



**TUBERCULOSIS AND HIV  
POLICY, STRATEGY, AND PRACTICAL GUIDELINES  
2007-2010**

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**Abbreviations**

AIDS	Acquired Immune Deficiency Syndrome
APHI	Afghan Institute for Public Health
ART	Anti Retroviral Therapy
ARV	Anti RetroViral
BCC	Behavior Change Communication
BHC	Basic Health Center
BPHS	Basic Package of Health Services
CGHN	Consultative Group for Health and Nutrition, MOPH
CHC	Comprehensive Health Center
DOTS	Directly Observed Treatment Short Course
EMRO	Eastern Mediterranean Regional Office (WHO)
EPHS	Essential Package of Hospital Services
HACCA	HIV and AIDS Coordination Committee of Afghanistan
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
IBBS	Integrated Behavioral and Biological surveillance
IDU	Injecting Drug Users
INH	Isoniazid
MOCN	Ministry of Counter Narcotics
MOPH	Ministry of Public Health
MSM	Men having Sex with Males
NACP	National AIDS Control Program
NGO	Non-Government Organization
NTP	National TB Program
OI	Opportunistic Infection
PLHIV	People Living with HIV
PMTCT	Preventing Mother to Child Transmission
RTI	Reproductive Tract Infection
STI	Sexually Transmitted Infection
SW	Sex Workers
TAG	Technical Advisory Group, MOPH
TB	Tuberculosis
UNAIDS	United Nations Programme on HIV/AIDS
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

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## Table of Contents

### Abbreviations

	<b>Page</b>
A. Policy for TB and HIV in Afghanistan	5
1. Introduction	
2. Epidemiology of TB and HIV in Afghanistan	
3. National TB and HIV Policy	
B. Strategy for TB and HIV Services	9
4. Targets and Focus for TB and HIV Services	
5. TB and HIV Coordination	
6. Surveillance, Monitoring and Evaluation	
7. Capacity Development	
8. Creating Awareness for TB and HIV Services	
C. Practical Guidelines for TB and HIV Services	12
9. TB and HIV Continuum of Care	
10. Referral	
11. Health Care Worker Competency	
12. Ancillary Services for Patients	
Annexes	20
1. List of MOPH Documents	
2. List of References	
3. Sample Referral Form	

## **A. POLICY FOR TB AND HIV IN AFGHANISTAN**

### **1. Introduction**

1. Afghanistan has a high prevalence of TB infection, and is included among the 22 TB high-burden countries of the world (WHO, 2007). Afghanistan is currently categorized as a low level HIV prevalence country, with reported low prevalence of associated risk behaviors among TB patients (Final Report, 2006). However, certain groups, particularly injecting drug users (IDU), may face a concentrated HIV epidemic due to a rising prevalence of HIV among this group and high prevalence of risk behavior (ANASF, 2006). Thus, TB and HIV care and prevention programs are a priority for Afghanistan, with an initial focus on most-at-risk populations such as IDUs and for persons in congregate settings, that is, prisons.

2. The TB and HIV Policy, Strategy, and Practical Guidelines 2007-2010 establishes a framework for national TB and HIV services conducted by the National Tuberculosis Program (NTP), the National AIDS Control Program (NACP) and many NGOs, partners, and stakeholders in Afghanistan to meet the epidemiological conditions of HIV and TB co-infection. Both the NTP and NACP have guiding documents which should be referenced in combination with this TB and HIV document. The TB and HIV policy sets out evidence-based principles to guide and define decision making and the process of service implementation. Practical TB and HIV guidelines accompany the strategy and policy to indicate the actions required for implementation and successful achievement of the strategy.

3. This document was prepared by the ad hoc TB and HIV Task Force Committee formed in 2006 by the NTP and NACP in response to the WHO Eastern Mediterranean Region Office (EMRO) objective for member countries to have a functional collaborating mechanism between national HIV and TB programs and other stakeholders in place by the end of 2007. This document was circulated amongst NGOs, stakeholders, and partners and through the HIV and AIDS Coordinating Committee of Afghanistan (HACCA) and the National TB Task Force Committee. These committees then submitted this document in 2007 to the Consultative Group for Health and Nutrition (CGHN) for review and submission to the Technical Advisory Group (TAG), MOPH for approval. Once the TAG approved this document, it was passed to the Minister of Public Health for endorsement.

### **2. Epidemiology of TB and HIV in Afghanistan**

4. HIV is the most powerful known factor governing the progression from TB infection to active TB. Where TB and HIV coexist, the risk of developing active TB disease is estimated to be 5%-15% per year, as opposed to 5-10% lifetime risk in the non-HIV-infected. TB leads to more rapid progression to AIDS, and considerably shortens the survival of PLHIV. Because of the close link between TB and HIV, ideally, any patient diagnosed with TB should be offered HIV testing and counseling, and any patient diagnosed with HIV should be screened for TB. Where levels of TB infection are significant, the introduction of HIV will have a dramatic effect leading to a general increase in TB transmission for those who are and are not infected with HIV.

5. HIV infection can fuel the TB epidemic by increasing the susceptibility to TB infection, by promoting progression to active TB, and by increasing the rate of recurrent TB (WHO, 2007). HIV infection impacts standards for TB treatment, as HIV infection introduces diagnostic challenges not present in immune-competent individuals. TB at the same time is one of the leading causes of HIV-related morbidity and mortality. The World Health Organization (WHO) reports that, globally, one-third of the 40 million people living with HIV (PLHIV) are co-infected with TB and that TB accounts for up to 33% of AIDS deaths worldwide. As approximately half of the PLHIV develop TB and TB co-infection has an adverse effect on HIV progression, HIV and TB co-infection poses further challenges due to possible interference of the respective treatment regimens.

6. Afghanistan is categorized as III (3) country for TB and HIV activities, due to its low level HIV prevalence, according to the WHO Interim Policy on Collaborative TB/HIV activities (WHO, 2004), which provides guidance on starting recommended TB and HIV activities as shown in Figure 1. For Category 3 countries, WHO recommends national TB and HIV planning to conduct surveillance and to decrease the burden of TB in people living with HIV through intensified TB case finding, isoniazid preventive therapy, and TB control in health care and congregate settings.

**Figure 1. Categories of Countries to Start Recommended Collaborative TB and HIV activities (WHO, 2004)**

Category	Criteria	Recommended collaborative TB and HIV Activities
<b>I</b>	Countries in which the national adult HIV prevalence is >1%	<p><b>A. Establish the mechanisms for collaboration</b></p> <p>A.1. Set up a coordinating body for TB and HIV activities effective at all levels</p> <p>A.2 Conduct surveillance of HIV prevalence among tuberculosis patients</p> <p>A.3 Carry out joint TB and HIV planning</p> <p>A.4 Conduct monitoring and evaluation</p> <p><b>B. Decrease the burden of tuberculosis in people living with HIV</b></p> <p>B.1 Establish intensified tuberculosis case-finding</p> <p>B.2 Introduce isoniazid preventive therapy</p> <p>B.3. Ensure tuberculosis infection control in health care and congregate settings</p> <p><b>C. Decrease the burden of HIV in tuberculosis patients</b></p> <p>C.1 Provide HIV testing and counseling</p> <p>C.2 Introduce HIV prevention methods</p> <p>C.3 Introduce co-trimoxazole preventive therapy</p> <p>C4. Ensure HIV and AIDS care and support</p> <p>C.5 Introduce antiretroviral therapy</p>
<b>II</b>	<p>Countries in which the national adult HIV prevalence rate is below 1%</p> <p>AND</p> <p>In which there are administrative areas</p>	<p><b>Administrative areas with &gt;1% adult HIV prevalence:</b> implementation of all activities as in category I countries in the administrative areas identified.</p> <p><b>Other parts of the country:</b> implementation of activities as in category III countries.</p>

	with an adult HIV prevalence rate of >1%	
<b>III</b>	<p>Countries in which the national adult HIV prevalence rate is below 1%</p> <p>AND</p> <p>In which there are no administrative areas with an adult HIV prevalence rate of &gt;1%</p>	<p><b>A. Joint national TB and HIV planning to implement:</b> A.2 Conduct surveillance of HIV prevalence among tuberculosis patients</p> <p><b>B. To decrease the burden of tuberculosis in people living with HIV/AIDS (with focus on most at risk groups for HIV and tuberculosis, e.g. injecting drug users, sex workers, and those living in congregate settings)</b> B.1 Establish intensified tuberculosis case-finding B.2 Introduce isoniazid preventive therapy B.3 Ensure tuberculosis infection control in health care and congregate settings.</p>

**7. Current Situation of Tuberculosis.** Afghanistan has one of the highest incidence rates of TB in the Eastern Mediterranean Region (EMR) and belongs to the 22 TB high-burden countries of the world. The estimated prevalence of TB cases is 288 per 100,000 population as based on 2005 statistics (WHO, 2007). The estimated annual incidence for all active TB cases is 168 per 100,000 and 76 per 100,000 for pulmonary sputum smear positive patients. The TB mortality rate is 35 per 100,000 population (WHO, 2007). The NTP aims to achieve 70% TB case detection and 85% TB case treatment (NTP, 2005).

**8. Current Situation of HIV.** Afghanistan is a low prevalence country with high prevalence of risk behaviours among certain high risk groups, like IDUs (ANASF, 2006). The current epidemiological situation in Afghanistan is not completely described, but there is evidence of HIV prevalence among an undefined number of most at risk persons and TB patients. One study among IDU in Kabul indicates HIV prevalence of 3% (Todd, 2007). A study among TB patients indicates HIV prevalence of 0.2% (Final Report, 2006). HIV is transmitted mainly through unsafe sexual activity and through unsafe sharing of drug injecting equipment. In addition, unsafe blood transfusion may also result in HIV transmission and among mothers with HIV, transmission to their new born babies may occur. PLHIV live with stigma and discrimination which contributes to limitations in their access to quality health care services for HIV and TB (WFP, 2006). From all available observations, the HIV epidemic in Afghanistan follows the pattern of the Asian HIV Epidemic Model (Asian Epidemic Model, T. Brown, 2004) where a national HIV epidemic begins with increased transmission among most-at-risk groups then bridging to the general population, where the speed and severity of the epidemic is related to numbers of most-at-risk groups and extent of prevention, including use of condoms and safe injecting equipment. The NACP aims to maintain less than 0.5% HIV prevalence among the general population and less than 5.0% in any vulnerable group.

9. The NTP of the MOPH and the NACP of the MOPH have central responsibility for the planning and implementation of their respective disease programs and joint responsibility for any resultant TB and HIV programs. However, the most at risk groups and those who are detained in congregate settings, that is, prisons, are very much under the authority of the Ministry of Justice, the Ministry of Interior, including the police and prison authorities. Therefore, coordination of TB and HIV is a highly multi-sectoral responsibility. The national documents are listed in Annex 1 and other references are in Annex 2. The national approach to TB and HIV co-infection in

Afghanistan is based on the epidemiological situation in context of the respective continuum of prevention, treatment, care, and support for TB and HIV. Specifically, the low prevalence of HIV and the high prevalence of TB presently limit the incidence of co-infection in the general population and the policy reflects this. At the same time, the increased incidence of HIV observed in certain most-at-risk groups (such as IDUs) and the high rate of incidence of TB requires a targeted TB and HIV response, as discussed below.

### **3. National HIV and TB Policy**

10. The national TB and HIV policy aims to:

- Decrease the burden of TB in PLHIV by intensified TB case finding, introduction of isoniazid preventive therapy, and TB treatment under Directly Observed Treatment, Short course (DOTS), care and support where HIV-infected people are concentrated such as in most-at-risk groups, such as IDU, and in congregate or contained settings, such as prisons.
- Decrease the burden of HIV in TB patients by providing HIV testing and counseling, improved knowledge of HIV prevention methods among TB medical workers, and introduction of co-trimoxazole preventive therapy.



## **B. STRATEGY FOR TB AND HIV SERVICES**

### **4. Targets and Focus for TB and HIV Services**

11. Targets for TB and HIV services for 2007-2010 include establishing the mechanisms for collaboration of health, police, and prison authorities at national and provincial levels, conduct TB and HIV surveillance in Level 1 TB provinces, and decrease the burden of TB in most-at-risk groups and PLHIV by establishing intensified case finding, isoniazid preventive therapy, and ensure TB infection control in health care and congregate or prison settings in those same provinces.

12. The first stage for TB and HIV services for the period 2007-2010 is for most-at-risk groups, including IDUs, as well as persons living in congregate settings, such as prisons (Kabul, Herat, and Kandahar initially) to be provided by NGOs with referral to NTP for TB care or HIV Centers for ART care. While the reported number of PLHIV is currently about 300 in Afghanistan, the estimated number of PLHIV is given as 2000 (UNAIDS, 2006), mainly from most-at-risk groups. Expected coverage of IDUs by NGOs from 2007-2010 is about 1800 in Kabul, Herat, Mazar, and Jalalabad with an additional 1200 IDUS in Kandahar, Ghazni and Kunduz. Information on the numbers of prisons and prisoners is not widely available, nor on the prevalence of TB and drug use in prison, though about 15000 prisoners are included in about 34 provincial prisons (UNODC, 2007).

13. Second, NTP will train and upgrade MOPH staff in NTP provincial TB centers in TB and HIV coinfection located in the main cities in the Grade 1 TB Provinces (Kabul, Ghazni, Kandahar, Herat, Mazari Sharif, Kunduz, Badakhshan, and Nangarhar) with access to HIV health centers in Kabul, Herat, Jalalabad in Nangarhar province, Mazari Sharif in Balkh province, and Faizabad in Badakhshan province.

14. Third, NGOs may expand their TB and HIV services as appropriate in their provincial BPHS care plans. TB and HIV services for TB patients and others with HIV within the mainstream population are included within the national BPHS and EPHS system, which is the first point of contact for TB and HIV services at this time. In 2006, BPHS CHC and DH conducted about 10000 HIV tests and carried the main burden of TB case finding. The BPHS and EPHS is operated by NGOs contracted by the MOPH to provide services at more than 1000 facilities, including 132 district, provincial, and national hospitals, 412 comprehensive community health centers, 379 basic health centers and 90 other health posts (NTP, 2005). Coordination of TB and HIV services will require national and subnational co-ordination between the NTP and the NACP and their respective and mutual partners, including NGOs and donor partners through the provincial health offices.

### **5. TB and HIV Coordination**

15. Coordination of TB and HIV services requires strengthening of the national TB and HIV Task Force and expansion to provincial levels under the provincial health offices. These national and provincial task forces will ensure participation of the national disease programs as well as service delivery providers and beneficiaries. This coordination is essential for efficient and effective service provision, referral, and quality of care for a more successful response to both HIV and TB. These

coordination groups should include representatives of prison and police authorities as well.

16. The MOPH has overall responsibility for the coordination of all TB, HIV and joint TB and HIV co-infection services at national and provincial levels. The MOPH includes several high level committees engaged in review and oversight of technical issues, including TB and HIV services. Possible conflict will be mitigated by the Director General of Preventive Medicine and PHC and by other responsible Directors General (Provincial DG for BPHS, APMI DG for laboratory, Curative DG for blood bank, Policy DG for planning and information). NACP stakeholders are coordinated through the HACCA, which is a multisectoral body of government agencies, donor partners, NGOs, and PLHIV. HACCA includes one working group assigned to Quality of Care, which includes responsibility for TB and HIV services. The NTP is coordinated by the National TB Taskforce Committee. The MOPH will establish a national TB and HIV Collaboration Working Group composed of managers and providers for coordination of TB and HIV services. This national TB and HIV Collaboration Working Group will support establishment of provincial TB and HIV Collaboration Committees through the provincial health offices, which will be composed of managers from BPHS and HIV NGOs working in the provinces, as well as prison authorities, and TB patients and PLHIV at national, state and district levels.

17. TB and HIV services for the most-at-risk for HIV and PLHIV, including those in congregate or prison areas, are to be included in services provided by NGOs contracted by the MOPH to provide HIV prevention, treatment, care, and support. Coordination of these NGOs within the provincial health offices will ensure that marginalized PLHIV are informed of the risks of TB co-infection and can access mainstream TB services and HIV treatment, care, and support.

18. This TB and HIV policy, strategy, and guidelines should be used in conjunction with other related national policies and guidelines including:

- National infection policy guidelines
- National HIV Code of Ethics, MOPH, 2007
- NTP Guidelines, MOPH, 2005
- Standard Operational Procedures for TB Case Detection and Treatment, MOPH, 2005
- HIV Testing and Counseling Guidelines, MOPH, 2007.
- Harm Reduction Strategy and Guidelines, MOPH and MOCN, 2006
- Anti Retroviral Therapy (ART) Guidelines, MOPH, 2007

## **6. Surveillance, Monitoring and Evaluation**

19. Second generation HIV surveillance of TB patients will be conducted on occasion by the MOPH through randomized integrated behavioral and biological surveillance (IBBS) studies. Surveillance of TB and HIV prevalence among prison populations is a high priority, considering the close concentration of drug users in environmental conditions which may contribute to TB and HIV infection.

20. Monitoring and evaluation is based on data obtained from district and provincial services through the MOPH HMIS and related information systems. For TB, this data consists of reports obtained from BPHS and other health care centers about TB control

activities. For HIV, this data consists of reports from HIV testing in BPHS and HIV health centers, giving a rate of 1 per 10,000 population, and from 27 centers of Blood Bank which tests blood donations for HIV contamination, giving a rate of 1 per 100,000 population. In addition, HIV IBBS provides data on HIV prevalence at the rate of 1 per 100 population among most-at-risk groups, such as IDU and SW.

## **7. Capacity Building**

21. Training for TB and HIV services is needed to ensure that health services can provide quality TB and HIV services, including diagnosis of TB in HIV patients. The national programs will ensure the development and dissemination of practical clinical guidelines for TB and HIV for managerial and clinical staff. For all staff, these skills include the primary ethical practice principles of informed consent, confidentiality, and respect of persons as described in the HIV service code of ethics (MOPHB 2007) and the national health strategy (NHP 2005). For TB staff, these skills include recognition of risk factors for and recommendation of TB patients for HIV testing and counseling. For HIV staff, these skills include case finding and referral of HIV patients and high risk persons for TB screening. As both the NTP and NACP have regular training courses for improving knowledge and practices of the health workers on TB and HIV, joint TB and HIV service modules will be integrated.

## **8. Creating Awareness for TB and HIV Services**

22. Coordinating IEC is essential to develop relevant messages for key policy makers, health care workers, and patients. Key policy-makers and health care workers need to be sensitized to prioritize TB and HIV co-ordination and services. Health care workers need to understand co-infection of HIV and TB, universal precautions, safe injection practices, and avoiding stigma and discrimination related to HIV and TB. Patients need to be educated to recognize the symptoms of TB, how to prevent HIV, and to seek appropriate health care. These messages should foster knowledge and awareness that:

- HIV is preventable mainly by safe sexual activity and safe injection practices.
- HIV is treatable through ART.
- TB is curable through DOTS.
- HIV prevention is essential to the control of TB.

## C. PRACTICAL GUIDELINES FOR TB AND HIV SERVICES

### 9. TB and HIV Continuum of Care

23. The TB continuum of care includes case finding, screening, physician and laboratory evaluation, with DOTS available for therapy as shown in Figure 2.. Since TB services are integrated into BPHS, when a patient presents with a cough lasting for more than two (2) weeks, he or she is referred for TB examination and case detection. Sputum microscopy is provided at BPHS health facilities, mostly at provincial, district hospitals, CHCs, and BHC Plus centers. In general, when a patient is diagnosed with TB, he or she will be referred for standard DOTS care and treatment. It is at this point, when the TB patient is confirmed as TB positive, that the TB health worker will recommend HIV testing for the patient. The TB continuum of care is provided by staff in facilities and laboratories under the direct administration of BPHS at the district level with technical supervision of the NTP at the provincial and national level.

24. The HIV continuum of care includes prevention, treatment, and support as shown in Figure 2. Most-at-risk groups, such as IDUs, SWs, and prisoners, in urban and congregate settings are reached by NGOs who provide a comprehensive package of services (see below) including intensified TB case finding. Other vulnerable groups, such as truckers, are also reached by NGOs. Others, such as migrant workers and returnees, are reached through BPHS services. HIV positive patients are to be counseled on prevention and treatment and care options, either by the primary care provider or by referral to HIV health centers in certain urban areas, which also (will) have laboratory monitoring facilities and ART.

**Figure 2. Afghanistan Comprehensive TB and HIV Services**

Intervention	Essential services	Monitoring performance Indicator	Multi sector partners & opportunities to scale up coverage
1. RTI/STI case management	•Syndromic management (oral/anal STIs), single shot antibiotic treatment option	% STI cases assessed & treated (& advised on consistent condom use & partner treatment)	Prison based clinics. Health centers Private health services
2. HIV preventive services	<ul style="list-style-type: none"> <li>• Testing and counseling, PMTCT, RTI</li> <li>• Referral for ART</li> <li>• Community based response</li> <li>• Promotion of knowledge &amp; consistent condom use</li> </ul>	% Consistent condom use in different population groups (including sex workers and clients)  % voluntarily accessing HIV/STI services	BPHS health centers Prison based clinics Peer educators
3. Comprehensive IDU program	<ul style="list-style-type: none"> <li>•Needle, syringe exchange</li> <li>•Oral substitution therapy</li> <li>•Drug de-addiction</li> <li>•Referral (OI, DOTS, STI, testing and counseling, ART and PMTCT)</li> <li>•Intensified TB case finding</li> </ul>	% HIV prevalence among Injecting Drug Users  % IDUs using sterile injecting equipments  % intensified TB case finding and referral to TB for screening	Community based HR programs Prison based community driven services NGO Peer educators Strategic Communications Sensitization of prison and legal system

4. MSM services	<ul style="list-style-type: none"> <li>•Commodity supply (lubricants &amp; condoms)</li> <li>•Community based response/ risk reduction services,</li> <li>• Referral STI services</li> </ul>	% HIV prevalence among MSMs  % consistent condom use among MSM  % intensified TB case finding and referral to TB for screening	Community driven NGO Peer educators BCC Communications Sensitization of prison and legal system
5. Intensified TB Case finding	<ul style="list-style-type: none"> <li>• clinical history of coughing</li> <li>• Referral to TB services for screening</li> </ul>	% intensified TB case finding and referral to TB for screening.	BPHS health centers Urban HIV centers Community based services for most-at-risk
6. TB suspect management.	<ul style="list-style-type: none"> <li>• Identification and registration of TB suspect in clinic</li> <li>• Collection of three sputum sample from each TB suspect</li> <li>• Transportation of sputum samples to laboratory</li> </ul>	% of TB suspect patients identified.  Average of sputum samples collected  % of sputum samples transferred.	BPHS health center Prison based clinic
7. Sputum smear microscopy.	•Direct examination of sputum and registration	% of smear positive patients diagnosed	BPHS health centers Prison based clinic Designated laboratory outside of the prison
8. Follow up of diagnosis	<ul style="list-style-type: none"> <li>• Antibiotic therapy</li> <li>• Chest X ray</li> </ul>	% of TB patients diagnosed SS-	Prison based clinic BPHS center
9. Anti TB chemotherapy	<ul style="list-style-type: none"> <li>• Provision of TB drugs</li> <li>• Monitoring of treatment by sputum smear microscopy</li> <li>• Direct Observed Therapy</li> </ul>	% of TB patients received CAT1, CAT2, CAT3 regimens % of TB patients their sputum converted % of under DOT TB patients (must be 100%)	Prison based clinic BPHS center
TB contact management (within domiciles)	<ul style="list-style-type: none"> <li>• Screening of contact</li> <li>• INH for chemoprophylaxis</li> <li>• Anti TB therapy for diagnosed TB patients among contacts</li> </ul>	% of contacts diagnosed SS+	Prison based clinic BPHS center

## 25. Diagnostic difficulties in persons with TB and HIV Coinfection ( from HIV-TB Co-infection - A Guide for Medical Officers, NACO, India)

- a) Patients with HIV have frequent pulmonary infections. Each time such an infection occurs, the patient must be evaluated for TB. The causes of respiratory infections are *Pneumocystis carinii* pneumonia, Bacterial pneumonia, suppurative lung and sinus disease, *Mycobacterium TB*, *Mycobacterium avium* complex and cytomegalovirus. *Mycobacterium TB* infection develops when the CD4 count falls below 400/ml as compared to other infections which develop when the CD4 counts falls much below 250/ml. Thus it means that one of the earlier infections to occur in an HIV positive is *Mycobacterium Tuberculosis*. It may therefore happen that TB is diagnosed much earlier than the HIV infection in such patients.

- b) The clinical, laboratory and radiographic picture of TB in an HIV infected person varies depending on the patient's degree of immuno-suppression. Cough is generally reported less frequently, probably because there is less cavitation, inflammation and endo-bronchial irritation as a result of a decrease in cell-mediated immunity. Similarly, haemoptysis, which results from caseous necrosis of the bronchial arteries, is less common in HIV-infected patients.
- c) In the early stages of HIV infection when the immune system is relatively intact, the clinical spectrum of TB, sputum smears and X-ray findings are similar to a non-HIV infected TB patient. Disease is generally localized to the lungs; sputum smears show presence of Acid Fast Bacilli and X-rays will reveal typical apical infiltrates and cavitary lesions.
- d) As the immunity decreases in later stages of HIV infection, there is atypical presentation of TB. Extra-pulmonary TB is more common than Pulmonary TB. Amongst Extra-pulmonary TB: lymphadenitis, pleural effusion, pericardial disease, miliary TB and meningeal TB are seen to occur more frequently. Sputum smears are more likely to be negative in the advanced stages. HIV-infected smear-positive patients also tend to excrete fewer organisms per ml of sputum than HIV-negative patients, which can lead to AFB being missed if the appropriate number of high power fields are not examined by microscopy. X-ray findings are atypical with hilar adenopathy, lower lung infiltrates and absence of cavitations. It is important to note that HIV infected patients with pulmonary TB may have a normal chest X-ray.
- e) Important HIV-related pulmonary diseases which may be confused with pulmonary TB include bacterial pneumonia, *Pneumocystis carinii* pneumonia, Kaposi's sarcoma, fungal infections and nocardiosis.
- f) Extra-pulmonary disease has been reported in up to 70% of HIV-related TB cases when the CD4 lymphocyte count is less than 100. The definitive diagnosis of extra-pulmonary TB is often difficult because of the scarcity of diagnostic facilities.

**26. The following guidelines are related with HIV services.**

- a) **HIV Rapid Testing.** When a most at risk person is observed coughing for at least two weeks, NGO care providers should recommend HIV testing before referral for TB screening. The main reason for this is that diagnosis of TB in HIV positive persons is easily masked. This test can be provided by NGOs in care of most at risk groups, in BPHS health centers throughout Afghanistan, as well as at HIV health centers in certain cities (Kabul, Jalalabad, Herat, Mazari-Sharif, and Faizabad). Other private health care providers may also conduct this test. Trained counselors should assist the person to understand the process. The test can be conducted by a trained medical person. In the event that one rapid test of high sensitivity is returned positive, another rapid test of a different assay with complementary high specificity should be conducted. If two rapid tests of different assays are positive, a third rapid test or other confirmatory test should be done to confirm serostatus (WHO 2007). Ethical practice requires that HIV test results are confidential. Following the third test, the person should be counseled that he or she is HIV positive and linked to on-going follow-up services. Counseling also includes information on how to prevent HIV transmission to others, to understand their symptoms for opportunistic infections, and to seek regular medical care that may include ART when needed.

- b) When a person is TB positive, the TB care provider should recommend HIV testing to determine their HIV status as part of the clinical history.
- c) **Universal Precautions.** Given the prevalence of TB and HIV co-infection, it is essential that staff are trained and practice the highest standards of universal precautions and that strict adherence to sterilization and high level disinfection procedures are maintained. When needles and syringes are used in any medical treatment, such as treatment of TB with Streptomycin injection, every health care worker must be trained to strictly adhere to using a single sterile needle and a single sterile syringe only once for each injection given to a single patient and disposing of the sharp instrument in a way to protect themselves and others and prevent re-use. Targeted programs for universal precautions and safe waste disposal are a priority for both national programs.
- d) **Isoniazid Preventive Therapy.** Isoniazid preventive therapy reduces the chance that an HIV-positive contact of a TB patient will develop TB disease. However, it is very difficult to rule out TB disease in an HIV-positive patient. An HIV-positive TB suspect should be evaluated by a doctor/medical officer in order to rule out active TB disease. Isoniazid preventive therapy **must not be given** to any child or adult who has active TB disease. If needed, INH 5mg per Kg bodyweight for HIV positive person without TB should be provided for a six month period.

**27. The following guidelines are connected with TB treatment protocols.**

- a) TB staff will be trained on treating smear-negative pulmonary TB, which can increase in association with a TB and HIV co-epidemic. However, the lack of a widely available "gold standard" diagnostic test for smear-negative pulmonary TB often makes it difficult to distinguish other HIV-related pulmonary diseases from pulmonary TB. The extent of over-diagnosis of smear-negative pulmonary TB is, therefore, uncertain. Recommended diagnostic guidelines given by the NTP must be followed as closely as possible in order to raise clinical suspicion of and accurately diagnose smear-negative pulmonary TB (NTP 2005).
- b) HIV-infected patients are more likely to have lymphadenopathy, pleural effusion miliary, or other manifestations of extra-pulmonary TB as immune suppression increases. Even in HIV-infected patients, pulmonary TB is still the commonest form of TB. The presentation depends on the degree of immunosuppression. Figure 3 below shows the clinical picture; sputum smear result and chest X-ray appearance often differ in early and late HIV infection.

**Figure 3. How Pulmonary TB Differs in Early and Late HIV Infection (TB/HIV A Clinical Manual, WHO, 2004).**

	Stage of HIV infection	
	Early	Late
Clinical picture	Often resembles post-primary pulmonary TB	Often resembles primary pulmonary TB
Sputum smear result	Often positive	Often negative
Chest X-ray appearance	Often cavities	Often infiltrates with no cavities

- c) Side effects of varying severity may occur with any anti-TB drug, however, these are more common in those infected with HIV and the risk increasing with the

degree of immunocompromise. Itching may indicate allergy, which can be treated while anti-TB drugs continue. If a rash develops, anti-TB drugs should be stopped, until the reaction is resolved. Gastrointestinal intolerance is more common in HIV positive patients and they also have a greater risk of hepatotoxicity to anti-TB drugs.

- d) The criteria used to determine treatment categories for TB patients are the same, irrespective of a patient's HIV status. Generally, anti-TB chemotherapy is the same for HIV-infected TB patients as for non-HIV-infected TB patients, with the exception of the use of thiacetazone. Thiacetazone is associated with a high risk of severe, and sometimes fatal, skin reaction in HIV-infected individuals. Ethambutol should therefore be used instead of thiacetazone in patients with known or suspected HIV infection. Thioacetazone is not currently used in Afghanistan and is not recommended due to high levels (88.9%) of drug resistance (Final Report, MOPH, 2006).
- e) Streptomycin remains useful in treating HIV-infected TB patients in countries with the capability of ensuring sterilization of needles and syringes. However, in countries with a high HIV prevalence but without the ability to ensure safe disposal of needles and syringes, streptomycin should not be used (NTP, 2005).

**28. Treatment of TB in HIV Positive Patients** (from HIV-TB Co-infection - A Guide for Medical Officers, NACO, India)

. In general, anti-TB treatment is the same for HIV-infected and HIV-negative TB patients, with the exception of the use of thiacetazone. Thiacetazone causes severe cutaneous reactions. Exfoliative Dermatitis or Steven Johnson syndrome may occur and can be fatal. Steven Johnson's Syndrome is a special type of hypersensitivity reaction. It is characterized by generalized bullous eruption, sometimes haemorrhagic involving skin and mucous membranes. In HIV positive patients, cutaneous reaction with Thiacetazone occurs more frequently and is more severe. Ethambutol should therefore be used instead in patients known or suspected of having HIV infection. Adequate sterilization and safe disposal of syringes and needles should be ensured whenever streptomycin is administered.

- a) Response to treatment: Patients who complete treatment show the same clinical, radiographic and microbiological response to short-course treatment irrespective of whether they are HIV positive or negative.
- b) Case fatality: HIV-infected patients have a much higher mortality during and after anti-TB treatment compared with HIV-negative patients. This is partly due to TB itself, but largely due to other HIV-related problems. HIV-infected smear-negative pulmonary TB patients may have a worse prognosis than HIV-positive patients with smear-positive pulmonary TB. Delays in the diagnosis of TB have been associated with worse outcomes, so initiation of treatment as soon as TB is suspected is very important.
- c) Case fatality is lower in HIV-infected TB patients treated with short-course treatment than with the standard 12-month treatment regimens, which do not include rifampicin. This is partly because short-course treatment is more effective, but may also be related to the fact that rifampicin has broad-spectrum antibacterial activity. This may decrease deaths due to HIV-related bacterial infections during anti-TB treatment.
- d) Direct observation of treatment is even more important for HIV-infected TB patients. Self-administration of treatment is associated with higher case fatality rates.



- e) Drug resistance: Outbreaks of multi-drug resistant TB have been reported in patients with HIV infection. HIV itself does not cause multi-drug resistant TB, but it fuels the spread of this dangerous condition by increasing susceptibility to infection and accelerating the progression from infection to disease.
- f) Treatment with DOTS for HIV-infected TB patients not only improves their quality of life, but also has been shown to prolong their life span by an average of two years. DOTS can prevent emergence of MDR-TB and also will reverse the trend of MDR-TB.
- g) Relapse rate of TB is low in HIV-infected TB patients who complete a full course of directly observed rifampicin containing short-course treatment regimen. The use of non-rifampicin containing regimens and treatment interruptions due to drug reactions are associated with an increased risk of relapse of TB. The relapse rates tend to be higher if they are treated with the standard regimen or a short-course treatment regimen, which uses isoniazid and ethambutol during the continuation phase, or if the treatment has not been directly observed.
- h) Failure to use DOTS in the face of HIV can lead to explosive spread of TB with cases tripling and drug resistance increasing rapidly.

**29. Treatment with Antiretroviral Therapy for HIV positive and TB patient (from HIV-TB Co-infection - A Guide for Medical Officers, NACO, India) Note-to be updated for Afghanistan by ART Working Group**

- a) Till date no cure is available for HIV/AIDS. It is only the opportunistic infections in HIV/AIDS, which can be treated. The antiretroviral drugs, which are used in HIV positive patients, are effective in slowing down the action of the virus and prolonging life. These drugs are the protease inhibitors, nucleoside reverse transcriptase inhibitors and nonnucleoside reverse transcriptase inhibitors.
- b) Nucleoside reverse transcriptase inhibitors like Zidovudine, Didanosine, Zalcitabine, Stavudine, Lamivudine and Abacavir can be safely co-administered with antituberculosis drugs.
- c) Co-administration of Rifampicin with any of the protease inhibitors (Ritonavir, Indinavir, Nelfinavir) or nonnucleoside reverse transcriptase inhibitor (Nevirapine, Delavirdine, Thioben) is contraindicated.
- d) Protease Inhibitors and Non-Nucleoside Reverse Transcriptase Inhibitors may inhibit or induce cytochrome P-450 isoenzymes and thus these drugs may alter the serum concentration of rifamycins. Rifamycins induce Cytochrome P-450 and may substantially decrease blood levels of the antiretroviral drugs resulting in the potential development of resistance. Rifabutin is a less potent Cytochrome-450 inducer than rifampicin and thus can be used concurrently with the NNRTIs (eg nevirapine, efavirenz) or with certain protease inhibitors (eg indinavir, nelfinavir).
- e) Isoniazide, Ethambutol, Pyrazinamide and Streptomycin can be concurrently used with protease inhibitors or nonnucleoside reverse transcriptase inhibitors.
- f) If protease inhibitor or non-nucleoside reverse transcriptase inhibitor is to be started after giving Rifampicin, then at least two weeks should elapse after the last dose of Rifampicin. This time gap is necessary for reduction of the enzyme inducing activity of Rifampicin prior to commencing of antiretroviral drugs.

**30. Antiretroviral Therapy for HIV Positive Individuals with Tuberculosis (WHO Recommendations- April 2002).** There is a high risk of HIV disease progression and death during the period of TB treatment (i.e., a CD4 count <200/mm<sup>3</sup> or the presence of disseminated TB). In cases where a person needs TB and HIV treatment

concurrently, first line treatment options include ZDV/3TC (lamivudine) or d4T (Stavudine)/3TC plus either an NNRTI or ABC (Abacavir). If an NNRTI-based regimen is used, EFZ (Efavirenz) would be the preferred drug as its potential to aggravate the hepatotoxicity of TB treatment appears less than with NVP (Nevirapine). However, its dosage needs to be increased to 800mg/day. Except for SQV/r (Saquinavir), PIs are not recommended during TB treatment with Rifampicin due to their interactions with the latter drug.

## **10. Referral**

31. TB and HIV services require mutual referral systems for patients. In order to decrease the burden of HIV in TB patients, TB service providers will recommend patients for HIV testing and counseling in BPHS and in urban HIV health care settings, and on completion of TB treatment for ART services when appropriate.

32. Similarly, both NGO and BPHS HIV care providers will conduct intensified TB case finding on site and refer HIV patients and most-at-risk persons for accessible TB screening. Appropriate case management to ensure access and continuity of DOTS for PLHIV and most at risk patients either at TB or NGO care centers will be determined. A sample referral form is provided in Annex 3.

## **11. Health Care Worker Competency**

33. Staff in NGOs providing care for PHLIV and most at risk should obtain basic one week TB competency training provided by the NTP. In addition, staff in BPHS and urban HIV health centers providing HIV prevention, treatment, and support as well as diagnosis, treatment, monitoring, and reporting of TB services and care will be trained to understand and apply principles of informed consent and confidentiality. Staff providing HIV services and referral will understand the practices of HIV prevention and control, with specific attention to diagnosis of TB in PLHIV (e.g., extra-pulmonary and atypical presentations), TB treatment in PLHIV, and Universal Precautions to prevent further spread of TB and HIV infection.

34. The BPHS and other NGO care providers will work together to provide coordination between facilities for diagnosis and treatment of TB and HIV cases, ideally in the same location. National programs will ensure that all staff are aware of the importance of TB and HIV co-infection, know how to intensify TB case finding, and refer such patients for TB diagnosis and treatment. TB staff should know where to refer TB patients who desire HIV services.

35. The NTP and NACP will understand and present morbidity, mortality and socioeconomic consequences of TB and HIV and the interaction between TB and HIV to external partners and private practitioners to raise awareness within the medical community. Both the NTP and the NACP involve NGOs and private practitioners to participate in TB and HIV activities. NGOs providing HIV services will collaborate with related TB services for referral as a result of intensified case finding.

36. Health care workers who are engaged in TB and HIV services should be able to:  
a) inform HIV-positive persons about the risks of developing TB.

- b) educate HIV-positive persons about the symptoms and signs of TB and the importance of reporting to the counselor in the HIV health centre at the earliest.
- c) ensure that each and every person presenting with cough for more than two weeks is referred to the designated microscopy centre for three sputum examinations.
- d) emphasize the importance of sputum examination in diagnosis of TB.
- e) emphasize that TB can be cured if regular and complete DOTS treatment is taken.
- f) emphasize that the diagnosis and treatment of TB and HIV are free of cost at government and NGO health centers.
- g) ensure that the TB and HIV patients take the drugs regularly under direct supervision, especially during the intensive phase of the treatment period.
- h) emphasize the importance of directly observed treatment.
- i) emphasize to all sputum-positive patients the importance of screening their contacts.
- j) ensure that symptomatic contacts are evaluated for TB.
- k) help patients and clients identify a convenient location for provision of treatment, care, and support.
- l) observe and provide treatment observation at the HIV health centre itself if this is feasible.
- m) keep a record of patients referred from HIV for diagnosis of TB.
- n) submit a monthly report of all the patients referred and diagnosed.

## **12. Ancillary Services**

37. Offering diagnosis and medications meet only some of the needs of TB and HIV patients. Ancillary services, such as transportation, nutritional support, treatment of addiction or other complicating conditions, and psychological support and counseling for the individual and family, also contribute significantly to the well-being of patients and their families. TB services may include ancillary services, particularly nutritional supplementation, to patients for some time, as these services are considered an intrinsic part of service delivery. HIV services include counseling and referral and transportation for medical services, along with linked services of social support and food support.

## ANNEXES

### Annex 1. National Documents

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## **Annex. 2. Reference Documents**

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WHO 2004. A Guide to monitoring and evaluation for collaborative TB/ HIV activities; WHO/HTM/TB/2004.342; WHO/HIV/2004.09; WHO 2004

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## Annex 2. Referral Form for TB and HIV Services

**NATIONAL TUBERCULOSIS PROGRAMME and NATIONAL AIDS CONTROL PROGRAM,  
MOPH, AFGHANISTAN****(FORMAT FOR THE REFERRAL OF TB PATIENTS TO HIV TESTING AND OF HIV PATIENTS AND OTHERS FOR TB SCREENING)**

PORTION A KEEP THIS PORTION NAME OF REFERRING/TRANSFERRING UNIT: TB () HIV ()		
NAME OF RECEIVING UNIT: TB () HIV ()		
NAME OF PATIENT (in full):	SEX: <input type="checkbox"/> M <input type="checkbox"/> F	AGE:
TB REGISTER No.: HIV REGISTER No.	Referring Physician	
✂ -----		
PORTION B SEND THIS PORTION WITH PATIENT NAME OF REFERRING/TRANSFERRING UNIT: TB () HIV ()		
NAME OF RECEIVING UNIT: TB () HIV ()		
NAME OF PATIENT (in full):	SEX: <input type="checkbox"/> M <input type="checkbox"/> F	AGE:
TB REGISTER No.: HIV REGISTER No.	Referring Physician	
RESULT HIV TEST 1 () Positive () Negative TEST 2 () Positive () Negative Western Blot Confirmation () Yes () No	RESULT TB SCREENING	



**Duplicate**

PORTION A KEEP THIS PORTION NAME OF REFERRING/TRANSFERRING UNIT: TB () HIV ()		
NAME OF RECEIVING UNIT: TB () HIV ()		
NAME OF PATIENT (in full):	SEX: <input type="checkbox"/> M <input type="checkbox"/> F	AGE:
TB REGISTER No.: HIV REGISTER No.	Referring Physician	
✂		
PORTION B SEND THIS PORTION WITH PATIENT NAME OF REFERRING/TRANSFERRING UNIT: TB () HIV ()		
NAME OF RECEIVING UNIT: TB () HIV ()		
NAME OF PATIENT (in full):	SEX: <input type="checkbox"/> M <input type="checkbox"/> F	AGE:
TB REGISTER No.:  HIV REGISTER No.	Referring Physician	
RESULT HIV TEST 1 () Positive () Negative TEST 2 () Positive () Negative TEST 3 () Positive () Negative or Western Blot Confirmation () Yes () No	RESULT TB SCREENING	