakeholders involved in implementation of collaborative TB/HIV activities
9. To facilitate surveillance of HIV among TB patients and TB prevalence among the people living with HIV
10. To facilitate planning and implementation of operational research to generate evidence and strengthen implementation of collaborative TB/HIV activities

Structure of national TB/HIV co-ordination committee:

1. Director, MBDC and Line Director TB-Leprosy	Chairperson
2. Line Director, NASP	Co- Chairperson
3. Program Manager, NTP	Member Secretary
4. Director, NIDCH/Representative	Member
5. Head of Virology Dept. BSMMU	Member
6. Program Manager, NASP	Member
7. Deputy Program Manager, (M&E) NASP	Member

8. National Program Consultant, NTP	Member
9. Medical Officer, TB/HIV, NTP	Member
10. NPO,TB/HIV, WHO	Member
11. Country Director, UNAIDS/Representative	Member
12. UNICEF Representative	Member
13. UNFPA Representative	Member
14. USAID Representative	Member
15. Country Director/Technical Director, FHI	Member
16. Chief of Party, Save the children, Bangladesh representative	Member
17. Scientist & Head,HIV/AIDS Program & Virology Lab, icddr, b	Member
18. Director, TB, Malaria & WASH, BRAC	Member
19. Chairperson STI/AIDS Network in Bangladesh	Member
20. President, Network of PLHIV	Member
21. Country Director, Demien Foundation	Member
22. Representative from affected population	Member

3.1.2 National TB/HIV technical working group

The national TB/HIV technical working group deals with technical aspects of program implementation and facilitate decision making by the national TB /HIV coordinating committee. Terms of reference for the TWG:

1. Undertake periodic review and analysis of performance of collaborative TB/HIV activities using district wise program data
2. To facilitate development and updating of national TB/HIV guidelines and other normative tools
3. To discuss operational issues, identify bottlenecks and suggest solutions for scale-up of TB/HIV interventions across the country
4. Identify data gaps and research gaps and promote operational research to strengthen collaborative TB/HIV activities
5. To plan and undertake review missions for evaluation of implementation of TB/HIV activities as per need
6. To co-ordinate efforts of all partners and stakeholders in scale-up and strengthening collaborative TB/HIV activities

Structure of national TB/HIV technical working group:

1. Director MBDC	Chairperson
2. Program Manager (NTP)	Co-Chairperson
3. Program Manager (NASP)	Co-Chairperson
4. Focal person, TB/HIV	Member Secretary
5. Representative from NGO partners (One member each from key partner)	Member
6. Representative from WHO	Member
7. Focal person from NASP	Member
8. Representative from tertiary hospitals (BSMMU, NIDCH, IDH and other GoB)	Member
9. Representative from research Institute (IEDCR, icddr,b and others)	Member
10. Representative from UNAIDS	Member
11. Representative from USAIDS	Member
12. Representative from professional association	Member
13 Representative from faith based organization	Member

3.1.3 Divisional TB/HIV co-ordination committee

Terms of reference of the Divisional TB/HIV co-ordination committee:

The functions of the divisional TB/HIV coordination committees will include but not be limited to the following:

1. Facilitate implementation of key TB/HIV interventions by the Public and NGO facilities as per national policy
2. Organize quarterly meeting with collaborative partners (GO/NGOs) to review performance and provide necessary support
3. Develop detailed meeting reports and share with the national TB/HIV coordination committee
4. Facilitate identification of a focal person at regional/divisional, district and upzila levels (Phased implementation for TB/HIV activities and maintain database
5. Supervision and monitoring
6. Frequency of meeting-quarterly

Structure of divisional TB/HIV co-ordination committee:

1. Director (Health), Respective Division	Chairperson
2. Divisional Expert, NTP	Member Secretary
3. Superintendent General Hospital	Member
4. Consultant/associate professor (Medicine/ Respiratory Medicine) Medical College Hospital	Member
5. Representative of NGOs working with TB/HIV	Member
6. Representative of city corporation (Health Department)	Member
7. Representative from affected population	Member

3.1.4 District TB/HIV co-ordination committee

District TB/HIV co-ordination committees will be formed under chairmanship of the civil surgeon to facilitate smooth implementation of TB/HIV activities in the district levels

Terms of reference of the District TB/HIV co-ordination committee:

The functions of the district TB/HIV coordination committees will include but not be limited to the following:

1. Facilitate implementation of national TB/HIV policies and directives received from national level at district and community level
2. Mobilize and allot adequate human, financial, and material resources needed for TB/HIV activities
3. Ensure community participation in joint planning and implementation of collaborative TB/HIV activities
4. Evaluate progress of implementation of TB /HIV activities in the district
5. Ensure regular monitoring and supervision of collaborative TB /HIV activities in the district
6. Co-ordinate efforts of different partners in implementation of collaborative TB/HIV activities in the district
7. Supervision and monitoring
8 Provide feedback on performance to the NTP and NASP staff and to other implementing partners when required
9. The District TB/HIV coordinating committees will meet quarterly and whenever a need arises

Structure of the district TB/HIV co-ordination committee:

1. Civil Surgeon	Chairperson
2. UHFPO Sadar	Member Secretary
3. Consultant Medicine (District Hospital)	Member
4. Junior Consultant (CDC)	Member
5. Medical Officer (Civil Surgeon office)	Member
6. Representative of Deputy Commissioner	Member
7. Representative of Superintendent of police	Member
8. Representative from NGOs working with TB/HIV	Member
9. Health education Officer	Member
10. District Public Health Nurse	Member

11. Program Organizer (CS Office)	Member
12. Senior Medical Technologist	Member
13. Representative from community leader	Member
14. Representative from affected population	Member

4 Interventions to reduce burden of tuberculosis among people living with HIV

4.1 Intensified TB case finding

People living with HIV have high risk of acquiring tuberculosis infection and progressing to active TB, consequently leading to death. It is therefore recommended that intensified TB case finding should be implemented in all persons living with HIV at every opportunity and during each contact with the health care workers. Early identification of signs and symptoms suggestive of tuberculosis and facilitating investigations to confirm diagnosis followed by prompt treatment, results in increased survival, improved quality of lifeand reduced transmission of tuberculosis in the household and community. Physicians and other health care providers should carefully elicit history and look for following signs and symptoms suggestive of tuberculosis in PLHIV:

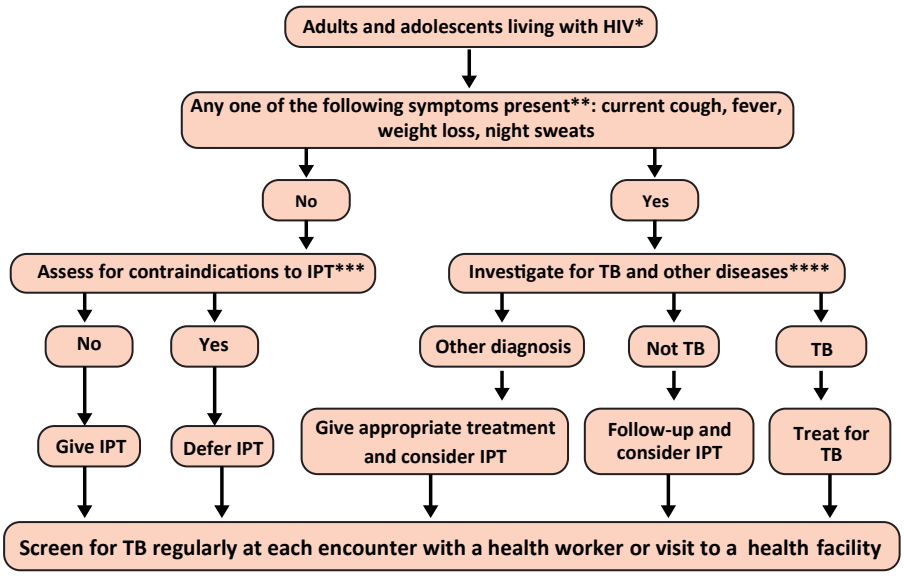
1. Cough of any duration
2. Fever
3. Weight loss more than 10% in last 1 month
4. Night sweat
5. Enlarged Lymph node more than 2 cm
6. Haemoptysis
7. Close contact of a known TB patient

Additional features for children

8. Poor weight gain
9. Reduced playfulness

If pulmonary tuberculosis is suspected, person should be promptly referred for sputum smear examination at nearest microscopy or Xpert MTB/RIF centre. The national TB diagnostic algorithm should be followed for diagnosis and treatment.

Figure 2: Algorithm for TB screening in adults and adolescents living with HIV



Foot notes to Algorithm for Adults

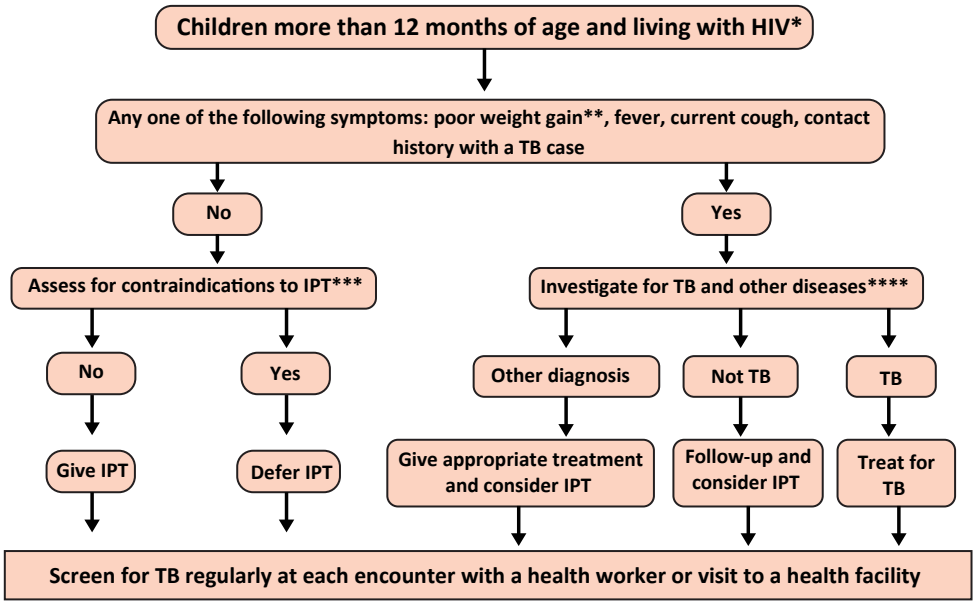
*Every adult and adolescent should be evaluated for eligibility to receive ART. Infection control measures should be prioritized to reduce M. tuberculosis transmission in all settings that provide care.

** Chest radiography can be done if available, but is not required to classify patients into TB and non-TB groups. In high HIV prevalence settings with a high TB prevalence among people living with HIV (e.g., greater than 10%), strong consideration must be given to adding other sensitive investigations.

*** Contraindications include: active hepatitis (acute or chronic), regular and heavy alcohol consumption, and symptoms of peripheral neuropathy. Past history of TB and current pregnancy should not be contraindications for starting IPT. Although not a requirement for initiating IPT, Tuberculin Skin Test (TST) may be done as a part of eligibility screening in some settings.

**** Investigations for TB should be done in accordance with existing national guidelines.

Figure 3: Algorithm for TB screening in children more than one year of age and living with HIV



Footnotes to Algorithm for Children

*All children and infants less than one year of age should be provided with IPT if they have a history of household contact with a TB case.

** Poor weight gain is defined as reported weight loss, or very low weight (weight for age less than 3 z-score), or underweight (weight for age less than 2 z-score), or confirmed weight loss (>5%) since the last visit, or growth curve flattening.

*** Contraindications include: active hepatitis (acute or chronic) and symptoms of peripheral neuropathy. Past history of TB should not be a contraindication for starting IPT. Although not a requirement for initiating IPT, TST may be done as a part of eligibility screening in some settings.

****Investigations for TB must be done in accordance with existing national guidelines.

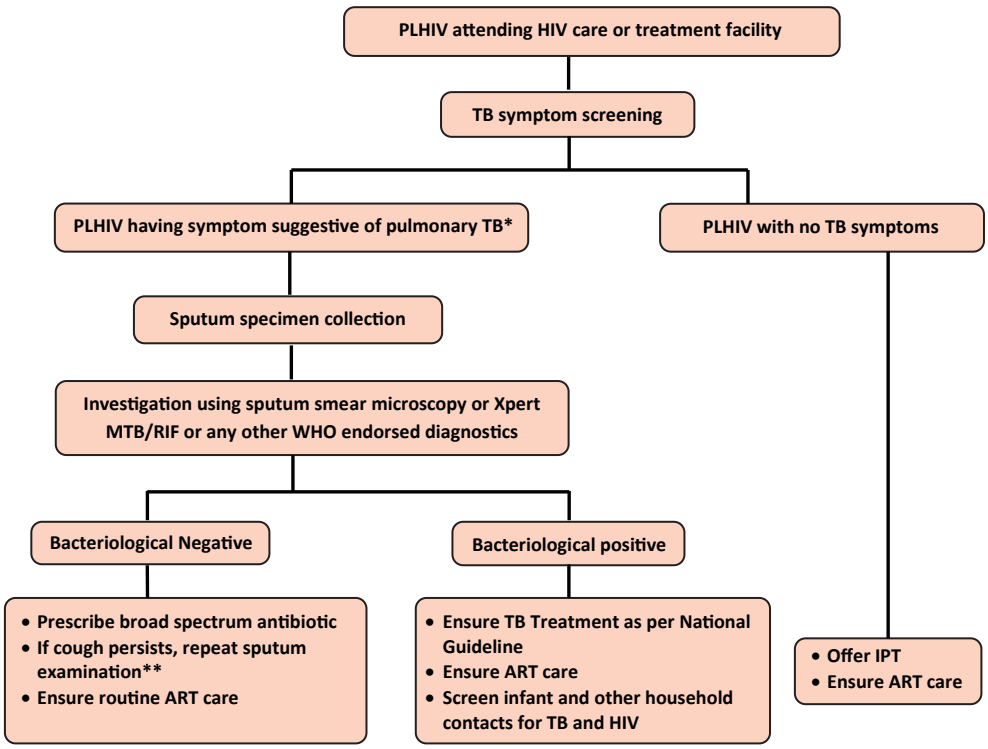
5 Diagnosis of tuberculosis in PLHIV

The physician at ART centre should undertake clinical evaluation of PLHIV at every visit and if found any signs and symptoms suggestive of tuberculosis, take initiative for:

- Sputum examination (X-pert or Microscopy according to Algorithm; Figure 4)
- Chest X-ray, when indicated
- Additional investigations as clinically indicated, depending on signs and symptoms

Examination of two sputum specimens is required for confirmation of smear positive pulmonary tuberculosis (Spot-Morning) as per National TB Guidelines. Early morning specimen should be preferred for X-pert MTB/RIF. The physician or other health care provider should refer the patient for sputum examination using NTP laboratory referral form (DR TB 06).

Figure 4: Algorithm for diagnosis of tuberculosis in PLHIV



**If symptoms suggestive of extra pulmonary TB present, appropriate specimen may be collected for Xpert MTB/RIF/ histopathology/culture/ smear microscopy etc.*

*** Consider use of X-ray chest after repeat sputum smear examination. In pregnant women consider X-ray only when clinical suspicion is high and benefits outweigh the risk. It should be used with caution considering radiation risk to foetus. Effective shielding of the mother must be ensured to limit foetal exposure to less than 0.3 mrads.*

Pulmonary TB (PTB):

Smear positive pulmonary TB is diagnosed if any one of the two sputum specimens is positive for AFB. While diagnosis of smear negative pulmonary TB is made by physician based on clinical examination, radiological findings along with negative sputum smear results on two separate occasions (two weeks apart) with acourse of broad spectrum antibiotic.For more information refer to the National Guidelines and Operational Manual for Tuberculosis Control; Fifth edition.

If Non-Tuberculous Mycobacteria (NTM) is detected in PLHIV cases manage according to ART guideline.

Extra-Pulmonary TB (EPTB):
The diagnosis of extra-pulmonary TB should always be made by a graduate physician or specialist and often requires special examinations such as X-ray, MT, CT Scan, MRI, biopsies, Fine Needle Aspiration Cytology (FNAC), etc.For more information refer to the National Guidelines and Operational Manual for Tuberculosis Control; Fifth edition.

5.1 Tuberculosis diagnosis in children with HIV

The approach to diagnosis of tuberculosis in children living with HIV is essentially the same as HIV-negative children although it can be more challenging for following reasons:

- Clinical features consistent with pulmonary TB are common in children living with HIV but may be due to other diseases and therefore lack specificity for a diagnosis of TB
- Most children living with HIV are infected through mother-to-child transmission. The peak age prevalence for HIV is therefore among infants and young children (<5 years), who also make up the age group in which it is most difficult to confirm the cause of acute or chronic lung disease, including tuberculosis
- TST is less sensitive in children living with HIV than HIV-negative children therefore induration of >5 mm is considered positive in these children
- Children living with HIV have a very high incidence of acute and chronic lung diseases other than tuberculosis
- Children living with HIV may have lung disease of more than one cause (co-infection), which can mask response to therapy
- There is an overlap of radiographic findings in tuberculosis and other HIV-related lung disease Attempt should be made to confirm the diagnosis (e.g. culture, Xpert MTB/RIF assay) whenever possible.

Table 3: Diagnostic workup for tuberculosis in children with HIV

	Recommended approach to diagnosis of tuberculosis in children	Impact of HIV infection
1	Careful history, including history of tuberculosis contact	Especially important because of the poor sensitivity of TST for identifying TB infection
2	Careful history of symptoms consistent with tuberculosis	Lower specificity: clinical overlap between symptoms of tuberculosis and HIV
3	Clinical examination, including growth assessment	Lower specificity: malnutrition is common with tuberculosis or HIV
4	Chest X-ray findings	Lower specificity: overlap with HIV-related lung disease
5	Tuberculin skin testing	Lower sensitivity: TST positivity declines with increasing immune-suppression
6	Bacteriological confirmation whenever possible	Important regardless of HIV status
7	Investigations relevant for presumptive pulmonary and extrapulmonary tuberculosis	Wider range of diagnostic possibilities because of other HIV-related disease

5.2 Referral Mechanism of PLHIV for tuberculosis diagnosis and treatment

All presumptive TB cases among PLHIV should be referred for tuberculosis diagnosis and treatment to nearest tuberculosis facility. Following steps should be taken in this process:

1. Record presence of tuberculosis symptom in HIV care and treatment card and the pre-ART/ART register of the person
2. A separate list of all presumptive tuberculosis cases identified should be maintained on a daily basis and compiled at the end of the month (Annex_X)
3. Fill sputum referral form (DR TB 06) and send one copy with the patient to TB diagnostic facility
4. TB diagnostic facility should provide prompt feedback to respective HTS regarding diagnosis of tuberculosis in PLHIV
5. In addition the focal person at HTS site should stay in touch with focal person of DOTS centre and facilitate anti-TB treatment from a place convenient to the patients
6. The focal person at HTS site should also ensure
   a. Daily intake of anti-TB drugs (DOT) and recording of the same in treatment card at HTS site
   b. Encourage treatment adherence
   c. Monitor occurrence of any adverse drug reaction (ADR), in case of any adverse drug reaction manage accordingly or refer to nearby TB treatment facility
   d. Ensure timely follow-up examination at TB diagnostic facility

5.3 Prevention of tuberculosis using Isoniazid preventive therapy (IPT)

Isoniazid should be given to all eligible PLHIV to prevent progression to active TB disease. It is critically important to exclude active tuberculosis before Isoniazid preventive therapy is initiated. Absence of current cough, fever, night sweats, and weight loss can identify a subset of adolescents and adults living with HIV who have a very low probability of having tuberculosis and can reliably be started on Isoniazid preventive therapy. Similarly in children living with HIV absence of poor weight gain, fever and current cough can identify children who are unlikely to have tuberculosis. Isoniazid should be given daily as self-administered therapy for at least 6 months as a part of comprehensive package of HIV care for all eligible persons irrespective of degree of immunosuppression, ARTuse, previous tuberculosis treatment and pregnancy. Person receiving IPT should be monitored for ADR and if any, it should be managed accordingly. Provision of Isoniazid preventive therapy as a core component of HIV preventive care is planned for implementation by the NTP and NASP in Bangladesh.

Some of the major advantages of Isoniazid Preventive Therapy (IPT):

- Prevention of progression of latent TB into active TB
- Help improve quality of life
- Decrease mortality in children
- Prevention of further transmission of TB in the community

However, there are a number of concerns/issues to be looked at regarding theImplementation of IPT like:

- Risk of emergence of Isoniazid resistance if active TB is not properly excluded
- Missed cases of active disease and
- Drug toxicity

So far, evidences strongly favor the benefit of IPT in eligible individuals. In settings where HIV prevalence among TB patients is 5% and above, as per the WHO TB/HIV collaborative Interim Policy, IPT intervention is part of TB/HIV comprehensive prevention and care package.

5.3.1 Indications and dosage of IPT

Screening for exclusion of active TB in HIV infected persons, is the single most important step that should precede the decision to initiate IPT. Hence, initiating IPT depends on result of symptom screening, WHO clinical stage of the patientand whether there is contraindication for IPT or not.

Isoniazid Preventive Therapy consists of daily Isoniazid at adose of 10 mg/kg with a maximum dose of 300mg/day for a period of six months.

Table 4: Dose of IPT for Adults

Body weight (Adult)	Dosage
< 30 kg	150 mg = half tablet
> 30 kg	300 mg = one tablet
Body Weight (Children,0-14Yrs)	5-10mg/kg, maximum of 300mg.

Table 5: Dose of IPT for Children

Weight range (Kg)	Number of 100mg tab of INH to be administered per dose (total dose 10mg/kg/day	Dose given (mg)
< 5	1/2 tablet	50
5.1-9.9	1 tablet	100
10-13.9	1 ½ tablet	150
14-19.9	2 tablet	200
20-24.9	2 ½ tablet	250
>25	3 tablet or one adult tablet	300

Pyridoxine at a fixed daily dose of 25mg is indicated in order to reduce the risk of developing INH- induced peripheral neuropathy.

5.3.2 Contraindications of IPT

Individuals with any one or more of the following conditions should not receive IPT:

- Active tuberculosis.
- Symptoms compatible with tuberculosis, even if the diagnosis of TB cannot be confirmed.
- Abnormal chest X-ray.
- Diagnosis and treatment of TB in the past 3 years.
- Poor prognosis (terminally ill AIDS patients).
- History of poor compliance with treatment.
- Active hepatitis (chronic or acute).
- Known or reported high daily alcohol consumption.
- Prior allergy or intolerance to isoniazid.
- History of close contact with MDR-TB patient.

NB. Pregnancy is a special condition (Indication) for IPT.

5.3.3 Isoniazid drug interactions

Isoniazid may interact with other drugs. The patient who is put on IPT and anyone of the following drugs should be referred to the doctor for monitoring:

- Phenytoin, Warfarin, and Carbamazepine (their serum levels may increase).
- Ketoconazole and Diazepam (their serum levels may decrease).
- Procainamide and Chlorpromazine (the half-life of Isoniazid can be increased).

5.3.4 Placement of patients on IPT

The most frequent entry point to care and treatment for HIV-infected persons is HCT services. After active TB is ruled out, IPT should be part of a comprehensive care for PLHIV. It should be initiated and continued at the HIV care/ART clinic. The particulars of the patient should be documented in the ART and Pre-ART register for HIV positive patients without active TB who receive IPT.

5.3.5 Follow up of patients on IPT

Patients should be given one-month supply of Isoniazid for six consecutive months and assessed at each follow-up visit to:

- Evaluate adherence to treatment and educate the patient at each visit about the importance of adherence, signs of toxicity (hepatitis), signs of active tuberculosis, and HIV-prevention.
- Evaluate for drug toxicity such as signs and symptoms of hepatitis, e.g. jaundice, anorexia, nausea, vomiting, or abdominal pain.
- Evaluate for signs and symptoms of active tuberculosis or other OIs and eligibility for ART.
- If patients develop active TB while on IPT, stop IPT and immediately start anti-TB
- Instruct the patients to return back if they develop cough, weight loss or fever during the course of therapy

Patients should be instructed to discontinue isoniazid and seek prompt medical attention if they develop jaundice and/or severe abdominal pain.

6 Interventions to reduce burden of HIV in tuberculosis patients

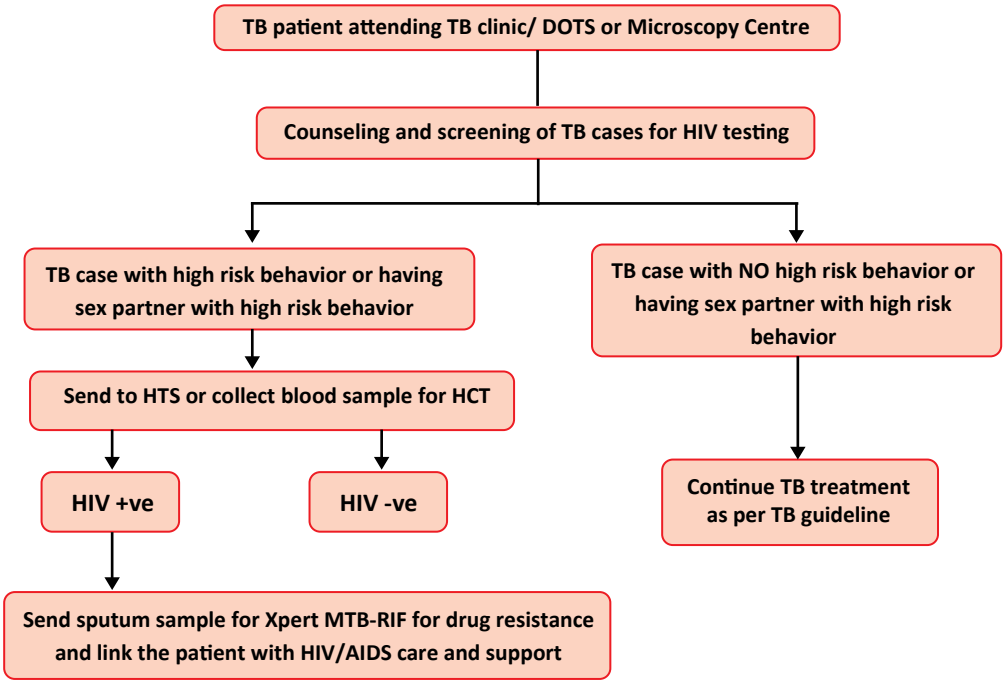
6.1 Offer HIV testing and counselling to tuberculosis patients

NTP and NASP have adopted a strategy to offer HIV counseling and testing to tuberculosis patients among the HIV key populations (KP) meaning those having high risk behavior. Physicians and health care providers should elicit detailed behavioral history to identify the KP cases. HIV testing should therefore be offered in following group of tuberculosis patients

- People Who Inject Drugs (PWID)
- High risk sexual behavior (MSM, FSW, MSW)
- Presence of sexually transmitted infections (STIs)
- Patients with opportunistic infections such as coexisting oral/oesophageal candidiasis, herpes zoster, recurrent pneumonias etc.
- Clinical deterioration during the course of TB treatment
- DR TB
- Complicated extrapulmonary TB
- Relapse and treatment failure case

In addition to the above, physicians may offer HIV test if clinically suspected e.g., in tuberculosis patients providing history suggestive of unsafe blood transfusion, migrant worker or their spouse or contact of HIV infected person. Such patients should be referred to HTS using a referral form (Annex-1). If found HIV positive, they should be linked to HIV care and support promptly, the patient should be referred to CSTC/ART centre. If HIV negative, the patient should receive health education on HIV prevention. WHO recommends offer of HIV test to all tuberculosis patients as a standard of care.Access to HIV prevention interventions in Bangladesh currently are limited to tuberculosis patients among KPs and not all patients except 23 HIV high priority districts where all TB patients should be counseled and screened for HIV.

Figure 5: HIV testing algorithm for TB patients attending TB facilities (Except 23 high priority districts for HIV)



6.2 Management of HIV positive TB patients

6.2.1 Clinical features of tuberculosis in HIV-infected persons

Pulmonary tuberculosis (PTB) is most common form of tuberculosis disease in people living with HIV. HIV positive and HIV negative patients with active pulmonary tuberculosis generally present with similar clinical features, namely cough, fever, night sweats, haemoptysis and weight loss. The presentation may sometimes vary depending on the degree of immune suppression. In mild immune suppression often resembles adult post-primary pulmonary tuberculosis i.e. sputum smear is frequently positive for acid-fast bacilli (AFB) and chest X-ray (CXR) may typically show unilateral or bilateral upper lobe infiltrates, cavitation, pulmonary fibrotic changes, and/or volume loss.

In severe immune suppression the overall risk of tuberculosis is higher and it is more difficult to distinguish from other serious chest diseases. In advance HIV infection disseminated and extrapulmonary tuberculosis (EPTB) are more common, most common being lymphadenitis, pleural effusion, pericarditis, miliary disease and meningitis. The features of pulmonary tuberculosis in advance HIV infection are frequently atypical, resembling primary tuberculosis as historically seen in children. Smear-negative tuberculosis is as common as smear-positive. Chest X-ray pattern may also show different pattern, such as hilar lymphadenopathy which is frequently observed and interstitial infiltrates tend to be common, especially in the lower zones and may be unilateral or bilateral; features such as cavitation or fibrosis are less common. TB should therefore be part of differential diagnosis in any PLHIV with unexplained constitutional symptoms.

6.3 Treatment of tuberculosis in PLHIV

HIV associated tuberculosis is fatal if left untreated. Case-fatality is higher in people living with HIV having smear-negative pulmonary and extrapulmonary tuberculosis, since these patients

are generally more likely to be immunosuppressed than those with smear-positive tuberculosis. Case-fatality is lower in patients receiving concurrent ART. Therefore, first priority in HIV-positive tuberculosis patients is to start tuberculosis treatment promptly followed by co-trimoxazole and ART. Both new and retreatment HIV positive tuberculosis patients should receive daily treatment as per national guideline.

6.4 Drug regimen: Drug susceptible tuberculosis

Active pulmonary or extrapulmonary tuberculosis requires prompt initiation of treatment. The treatment of active tuberculosis among HIV positive persons should follow same principles, guiding treatment for individuals without HIV. Treatment of drug susceptible tuberculosis should include standard regimen consisting of isoniazid (INH), rifampin, pyrazinamide and ethambutol and streptomycin.

Table 6: Standard treatment regimen for each diagnostic category (Adults)

TB diagnostic category	Type of patient	Treatment regimen (Daily)	
		Intensive phase	Continuation Phase
Cat I	• New Smear-positive bacteriologically positive PTB patients • New smear-negative PTB • New extra- pulmonary TB • New concomitantly associated HIV/AIDS	2(HRZE)	4(HR)
Cat II	• Sputum Smear-positive PTB with history of treatment of one month or more • Relapse • Treatment failure after Cat I treatment • After loss to follow up • Others	2(HRZE)S/ 1(HRZE)	5(HRE)

Table 7: Drug dosage category I

Pre-treatment weight (kg)	Intensive Phase	Continuation Phase
	Daily (first 2 months) Number of 4FDC tablets	Daily (Next 4 months) Number of 2FDC tablets
30-37	2	2
38-54	3	3
55-70	4	4
>70	5	5

Table 8: Drug dosage category II

Pre-treatment weight (kg)	Intensive Phase		Continuation Phase
	Daily (first 3 months) Number of 4FDC tablets	Daily (first 2 months) Injection Streptomycin	Daily (Next 5 months) Number of 3FDC tablets
30 -37	2	500mg	2
38-54	3	750 mg	3
55-70	4	1 gm*	4
>70	5	1 gm*	5
*The dose of streptomycin should not exceed 500 mg daily after the age of 50 years			

6.5 Treatment of tuberculosis in children living with HIV

Children living with HIV with presumptive or confirmed pulmonary tuberculosis or tuberculous peripheral lymphadenitis with confirmed HIV infection should be treated with category-I, a four drug regimen (HRZE) for 2 months followed by a two drug regimen (HR) for 4 months.The principle of treatment for children with TB/HIV co-infection is similar to HIV uninfected children.

HIV-infected children should be treated with Rifampcin containing regimen the whole course of treatment. This will minimize the risk of relapse. Most HIV infected children respond well to six months anti -TB regimen.

All children with tuberculosis have to be provided with prophylactic Co-trimoxazole. It prolongs survival and decreases the incidence of respiratory tract illnesses and hospital admissions.
In HIV-infected infants and children co-infected with tuberculosis initiation of anti-TB regimen is the priority. Children on ART and anti-TB medication need to be closely monitored as there are clinically significant drug interactions between Rifampcin and some ARV drugs.

6.5.1 Treatment regimens for children

The recommended doses of first line anti-TB drugs for children are as follows:

Table 9: Recommended doses of first line anti-TB drugs for children

Drug	Daily dose and range (mg/kg body weight)
Isoniazid (H)	10 (5-15) [maximum 300mg]
Rifampicin (R)	15 (10-20) [maximum 600mg]
Pyrazinamide (Z)	35 (30-40) [maximum 2000mg]
Ethambutol (E)	20 (15-25) [maximum 1200mg]
Streptomycin (S)	15 (12-18) [maximum 1000mg]

For more details please refer to the National Guidelines for the Management of Tuberculosis in Children.

6.6 Drug regimen: Drug resistant tuberculosis

All MDR TB and XDR TB regimens will consist of two phases: the first phase is the period in which the injectable agent is used and the second phase is after it is stopped up to the end of treatment. Treatment regimen for XDR TB cases can be constructed individually based of DST profiles and availability of drugs. The same Standardized Regimens will be given to DR TB/HIV patients.The recommended Standard MDR TB Regimen is as follows:

8{Km-Z-Lfx (Ofx)-Eto-Cs}/12{Lfx (Ofx)-Eto- Cs-Z}

The recommended Standard XDR TB Regimen is as follows:

12(Cm-Z-Mfx-PAS-Cs-Amx/Clv- Lzd -Cfz)/12(Z-Mfx-PAS-Cs-Amx/Clv- Lzd -Cfz)

Dosing of anti-tuberculosis drugs is based on the weight of the patient. Therefore, monthly monitoring of patient body weight is important, especially in paediatric cases where the adjustment of doses should be monitored closely since children gain weight rapidly. Similarly, when adults gain weight or move into a higher weight class, their medication dose should be adjusted.

In general, HIV patients have higher rates of adverse drug reactions to both TB and non-TB medications, and therefore, need special socioeconomic support.
For more details please refer to National Guidelines and Operational Manual for Programmatic Management of Drug Resistant TB (PMDT).

6.7 Management of tuberculosis in PLHIV on antiretroviral therapy

If tuberculosis is diagnosed in patients already receiving ART, tuberculosis treatment should be started immediately. Two key considerations in these patients are

- Whether ART should be modified, due to possible drug interactions or to minimize overlapping toxicities, and
- Whether diagnosis of tuberculosis in a patient on ART constitutes ART failure, which requires change in ARV regimen

For further details please refer National ART guidelines for diagnosis and management of ART failure (Ref:National Guidelines of Antiretroviral Therapy Bangladesh – 2011)

6.8 Monitoring of patients receiving TB treatment:

Adverse drug reactions (ADR) are common in HIV-positive TB patients, and some toxicityis common to both ARV and TB drugs. Overlapping toxicities between ARV drugs, TB drugs and Co-trimoxazole include rash and rarely hepatic dysfunction. Vigilance in monitoring of ADR is essential during the treatment.
For more details please refer to the National Guidelines and Operational Manual for Tuberculosis Control; Fifth edition.

6.9 Provide Co-trimoxazole preventive therapy (CPT) for tuberculosis patients living with HIV

Co-trimoxazole, a fixed-dose combination of sulfamethoxazole and trimethoprim, is a broad spectrum antimicrobial agent that targets a range of aerobic gram-positive and gram-negative organisms, fungi and protozoa. Co-trimoxazole prevents a range of secondary bacterial and parasitic infections in PLHIV. Providing Co-trimoxazole is part of the standard of care for preventing opportunistic infections, e.g. Pneumocystis jiroveci pneumonia (formerly Pneumocystis carinii pneumonia; PCP), toxoplasmosis and several organisms causing diarrhea in PLHIV. Recent evidence has shown that CPT helps prevent morbidity and mortality in adults with both early and advanced HIV disease.

Tuberculosis patients living with HIV should also receive Co-trimoxazole preventive therapy (CPT)as an integral component of the HIV chronic care package. CPT is a simple, well-tolerated and cost-effective intervention for PLHIV and should be administered concomitantly with ART in all HIV-positive tuberculosis patients regardless of CD4 cell count. Moreover the NASP and NTP in Bangladesh have endorsed this intervention and established a system to provide CPT to all eligible HIV positive tuberculosis patients.

6.9.1 Recommended dose for CPT

One double strength tablet (160mgTMP/800 mg SMX) every day
OR
Two single strength tablets (80mg TMP/ 400 mg SMX) every day

6.9.2 Duration of CPT

All the tuberculosis patients living with HIV will receive CPT for the whole treatment period irrespective of CD4 cell count. After completion of TB treatment CPT will be continued as per following criteria-

• If on ART and the CD4 cell count is >200 in two consecutive samples taken 6 months apart, Co-trimoxazole can be discontinued.

• If prophylaxis has been stopped because of immune improvement, Co-trimoxazole prophylaxis (or Dapsone) should be restarted if CD4 cell count falls below 200 or if new or recurrent WHO clinical stage 3 or 4 conditions occur.

6.9.3 Co-trimoxazole intolerance

If the patient reports a history of hypersensitivity to sulpha-containing drugs referred to CSTC/ ART centre for further management.

Follow-up of patients on Co-trimoxazole prophylaxis:

- Monitor for toxicity, clinical events and adherence
- Lab tests of hemoglobin and white blood counts, only as indicated
- Adherence counseling on Co-trimoxazole can be useful to prepare clients for ART in the future and address barriers to medication adherence
- Use an alternative antibiotic for treating breakthrough bacterial infections among individuals living with HIV receiving Co-trimoxazole prophylaxis, while continuing co-trimoxazole
- For toxoplasmosis and PCP infections, prophylaxis should be suspended and full active treatment initiated. Co-trimoxazole prophylaxis should be recommenced after the treatment course.

For more information about CPT, refer to National ART Guideline.

6.10 Provide Antiretroviral Therapy (ART) for tuberculosis patients living with HIV

Antiretroviral therapy greatly improves survival and quality of life of tuberculosis patients living with HIV and prevents HIV transmission. It should be considered an integral part of HIV and TB treatment and prevention package. NASP and NTP in Bangladesh have endorsed WHO recommendation making all HIV positive tuberculosis patients eligible to receive ART irrespective of CD4 count. The two programes also recognise the need to ensure prompt linkage of all HIV positive tuberculosis patientsto CSTC/ ART centre.

Early ART is a powerful strategy to reduce tuberculosis incidence among people living with HIV across a broad range of CD4 cell counts. Prompt initiation of ART therefore recommended after detection of HIV. Current level of CD4 count cut off for ART initiation in Bangladesh is 350/mm^3 in all PLHIV.

The anti-tuberculosis treatment should be initiated first, followed by ART as soon as possible and within the first 8 weeks when TB treatment is tolerated. The HIV positive TB patients with profound immunosuppression (e.g. CD4 < 50 cells/mm^3) should receive ART immediately within the first 2 weeks of initiating anti-TB treatment. (For more details about ART refer to National ART Guidelines)

7. Basic package of services for implementation across the country except the 23 high burden districts should include the following

a) Offer of HIV test to TB patients having high risk of acquiring HIV such as TB patients who are PWID, FSW, MSM etc.
b) TB screening should be done among PLHIV at every visit to the HIV care and treatment facilities
c) CPT and ART should be provided irrespective of CD4 count to all HIV positive TB patients
d) Recording and reporting of TB/HIV activities as per national guidelines

Part III

IMPLEMENTATION OF TB-HIV COLLABORATIVE ACTIVITIES IN 23 HIGH PRIORITY DISTRICTS FOR HIV

Although Bangladesh is considered as a low HIV prevalent country it remains extremely vulnerable to HIV transmission due to its socio-economic and cultural setting, presence of high risk behavior and surrounding HIV epidemic countries. At the same time, Bangladesh is one of the 22 high TB burden countries. Considering size of Key Population (KP), HIV case reporting, HIV prevalence and Program reach 23 high priority districts are identified for designing high impact, cost effective and sustainable investment for programs. It is worth mentioning here that, 73% of the total KPs are in these districts. 82 percent of the total detected PLHIV belong to the priority districts, while the same is 18 percent for the remaining 41 districts.So, TB/HIV collaborative activities in these high priority districts deserve special attention. (List of 23 districts in Annex-6)

In Bangladesh though the two programs pursued their practice separately earlier, since 2008 they have initiated preparation on TB/HIV collaboration.

8.1 Establish mechanism for collaboration

- Set up coordinating bodies for TB/HIV activities at all levels (Districts, Upazilas and Urban areas) involving community/ civil society
- Surveillance of HIV prevalence among Tuberculosis patients and surveillance of TB disease among people living with HIV (PLHIV)
- Carry out joint TB/HIV planning, monitoring and evaluation (NTP, NASP and NGO/ Private sector partners)
- Capacity building of health providers at GO and NGO health setups (clinics/ hospitals etc.)

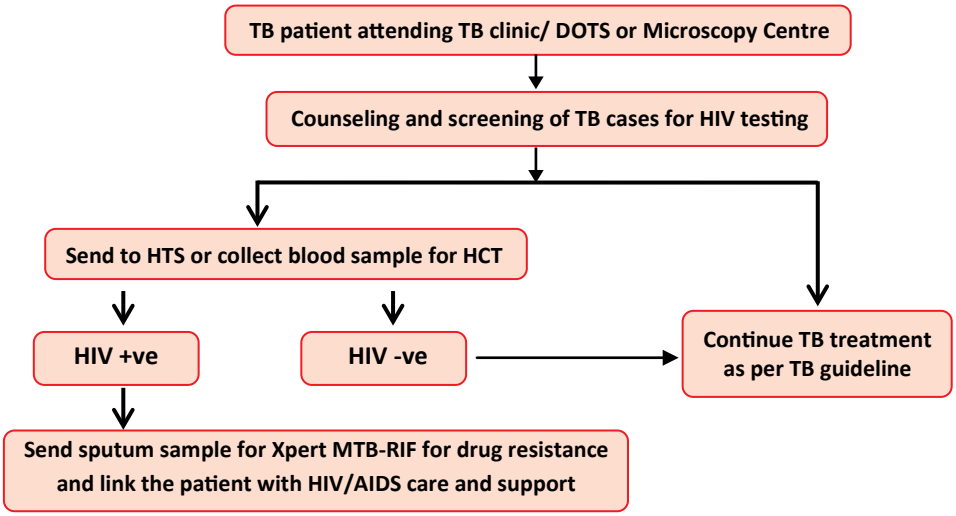
8.2 Reduce the burden of TB in PLHIV

- Establish intensified and continued effort for Tuberculosis case finding among PLHIV and key population
- Introduce and ensure Isoniazid preventive therapy (IPT) among PLHIV
- Ensure Tuberculosis infection control in health care and congregate settings
- Provide HIV testing and counseling and TB screening for all key populations (Commercial Sex Worker, MSM, PWID, Trans gender etc.), migrants, pregnant mothers and TB patients

8.3 Reduce the burden of HIV among TB patients

- Ensure use of HIV prevention methods by all who may transmit HIV or who are at risk to be infected.
- Ensure Co-trimoxazole preventive therapy
- Ensure HIV/AIDS care and support
- Ensure prompt antiretroviral therapy with adequate supply of drugs
- Establish referral system between TB and HIV services
- Community awareness on TB/HIV co-infection

Figure 5: HIV testing algorithm for TB patients attending TB facilities for 23 high priority districts for HIV



9 Areas of special attention

a) Orientation for all coordination committee members on TB/HIV collaborative activities must be organized in priority areas with special focus on working with key population
b) Ensure counselling and testing of all notified TB patients
c) Screening of key population, who attend HTS/DIC, for TB sign/symptoms (presumptive TB cases) and arrange collection of their sputum and send for microscopic test or Xpert MTB/RIF
d) The presumptive cases of TB among PLHIV must be sent for Xpert MTB/RIF, and all other PLHIV must undergo symptomatic TB screening according to algorithm
e) All key populations, PLHIV and TB/HIV co-infected cases will be dealt with confidentiality and identity related documents will also be maintained with confidentiality
f) Involve key population and PLHIV in planning and implementation of supervision and monitoring process
g) Field level coordination between field workers of TB and HIV programs for better mutual support
h) Resource mobilization - Joint proposals to solicit resources for implementing collaborative TB/HIV activities should be prepared, within the framework of the joint coordinating body, in collaboration with development partners represented in NTHAC
i) Operational Research to enhance collaborative TB/HIV activities – Being a new initiative all stakeholders of TB and HIV programs to be sensitized for support and encourage TB/HIV operational research to develop the evidence base for efficient and effective implementation of collaborative TB/HIV activities. THAC/TWG should prepare broader priority area for operational research and the list of priority operational research areas for the fiscal year should be included in the annual plan of action

10 TB/HIV collaborative activities at program management level

10.1 Establishment of coordinating mechanism

Coordinating bodies at different program management levels (National, Divisional and District) and their responsibilities are already mentioned under operation plan in part-II. In addition, upazila level coordination committee under leadership of UH&FPO and community level coordination committees are recommended for high priority areas. Responsibilities of those committees will be as follows -

10.1.1 At upazila level:

- Ensure TB/HIV activity is being implemented as per the implementation guideline in the health facility
- Establish multidisciplinary team to support local level implementation
- Ensure there is regular reporting
- Analyze reports and use them for improvement of TB/HIV collaborative activities
- Supervise TB/HIV activity at lower level

10.1.2 At community level:

- A committee should be established and will be responsible to promote TB/HIV activities
- Support activities like community awareness, social mobilization and sensitization of local leaders
- Promotion of Community DOT for TB treatment

10.2 Joint planning

10.2.1 Capacity building including training

The success of TB/HIV collaborative activities depends largely on the adequacy (both in quantity and quality) of human resource in the system. Successful TB/HIV collaboration, therefore, calls for deployment and retaining of qualified health workers at all levels who properly discharge responsibilities at different levels.The following activities should be undertaken to ensure adequate deployment of human resource:

- On the job training of general health workers
- Incorporation of TB/HIV in basic health training for health care providers
- Regular supportive supervision to maintain quality of service
- Mentoring and on-the-site training
- Prevent workplace exposure to HIV (training, provision of protective materials, prophylactic therapy including ART)
- Ensure sufficient capacity in health care delivery, laboratory, drug and referral

10.2.2 Advocacy, communication and social mobilization (ACSM)

The overall goal of advocacy, communication and social mobilization is to create awareness on TB/HIV among the community in general and those at high risk of TB/HIV in particular and mobilize them ultimately to bring about enhanced early case detection and adequate chemotherapy and ensure comprehensive patient care.

TB/HIV collaboration can be further strengthened by:

- Well-designed TB/HIV advocacy activities jointly planned to ensure coherence of messages and proper target orientation
- Jointly developed TB/HIV communication and social mobilization strategies that address the needs of individual patients and of communities affected by HIV/AIDS and tuberculosis. This has to ensure coherence in messages targeted at key stakeholders, decision makers, and program managers
- Mainstreaming HIV components in tuberculosis communication and tuberculosis components in HIV communication

Therefore successful TB/HIV ACSM should be able to:

- Increase awareness on the mode of transmission, prevention and control of tuberculosis and HIV
- Increase awareness of individuals, families and communities on cardinal symptoms and signs of TB and promote early health care seeking behavior
- Increase awareness and skills of individuals, families and communities on prevention of HIV and bring about behavior changes, educate, motivate and support to ensure treatment adherence, and promote awareness on the importance of proper follow-up and the dangers of lost to follow up

The settings for delivering health education and communication shall be the health facilities,

schools, workplaces, households, religious institutions and traditional social meeting places, resorts and villages.

10.2.3 Community involvement

All stakeholders including HIV/AIDS and TB control programs should ensure the inclusion of TB prevention and care in community based HIV prevention, care and support services. Similarly, community TB prevention and care service should also include HIV prevention, care and support activities in their services.

10.2.4 Operational research to enhance collaborative TB/HIV activities

All stakeholders of collaborative TB/HIV activities, including both TB and HIV programs, should support and encourage TB/HIV operational research to develop the evidence based collaborative TB/HIV activities for efficient and effective implementation. Technical committee/ Technical working group should prepare broader priority area for operational research and the list of priority operational research areas for the fiscal year should be included in the annual plan of action of NTP and NASP at national level.

11. TB/HIV collaborative activities at health facility level

TB/HIV collaborative activities at health facility level are an extension of the collaboration at program management level. The rationale and objectives of collaboration are basically the same.

11.1 Activities to decrease the burden of HIV among TB patients

11.1.1 Routine HIV testing and counselling for TB patients and presumptive TB cases

HIV testing is an entry point for HIV care and treatment services including ART and this apply equally to TB patients. Studies show that a significant proportion of TB patients are also HIV-infected. Among TB patients who are also HIV-infected, other Opportunistic Infections (OIs) are significant causes of morbidity and mortality even with a successful treatment of tuberculosis. Hence, screening along with HIV counseling and testing should be actively promoted and routinely offered to all TB patients in 23 high priority districts.

11.1.2 Co-trimoxazole preventive therapy (CPT)

Please refer to Part II, section 6.9 of this guideline. For more details refer to National ART Guidelines.

11.1.3 Reduce transmission of HIV through early detection and prompt treatment of STIs in TB patients

All patients attending DOTS centre should be screened for sexually transmitted infections using a set of simple questions. Those with symptoms of sexually transmitted infections should be treated or referred to the treatment providers. (Refer to the National Guideline for the Treatment of STI Using the Syndromic Approach)

11.1.4 HIV care and support

DOTS centres should establish linkage with HIV program to provide the continuum of careand support for PLHIV. These include clinical management of opportunistic infections and prophylaxis, nursing care, palliative care, home based care, counseling and psychosocial support. PLHIV who have completed their tuberculosis treatment should be provided with the continuum of care and support for HIV/AIDS support by patient referral system.

11.2 Activities to decrease the burden of TB among people living with HIV (PLHIV)

11.2.1 Routine offer of TB screening for all PLHIV

Tuberculosis case finding should be intensified in all HTS. All PLHIV should undergo screening for TB and they should be further worked up using the algorithm for improving the diagnosis of TB. All HIV positive patients with TB disease should be referred to DOTS centre for treatment. For more details please see Part II of this guideline.

11.2.2 INH preventive therapy (IPT).

For a comprehensive summary please see Part II, section 5.3 of this guideline.

12 Essential package of services for 23 high TB/HIV burden districts:

12.1 Services for people living with HIV (PLHIV)

a) All PLHIV should be screened for tuberculosis symptoms at every contact or whenever symptoms appear using WHO recommended four TB symptoms. All PLHIV should be screened for TB symptoms at every contact or whenever symptoms appear, using WHO recommended four TB symptoms e.g.current cough, fever, weight loss and night sweats.
b) Symptomatic persons should be thoroughly investigated for diagnosis of TB, preferably using Xpert MTB/RIF. Where Xpert MTB/RIF is not available patient should be investigated as per national TB diagnostic algorithm.
c) The PLHIV diagnosed with TB should be started TB treatment immediately along with Co-trimoxazole preventive therapy and ART within 2 to 8 weeks of starting TB treatment.
d) Asymptomatic PLHIV or those in whom TB is ruled out should be started on Isoniazid Preventive Therapy (IPT) with regular monitoring for emergence of TB symptoms.
e) Spouse and family contacts of HIV positive TB patients should be screened for TB symptoms and HIV.

12.2 Services for TB patients

a) All TB patients should be counseled and screened and the person with high risk behavior or having partner with high risk behavior to be offered for HIV testing from nearest HIV Testing Centre during TB treatment. If possible, blood sample can be collected at the TB Lab with proper infection control measures and send to HTS for HIV testing
b) Those opting to receive the test should receive three rapid HIV tests as per national protocol preferably at the same facility
c) Where not available, patients screened positive on first test should be referred for confirmation at designated HIV testing centre
d) If HIV is confirmed, patient should be linked with HIV care and support and provided CPT and ART as mentioned above

Part IV

MONITORING AND EVALUATION OF TB/HIV COLLABORATION

Successful TB/HIV collaboration calls for not only effective, coordinated and well managed interventions but also regular supervision, monitoring and evaluation. Monitoring and Evaluation (M&E) provides the means to assess quality, effectiveness and coverage of services and will promote a learning culture within programs to ensure continued improvement. This important management function ensures the most effective and efficient use of resources for the achievement of maximum health benefit for the population served.

Joint monitoring visits involving representatives from NTP, NASP, implementation partners, development partners and technical partners will be emphasized. Monitoring and Evaluation should be conducted according to indicators set by both national programs that are comparable over time, and between geographical areas. These activities are planned to be integrated with the existing monitoring and evaluation systems of the two national Programs.

Data management in the form of data collection, collation, analysis, interpretation, reporting and dissemination should be done under stewardship of NTP and NASP in collaboration with other partners. Confidentiality should be maintained for individual patient's information.

13.1 Monitoring and Evaluation principle

- Accountability
- On job training
- Learning by doing in real life situation
- Lessons learn

13.2 Indicators for Monitoring and Evaluation of TB/HIV collaborative activities:

Table 10: Indicators for TB/HIV collaborative activities

A. Essential indicators to monitor and report progress at national level:
A.1 Proportion of registered new and relapse TB patients with documented HIV status
A.2 Proportion of registered new and relapse TB patients with documented HIV-positive status
A.3 Proportion of people living with HIV newly enrolled in HIV care with active TB disease
A.4 Proportion of HIV-positive new and relapse TB patients on ART during TB treatment
A.5 Proportion of people living with HIV newly enrolled in HIV care, started on Isoniazid Preventive Therapy
A.6 Proportion of HIV-positive new and relapse TB patients who receive Co-trimoxazole preventive therapy
A.7 Mortality among HIV-positive new and relapse TB patients
B. Indicators to measure burden of TB in PLHIV including ART use (in addition to A)
B.1 Proportion of people living with HIV who are screened for TB in HIV care or treatment settings
B.2 Proportion of people living with HIV who are TB symptom screen positive out of those who are screened for TB
B.3 Proportion of people living with HIV who are tested for TB out of those who are symptom screen positive
B.4 Proportion of people living with HIV diagnosed with active TB out of those who are tested
B.5 Proportion of people living with HIV who are started on TB treatment out of those diagnosed as having active TB
B.6 Proportion of people living with HIV who have completed full course of anti-TB treatment
B.7 Proportion of people living with HIV who received a complete course of Isoniazid preventive therapy
B.8 Proportion of HIV-positive new and relapse TB patients who receive co-trimoxazole preventive therapy
C. Indicator to measure the burden of HIV in TB patients (in addition to A)
C.1 Proportion of presumptive TB patients counselled for HIV testing who have high risk behaviour
C.2 Proportion of HIV-positive new and relapse TB patients who have started ART within 8 weeks of TB diagnosis
D. Indicators to measure diagnosis and treatment of HIV associated TB in special situations
D.1 Proportion of patients having multidrug-resistant or rifampicin-resistant TB with known HIV status
D.2 Proportion of HIV-positive patients treated for multidrug-resistant or rifampicin-resistant TB who are also on ART
E. Indication to measure integration and optimization of services for implementation of collaborative TB/HIV activities for 23 high priority districts(in addition to A, B, C and D)
E.1 Proportion of TB patients counselled for HIV testing
E.2 Proportion of TB patients referred for HIV testing
E.3 Proportion of coordination committees are active among planned number of committees at different levels
E.4 Proportion of GO and NGO centres that have effective referral mechanism for management of TB/HIV co-infection cases

13.3 Joint monitoring and supervision plan for TB/HIV collaborative activities

NTP and NASP are responsible to prepare a plan (quarterly/yearly) for joint monitoring and supervision of TB/HIV collaborative activities. This plan should be prepared taking in to consideration the supervision and monitoring plans of both TB and HIV/AIDS control programs.

14 Recording and reporting of TB HIV co-infection

An information flow system among NTP, NASP and implementing partners to be functionalized-

i) For smooth functioning of TB/HIV collaborative activities
ii) To establish effective reporting mechanism and
iii) To avoid duplication of reporting

The implementing partners should follow the recording and reporting formats endorsed by NTP and NASP. This reporting and recording system for TB HIV collaborative activities mainly consist of the following standardized forms, card and registers.

1. DOTS centre to HTS referral form (Annex 1)
2. HTS to DOTS centre referral form for AFB/ Gene Xpert test (DR TB 06 form, Annex 2)
3. Reporting format for TB/HIV (TB 10, 11, 12 form, and Quarterly report on TB/HIV referral-Annex 3)
4. TB HIV co-infection register (TB 03 form, Annex 4)
5. Register for presumptive TB cases referred from HTS to DOTS centre (Annex 5)

For more details for drug sensitive TB, please see The National Guidelines and Operational manual for TB control, 5th edition and for drug resistance TB, please see the National Guidelines and Operational manual for PMDT, 2nd edition.

Annex: 1

Government of the People's Republic of Bangladesh
National Tuberculosis Control Program
Directorate General of Health Services
Mohakhali, Dhaka

DOTS to HTS Referral Form

Referred from _____
Referred to _____
Patient's TB Registration no. _____
Age _____ Sex _____ Contact no. _____
Address _____
_____

Signature _____
Name _____
Designation _____
Contact no. _____
Date _____

Government of the People's Republic of Bangladesh
National Tuberculosis Control Program
Directorate General of Health Services
Mohakhali, Dhaka

DOTS to HTS Referral Form

Referred from _____
Referred to _____
Patient's TB Registration no. _____
Age _____ Sex _____ Contact no. _____
Address _____
_____

Signature _____
Name _____
Designation _____
Contact no. _____
Date _____

Annex-2

Government of the People's Republic of Bangladesh
National TB Control Programme
Programmatic Management of Drug Resistant Tuberculosis (PMDT)

Form DR TB 06

Request and Reporting form for Diagnosis/Follow up of Drug Resistant TB

A. Patient identification (ID):

TB registration No (Current): _____ Previous TB registration No (If any):_____DR TB registration No: _____

e-TB registration No: _____ Name of patient: _____ Age (yrs):____ Sex:____ *HIV-status: Pos / Neg / Unknown

Address of patient: _____

_____Cell Phone #:_____

B. TB Disease Type and Treatment History

Type : A) Pulmonary B) Extra Pulmonary (Specify Site).....

History:

1) Failures of Category I (remain positive at month 5 or later and smear negative patients who become smear positive at month 2)
2) Failures of Category II (remain positive at month 5 or 8)
3) Non converters of Category I (remain positive at month 2)
4) Non converters of Category II (remain positive at month 3)
5) Relapses- a) Category I b) Category II
6) Treatment after loss to follow up- a) Category I b) Category II
7) Close contacts of DR TB patient with symptoms, a) Unknown history ☐ b) New ☐ c) Prev.treated ☐
8) HIV infected person, with TB S/S a) Unknown history ☐ b) New ☐ c) Prev.treated ☐
9) Others (Specify) i. Pulmonary, clinically diagnosed, a) Unknown history ☐ b) New ☐ c) Prev.treated ☐
   ii) Extra Pulmonary, a) Unknown history ☐ b) New ☐ c) Prev.treated ☐
   iiii) Pulmonary, Bacteriologically Confirmed a) Unknown history ☐ b) New
10) Presumptive Pulmonary Smear Negative TB Cases a) Unknown history ☐ b) New ☐ c) Prev.treated ☐

C. Origin of request:

Division name & ID:_____ District name & ID:_____ Local laboratory name & ID:_____

Local laboratory registration/serial number: _____ Date of test: ……/……./……. Smear result: 1st ___ 2nd _____specimen

Microscopy technique used: Ziehl-Neelsen (ZN) ☐ LED Fluorescence microscopy (FM) ☐

D. Request for test at the reference laboratory: NTRL /RTRL _____ / X-Pert MTB/RIF Site: _____

1) Diagnosis 2) Follow Up: Month of ……

Date specimen(s) collected: ____/____/20____ Specimen Identification number (s): _____

Specimen: Sputum ☐ Sputum in preservative, type ☐ specify _____ Other (specify):_____

Requested tests: ☐ microscopy (type: ZN/LED ☐ culture (L-J / MGIT) ☐ Xpert MTB/RIF ☐ DST Conventional ☐ Line Probe Assay (LPA)

Others (Specify)_____

Person requesting examination: Name:_____ Position:_____ Cell Number:_____

Organization: Government/Non Government (specify): _____ Signature (with official seal) and Date:_____

* Information that can be disclosed optionally

E. Reference laboratory results:

Date of specimen received/Collection in the reference laboratory: NTRL / RTRL _____ / X-Pert MTB/RIF Site: _____

Reference laboratory specimen ID:_____

1. Microscopic examination: Date reported _____ Previous Report and Date (If any) _____

ID #	Neg	Scanty	1+	2+	3+

Ziehl-Neelsen ☐ LED fluorescence ☐ Others (specify)_____

Direct smear ☐ Concentrated smear ☐

2.Gene Xpert (MTB/RIF) result: Date reported _____ Previous report and Date (If any) _____

ID #	T= MTB detected, Rif resistance not detected	RR=MTB detected, Rif resistance detected	TI=MTB detected, Rif resistance indeterminate	N=MTB not detected	I=invalid/no result/ error

3. Culture result: Method used: Solid (LJ) ☐ Liquid (MGIT) ☐ Date reported _____ previous report and Date (If any) _____

ID #	Contaminated	Neg	Positive	Atypical Mycobacteria (species)	Mycobacterium tuberculosis complex			
					<20 =1-19 colonies Actual count	1+=20 – 100 colonies	2+=>100 - 200 colonies	3+=>200 colonies

4. Results of M. tuberculosis drug susceptibility testing: Date reported:_____

Method used: ☐ Proportion method (L-J) ☐ Liquid (MGIT) Line Probe Assay (LPA) ☐ X-Pert MTB/ Rif

ID #	Legend: S = susceptible; R = resistant; C = contaminated; ND = not done								
	INH (H)	Rifampicin (R)	Ethambutol (E)	Streptomycin (S)	Pyrazinamide (Z)	FQ : Ofloxacin/ Levofloxacin	Kanamycin (Km)	Others (specify)	(specify)
Result									

Date: _____/_____/20_____

Name:
Designation:
Cell Number:
Signature with official Seal _____

NATIONAL TUBERCULOSIS CONTROL PROGRAM

TB 10

Directorate General of Health Services, Bangladesh

Quarterly report on case finding of tuberculosis

Name of District:	Patients registered during	Date of Completion of this Form:
Name of Upazila/ DOTS Centre	Quarter ____ Year ____	Name, Designation, Signature & Contact no. of Person completed the Form:
Address:	Population of the area:	
Name & Signature of UH&FPO/ In-charge of DOTS/ Health Unit:	Bact. Confirm New Cases:	
	Bact. Confirm CNR:	

Block 1: All TB cases registered (excluding "Transfer in")

Pulmonary																						Extra-Pulmonary										Total (19)		
Bacteriologically Confirmed TB cases												Clinically Diagnosed										Bacteriologically Confirmed / Clinically Diagnosed TB cases												
Treatment History Unknown (1)		New (2)		Previously treated								Treatment History Unknown (7)		New (8)		Previously treated						Treatment History Unknown (13)		New (14)		Previously treated								
				Relapses (3)		Treatment after failure (4)		Treatment after loss to follow up (5)		Others (Treatment Outcome Unknown) (6)						Relapses (9)		Treatment after failure (10)		Treatment after loss to follow up (11)		Others (Treatment Outcome Unknown) (12)				Relapses (15)		Treatment after failure (16)		Treatment after loss to follow up (17)		Others (Treatment Outcome Unknown) (18)				
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total
Age-groups																																		
0-4																																		
5-14																																		
15-24																																		
25-34																																		
35-44																																		
45-54																																		
55-64																																		
>=65																																		
Total																																		

Comment (if any): _____

District:

Upazila/ Address & Ward No:

TB 10

Block 2: No. of Patients Referred by:**

Graduate PP	Non-graduate PP	GFS	SS/ NGFS	VD	CV	Govt. Hospital	Private Hospital	CHCP	TB Patient	Others (specify)	**Total**

Note: Like as treatment card

Block 3: Laboratory Activity - Sputum smear microscopy

No. of Presumptive TB cases examined for diagnosis by sputum smear microscopy			No. of Presumptive TB cases with positive sputum smear microscopy result		
Male	Female	**Total**	Male	Female	**Total**

Comment (if any):

Block 4: Laboratory Activity – GeneXpert test

No. of Presumptive TB cases examined by GeneXpert			No. of Presumptive TB cases with MTB positive and RIF susceptible result		
Male	Female	**Total**	Male	Female	**Total**

* This information to be included in the Lab report form

Block 5: TB/ HIV activities

5 (A) Diagnosed TB cases (with high risk for HIV)	No. of TB patients tested for HIV before or during TB treatment			No. of patients found HIV positive before or during TB treatment		
	Male	Female	**Total**	Male	Female	**Total**
Bacteriologically Confirmed New/ treatment History Unknown Pulmonary TB cases						
Clinically diagnosed New/ treatment History Unknown Pulmonary TB cases						
New/ treatment History Unknown Extra Pulmonary TB cases						
All re-treatment cases						

5 (B) ***PLWHA presumptive for TB	No. of PLWHA tested for AFB			No. of AFB positive result among tested PLWHA		
	Male	Female	**Total**	Male	Female	**Total**

Block 6: PAL activities

6 (A) No. of Respiratory Symptomatics attended		
Male	Female	**Total**

6 (B) No. of presumptive TB cases tested		
Male	Female	**Total**

6 (C) No. of TB patients diagnosed		
Male	Female	**Total**

** PP-Private practitioner, GFS-Govt. Field staff, SS-Shastha Shebika, NGFS-Nongovernment Field Staff, VD-Village Doctor, CV- Community Volunteer, CHCP- Community Health Care Provider

***PLWHA-People living with HIV/AIDS

NATIONAL TUBERCULOSIS CONTROL PROGRAM

Directorate General of Health Services, Bangladesh

Quarterly Report onTreatment Results of TB Patients Registered 12-15 months earlier

TB 11

Name of District: **Name of Upazila/ DOTS Centre** **Address:** **Name & Signature of UH&FPO/ In-charge of DOTS/ Health Unit:**	**Patients registered during** Quarter ____ Year ____ **Treatment Success Rate of new bacteriologically positive cases during above quarter :**	**Date of Completion of this Form:** **Name, Designation, Signature & Contact no. of Person completed the Form:**

Total No. of Patients reported during the above quarter			Type of Patients	(1) Cured		(2) Treatment Completed		(3) Died		(4) Failure		(5) Lost to follow up (Defaulted)		(6) Transferred out		(7) Not Evaluated		(1 to 7) Grand Total		
M	F	T	**1. Pulmonary Bacteriologically Confirmed**	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	**Total**
			1.1 New/ Treatment History Unknown																	
			1.2 Relapses																	
			1.3 Treatment after failure																	
			1.4 Treatment after loss to follow up																	
			1.5 Others Previously Treated																	
			1.6 Total																	
M	F	T	**2. Pulmonary Clinically Diagnosed**	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	**Total**
			2.1 New/ Treatment History Unknown																	
			2.2 Relapses																	
			2.3 Treatment after failure																	
			2.4 Treatment after loss to follow up																	
			2.5 Others Previously Treated																	
			2.6 Total																	
M	F	T	**3. Extra-Pulmonary Bacteriologically Confirmed/ Clinically Diagnosed**	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	**Total**
			3.1 New/ Treatment History Unknown																	
			3.2 Relapses																	
			3.3 Treatment after failure																	
			3.4 Treatment after loss to follow up																	
			3.5 Others Previously Treated																	
			3.6 Total																	

TB/HIV activities*

TB/HIV Patient (Total)		No. of patients on CPT		No of patients on ART	
M	F	M	F	M	F

IPT

No of eligeble Child for IPT		IPT Started		IPT Completed	
M	F	M	F	M	F

Comment (if any):

* Includes TB Patients continuing on CPT started before TB diagnosis and those started during TB treatment (till last day of TB treatment)

* Includes TB Patients continuing on ART started before TB diagnosis and those started during TB treatment (till last day of TB treatment)

TB 12

NATIONAL TUBERCULOSIS CONTROL PROGRAM

Directorate General of Health Services, Bangladesh

Quarterly Report on Sputum Conversion at 2/3 Months of Pulmonary TB patients registered 3-6 months earlier

Name of District: Name of Upazila/ Centre/ Address: Name & Signature of UH&FPO/ In-charge of DOTS/ Health Unit:	Patients registered during quarter Year	Date of Completion of this Form: Name, Designation, Signature & Contact no. of Person completed the Form:

Total No. of Pulmonary Patients reported during the above quarter			Type of Patients	(1) Smear Negative		(2) Smear Positive		(3) Died		(4) Failure		(5) Lost to follow up (Defaulted)		(6) Transferred out		(7) Not Evaluated		(1 to 7) Grand Total		
M	F	T	**1. Pulmonary Bacteriologically Confirmed**	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	**Total**
			1.1 New/ Treatment History Unknown																	
			1.2 Relapses																	
			1.3 Treatment after failure																	
			1.4 Treatment after loss to follow up																	
			1.5 Others Previously Treated																	
			1.6 Total																	
M	F	T	**2. Pulmonary Clinically Diagnosed**	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	**Total**
			2.1 New/ Treatment History Unknown																	
			2.2 Relapses																	
			2.3 Treatment after failure																	
			2.4 Treatment after loss to follow up																	
			2.5 Others Previously Treated																	
			2.6 Total																	

Sputum Conversion Rate

New		**Retreatment**	

Comment (if any):

Annex-4

Government of the people's Republic of Bangladesh
Directorate General of Health Services
Mohakhali, Dhaka
Reporting Format for TB/HIV Referral

Reporting Period: Quater..... 20..... **VCT Center name .....**

Block A: ***Distribution of HIV+ve among TB patients***

Category of TB Cases	# Tested for HIV		# HIV positive		# Access to ARV		# Contrimoxazole		CD 4 Monitiring		Dead	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
New Pulmonary Smear Positive												
New Pulmonary Smear Negative												
Extra Pulmonary TB												
Relapse												
Failure/Default/Other												

Block B: ***Distribution of HIV+ve among TB patients***

Category of Patients	# Screened for TB		# TB diagnosed					
			Positive		Negative		EP	
	Male	Female	Male	Female	Male	Female	Male	Female
# of HIV positive cases								
# of AIDS cases								
# Most at Risk group								

Age-group of TB/HIV patients																		
0-4		5-14		15-24		25-34		35-44		45-54		55-64		>=65		TOTAL		Grand Total
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	

Report submitted by (Name & Designation): ..... **Date.....**

Annex-4

NATIONAL TUBERCULOSIS CONTROL PROGRAMME
Directorate General of Health Services, Bangladesh
Tuberculosis Register

TB 03

Sputum examination : Upper space Result; Lower space Lab. Serial number and Date								**Treatment Outcome and Date**						**TB/HIV activities**				**Remarks**
Pretreatment				Follow up smear				**Outcome						HIV Result	***ART	****CPT	*****IPT	
Smear 1	Smear 2	*(Xpert MTB/ RIF result if done	X-Ray Result	2nd (new) 3rd (Retreatment) month	5th month	6th month	8th month or more	1. Cured	2. Treatment completed	3. Died	4. Treatment Failure	5. Lost to follow up/ Defaulted	6. Transferred/ Not Evaluated	Positive/ Negative (P/N) (Date)	Y/N (Start date)	Y/N (Start date)	Y/N (Date)	

* **Xpert MTB/Rif test result reported as follows:**
T = MTB detected, Rif resistance not detected; RR = MTB detected, Rif resistance detected; TI = MTB detected, Rif resistance indeterminate;
N = MTB not detected; I = invalid/ no result/ error.

***ART-Anti retroviral Therapy
****CPT-Cotrimoxazole Preventive Thearpy
***** IPT-Isoniazide preventive therapy.

** **Enter date in the appropriate code:**
1. Cured : Treatment completed and negative smear results on 2 or more consecutive occasions at 5 months and at the end of the treatment.
2. Treatment completed : Full course of Rx completed but sputum result is not available. 3. Died : Patient known to have died from any cause during treatment.
4. Treatment failure : A TB patient whose sputum smear or culture is positive at month 5 or later during treatment. or A new or retreatment smear-positive patient who was diagnosed with DR TB during the course of treatment or A patient who was initially smear-negative and was found smear-positive at the end of the second month of treatment
5. Lost to follow up : A TB patient whose treatment was interrupted for 2 consecutive months or more.
6. Transferred out/not evaluated : Patient who has been transferred to another DOT Centre and whose treatment outcome is unknown to the reporting unit. Name of the where the was transferred out should be written in the remarks column.

NATIONAL TUBERCULOSIS CONTROL PROGRAMME
Directorate General of Health Services, Bangladesh
Tuberculosis Register

TB 03

Date of Registration	TB Registration No.	e-TBM No.	Name in full	Sex M/F	Age	Occuparion	Address in full	Name of treatment unit	Date of start of treatment and category	Disease classifiction P/EP	*Type of patient							
											New (N)	Relapse (R)	Transfer in (T)	Treatment after Loss to follow up (L)	Treatment failure (F)	Other Specify (O)	Refd by	Remarks

***Enter the appropriate code:**
N = New case : a patient, who has never taken tuberculosis drugs or has taken drugs for less than a month.
R = Relapce : a previously treated patient, who was declared cured, but is now smear-positive again.
T = Transfer in : a patient, who has been transferred from one reporting unit to another. For transfer in patient name of the center from where patient was transferred out should be written in the remarks column.
L/D = Treatment after loss to follow up/default : a patient who returns to treatment after having interrupted for who consecutive months or more.
F = Treatment failure : A TB patient whose sputum smear or culture is positive at month 5 or later during treatment. or A new or retreatment smear-positive patient who was diagnosed with DR TB during the course of treatment or A patient who was initially smear-negative and was found smear-positive at the end of the second month of treatment
O = Others : patient, who cannot be classified to any previous category.

Annex: 5

Government of the People's Republic of Bangladesh
National Tuberculosis Control Programme
Directorate General of Health Services
Mohakhali, Dhaka

Register for Presumptive TB cases Referred from HTS to DOTS centre

SL No	Date	Name	Sex	Age	Address	Occupation	Referred to	Reason for referral	Laboratory Result			Signature	Remarks
									Microscopy	Xpert MTB/RIF	Others (Specify)		

Annex 6

List of 'Priority Districts' for HIV

Indicators	Priority districts (23 districts)	Remaining districts (41 districts)
The following indicators are used for district selection: KP size, HIV case reporting (cumulative), HIV prevalence, program "Reach"	**Barisal Division:** Barisal **Chittagong Division:** Chittagong, Comilla, Cox's Bazar, Chandpur, Noakhali **Dhaka Division:** Dhaka, Gazipur, Kishoreganj, Mymensingh, Narayanganj, Tangail **Khulna Division:** Bagerhat, Jessore, Khulna, Sathkhira **Rajshahi Division:** Bogra, Chapai Nawabganj,Rajshahi **Rangpur Division:** Dinajpur (Hili) **Sylhet Division:** Moulvibazar, Sunamganj,Sylhet	**Barisal Division:** Barguna, Bhola, Jhalokati, Patuakhali, Pirojpur **Chittagong Division:** Bandarban, Brahmanbaria, Feni, Khagrachhari, Lakshmipur, Rangamati **Dhaka Division:** Faridpur, Gopalganj, Jamalpur, Madaripur, Manikganj, Munshiganj, Narsingdi, Netrakona, Rajbari, Shariatpur, Sherpur **Khulna Division:** Chuadanga, Jhenaidah, Kushtia, Magura, Meherpur, Narail **Rajshahi Division:** Joypurhat, Naogaon, Natore, Pabna, Panchagarh, Sirajganj, Thakurgaon **Rangpur Division:** Gaibandha, Kurigram, Lalmonirhat, Nilphamari, Rangpur **Sylhet Division:** Habiganj

National TB Control Program

National AIDS/STD Program

World Health Organization
Country Office for Bangladesh