Regional Strategic Plan On HIV/TB

HIV TB

World Health Organization
Regional Office for South-East Asia
October 2003

REGIONAL STRATEGIC PLAN ON HIV/TB

WHO Project: ICP HIV 001, ICP TUB 001

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This document was prepared by Prof Sriram Prasad Tripathy, Dr Ying Ru J. Lo, and Dr Jai P. Narain.

Acknowledgements

The authors would like to thank the following collaborators from Thailand for arranging site visits and their valuable contributions: Dr Taweesap Siraprapasiri, Director, AIDS Division, Ministry of Public Health, Bangkok; Dr Hideki Yanai, RIT, Chiang Rai; Dr Supalert Nertsuwan, Maechan District Hospital, Chiang Rai; Dr Surachai Piyaworawong, Maechan District Hospital, Chiang Rai; and Mrs Laksami Suebsaeng, WHO Thailand.

We also thank the following persons for their valuable comments at the ad hoc HIV/TB working group meeting on 19 November 2002 in Colombo, Sri Lanka: Dr Soe Aung, Deputy Director-General, Department of Health, Yangon, Myanmar; Dr Aye Tun, National TB Programme Manager, Department of Health, Yangon, Myanmar; Dr Myint Zaw, National AIDS Programme Manager, Department of Health, Yangon, Myanmar; Dr Winai Sawasdivorn, Deputy Director-General, Department of Medical Services, Ministry of Public Health, Bangkok, Thailand; Dr Pasakorn Akarasewi, Chief of TB Group, Bureau of AIDS, Tuberculosis and STIs, Ministry of Public Health, Bangkok, Thailand; Dr Taweesap Siraprapasiri, Chief of AIDS Group, Bureau of AIDS, Tuberculosis and STIs, Ministry of Public Health, Bangkok, Thailand; Dr Tasana Leusaree, Medical Officer (AIDS), Office of Disease Prevention and Control, Region 10, Chiang Mai, Thailand; Dr Norio Yamada, TB/HIV Research Project, RIT Japan, Chiang Rai, Thailand; Dr Endang R. Sedyaningsih, The National Institute of Health Research and Development, Ministry of Health, Jakarta, Indonesia; Prof Subhash K. Hira, Director ARCON, Chennai, India; Dr K.J.R. Murthy, Mahavir Trust Hospital and Research Centre, Hyderabad, India; Dr Dermot Maher, WHO HQ, Geneva, Dr. Alexander Reid, WHO HQ, Geneva, Switzerland, Dr Reuben Granich, WHO India, Delhi, India; Dr Fraser Wares, WHO India, New Delhi, India; Dr Nani Nair, WHO SEARO New Delhi, India; Dr Emanuele Pontali, WHO SEARO Delhi, India; Dr G. R. Khatri, WHO SEARO, New Delhi, India; Dr Somsak Akksilp, WHO SEARO, New Delhi, India; and Dr N. Kumara Rai, WHO SEARO, New Delhi, India.

The TB/HIV strategy was endorsed by the national AIDS and TB programme managers from the WHO South-East Asia Region at their meeting (20-22 November 2002) in Colombo, Sri Lanka.

List of Abbreviations

AIDS	Acquired Immuno Deficiency Syndrome
ART	Antiretroviral Treatment
ARV	AntiretroViral
CSW	Commercial Sex Worker
CTD	Central TB Division
DOTS	The brand name of the internationally recommended tuberculosis control strategy (Directly Observed Treatment, Short-course)
EPTB	Extrapulmonary Tuberculosis
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
HIV	Human Immunodeficiency Virus
IEC	Information, Education and Communication
IPT	Isoniazid Preventive Treatment
NACO	National AIDS Control Organization
NAP	National AIDS Program
NGO	Non Governmental Organization
NsRTI	NucleoSide Reverse Transcriptase Inhibitors
NNRTI	Non-Nucleoside Reverse Transcriptase Inhibitors
NTP	National Tuberculosis Programme
OI	Opportunistic Infection
PI	Protease Inhibitor
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother To Child Transmission
PPD	Purified Protein Derivative
PTB	Pulmonary Tuberculosis
PT	Preventive Therapy

RIT / JATA	Research Institute for Tuberculosis of Japan/ Japan Anti-Tuberculosis Association
RNTCP	Revised National Tuberculosis Control Programme
SAARC	South Asian Association for Regional Cooperation
SEA	South-East Asia
SEAR	South-East Asia Region
SS+	Sputum Smear Positive
STI	Sexually Transmitted Infection
TB	TuBerculosis
HIV/ TB	The intersecting epidemics of HIV and TB
UNAIDS	The joint United Nations programme on HIV/AIDS
UNGASS	The United Nations General Assembly Special Session on HIV/AIDS
SEA	South-East Asia
SEARO	South-East Asia Regional Office
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

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Executive Summary

The HIV epidemic has posed major challenges to tuberculosis (TB) control efforts globally. Increasing TB case rates over the past decade in many countries in sub-Saharan Africa are largely attributable to the HIV epidemic. The extent of the HIV/TB epidemic in South-East Asia will depend on the future course of the HIV epidemic, as well as on efforts to control TB. Preventing HIV-associated TB means going beyond the full implementation of DOTS. It includes preventing HIV infection, preventing progression of latent TB infection to active disease and the provision of HIV/AIDS care and antiretroviral treatment (ART). Active TB is the most common opportunistic disease in Asia among people living with HIV/AIDS as HIV increases the likelihood of progressing from latent infection to active TB. While the double stigma of HIV and TB leads to delays in TB diagnosis and treatment, the occurrence of other HIV-related diseases results in higher mortality among HIV-infected TB patients. Despite sharing mutual concerns and a range of effective interventions for TB and AIDS control both programmes are pursuing separate courses.

The goal of the HIV/TB strategy is to reduce HIV/TB- associated morbidity and mortality through collaboration between national AIDS and national TB programmes. The objectives are (1) to decrease the burden of TB among People Living with HIV/AIDS (PLWHA) and (2) to decrease the burden of HIV in TB patients. This collaboration is based on well-defined responsibilities and the complementary nature of each programme; functional collaboration and not structural programme integration; integration into ongoing programmes; and the need to generate evidence in order to effectively respond to HIV/TB in a comprehensive manner.

This document proposes four strategies to achieve its goal and objectives:

1. Preventing HIV transmission;
2. Preventing progression of latent TB infection to active TB among HIV-infected individuals;
3. Decreasing morbidity and mortality in HIV-infected TB patients; and
4. Strengthening health systems' response to HIV/TB

The regional HIV/TB strategy encompasses:

- Key interventions and activities;
- A framework for prioritization of technical interventions according to HIV/TB epidemiology and available resources;

- Steps for implementation of collaborative HIV/TB activities; and
- Indicators for programme monitoring and evaluation.

The regional strategy identifies mechanisms and recommends areas for collaboration between the two programmes for mutual benefit. The WHO Regional Office for South-East Asia promotes the adaptation of the framework at the national level.

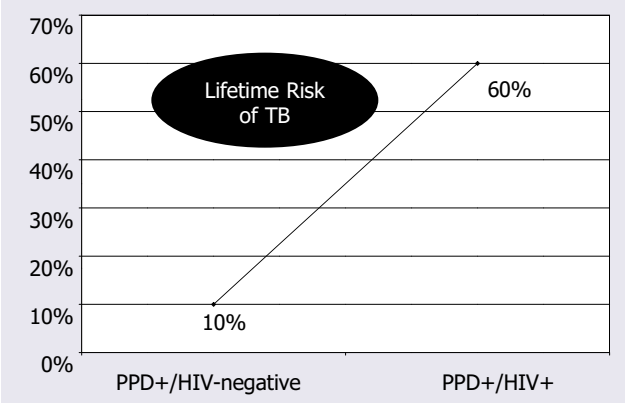
1 Introduction

Tuberculosis has been a major public health problem for centuries. The implementation of effective public health interventions for the prevention and control of TB has significantly contributed to a substantial reduction of the global disease burden. However, the emergence of the HIV epidemic has posed major challenges to TB control efforts, globally. An increase of HIV prevalence in the South-East Asia Region with 40 per cent of its population being infected with *Mycobacterium tuberculosis* (MTB), may jeopardize TB control efforts if not contained now.

HIV fuels the TB epidemic in several ways. HIV is the most potent known risk factor for progression to active TB both in people with recently acquired infection and those with latent MTB infection. The annual risk of developing TB in HIV-infected individuals co-infected with MTB ranges from 5-10 per cent. Up to 60 per cent of Purified Protein Derivative (PPD) positive people with HIV/AIDS (PLWHA) develop active TB during their lifetime compared to about 10 per cent of PPD positive HIV negative individuals (Figure 1). HIV increases the rate of recurrent TB, either due to endogenous reactivation or exogenous re-infection. Increasing TB cases in PLWHA augment the risk of TB transmission to the general community whether or not HIV-infected.

Preventing HIV-associated TB goes beyond the full implementation of DOTS. It includes preventing HIV infection in the first place, as well as preventing progression of latent infection to active disease, and the provision of HIV/AIDS care and treatment.

Figure 1: TB and AIDS



PPD = purified protein derivative

TB can occur during the early stages of HIV infection when the CD4 count is still above 200 cells/uL. The majority of HIV-associated TB cases display typical clinical patterns of pulmonary TB. As HIV-related immunosuppression increases, the clinical pattern of TB changes and is more difficult to diagnose. TB is then more likely to be disseminated with increasing numbers of smear-negative pulmonary and extrapulmonary TB manifestations.

National TB programmes in high-HIV-burden countries are reporting increasing case-fatality rates of up to 25 per cent in smear-positive patients and 40-50 per cent in smear-negative pulmonary TB patients. World-wide there were an estimated 350,000 deaths from HIV-related TB (HIV/TB) in 2000. This may be due to delayed diagnosis and treatment of TB and to morbidity of HIV-related illnesses other than TB.

The HIV/TB epidemic, with increasing numbers of HIV-infected TB patients has a negative impact on existing AIDS and TB programmes and communities. Dual stigma is common: TB patients, in particular females, fail to present for diagnosis of TB due to the stigma of TB and for fear of being labeled as having AIDS.

There is sufficient evidence that AIDS and TB programmes share mutual concerns. WHO advocates for a strong health sector response to implement HIV/TB interventions through collaborative efforts of HIV and TB programmes, rather than through a dual strategy for a dual epidemic.

Following discussions held among the Joint National AIDS and TB Programme Managers and at the two Global TB/HIV Working Group Meetings, the WHO Regional Office for South-East Asia developed a HIV/TB regional strategic plan adapted to the epidemiology and the ongoing national responses to HIV/TB in the Region. The strategy is consistent with the Global TB/HIV Strategic Framework published in 2002.

2 The Interaction between HIV and TB and it's Implications

South-East Asia bears 40 per cent of the global TB burden and ranks second after sub-Saharan Africa in the estimated number of PLWHA. The extent to which HIV fuels the TB epidemic depends on the degree of overlap between the population infected with MTB and the population infected with HIV (Figure 2).

Figure 2a: Degree of overlap between HIV and MTB infected populations in Sub-Saharan Africa

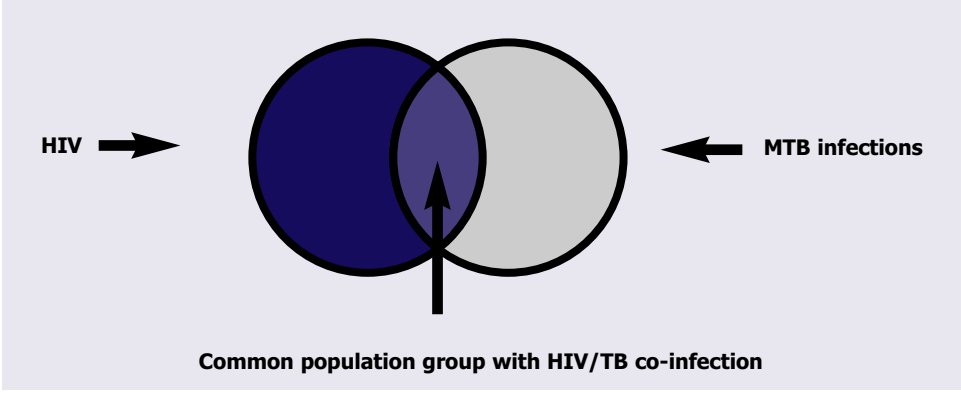
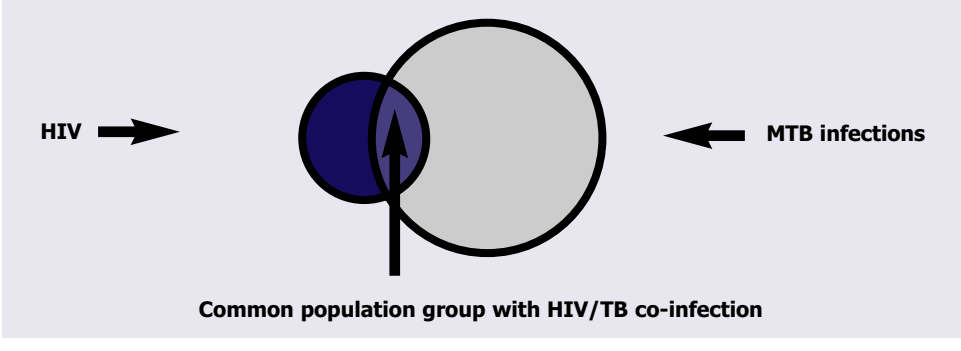


Figure 2b: Degree of overlap between HIV and MTB infected populations in the South-East Asia Region



Africa has a high degree of overlap between HIV infected and MTB infected populations among the 15-49 years age group whereas in South-East Asia there is a lesser degree of overlap due to lower HIV prevalence, resulting in lower numbers of

HIV/TB co-infections. The extent to which HIV fuels the TB epidemic is thus much lower than in Sub-Saharan Africa.

In 2000, the revised estimates of global HIV/TB burden indicate that, 9 per cent out a total 8.3 million new TB cases in adults (15 - 49 years) were attributable to HIV infection. Of the 1.8 million deaths from TB, 12 per cent were attributable to HIV. TB was the immediate cause of 11 per cent of all adult AIDS deaths, of which only a third received treatment.[1] Of the nearly 6 million adults living with HIV in the South-East Asia (SEA) Region, about 40 per cent - 50 per cent are likely to be infected with TB.

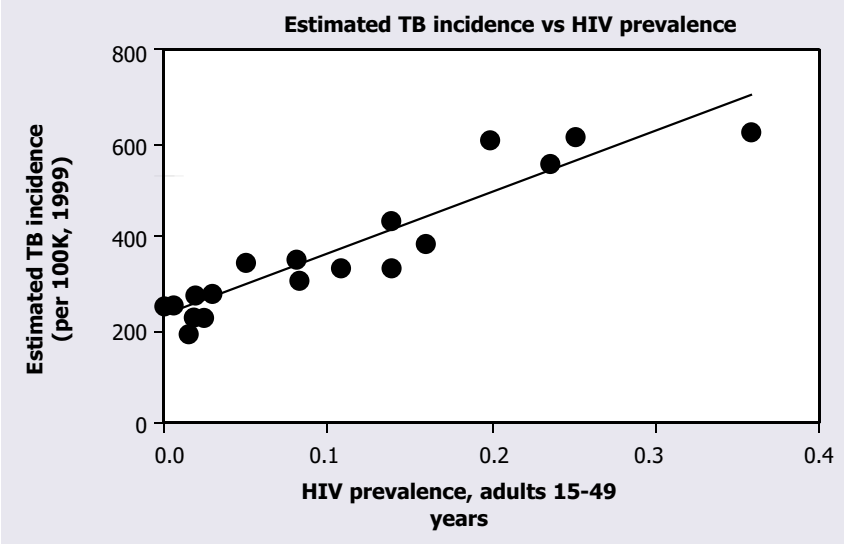
The highest co-infection rates are in sub-Saharan Africa but parts of SEA are also affected, for example, Myanmar and Thailand (Figure 3).

Figure 3: Estimated HIV-infected TB cases per 100 000 adults in 2000[2]

Increasing TB case rates over the past decade in many countries in sub-Saharan Africa are largely attributable to the HIV epidemic. Since the mid-1980s, in many African countries, including those with well organized programmes, annual TB cases notification rates have risen up to four-fold, reaching peaks of more than 400 cases / 100,000 population. In some countries, up to 70 per cent of patients with sputum smear-positive pulmonary TB are HIV-positive. The countries most badly affected by HIV/TB are those where HIV prevalence is the highest (Figure 4).

In the SEA Region the impact of HIV on TB has so far been observed in provinces where HIV prevalence is highest compared to the country average. For example in Chiang Rai, one of the provinces in northern Thailand, the rate of HIV seropositive TB patients increased from about 1 in 100,000 in 1990 to over 50 per 100,000 in 2000 (Figure 5). Simultaneously, TB notification rates increased from about 50 / 100,000 in 1991 to about 130 in 2000. The increase was seen in all categories of TB - smear positive pulmonary TB, smear negative pulmonary TB and extrapulmonary TB. A number of publications from selected sites in Thailand and India reported that the proportion of reported HIV seropositive TB increased sharply after 1991. TB registry data from the Chiang Rai Provincial Hospital, which started confidential HIV testing in October 1989, indicated a steady and rapid increase in the number and

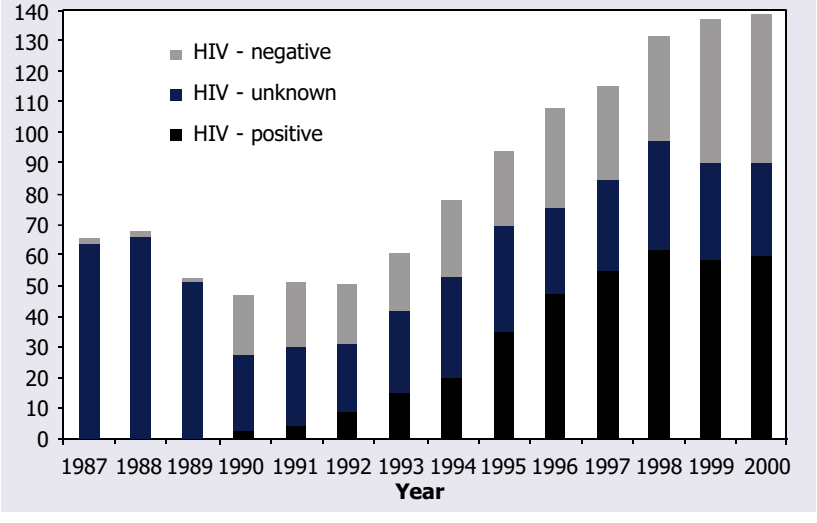
Figure 4: The Linear Relationship - Relationship between estimated incidence of TB (all forms) and HIV prevalence in adults for 18 African countries in 1999



Source: Global TB Report, WHO HQ Geneva 2001

proportion of HIV-seropositive TB patients from 1.5 per cent in 1990 to 45.5 per cent in 1994 and 72.0 per cent in male patients and 65.8 per cent in female patients by 1998.[3,4] Data for a similar 10-year period are available from Pune, India - the HIV eropositive rate in newly diagnosed TB patients has steadily increased from about 4 per cent in 1991 to about 20 per cent in 1996.[5]

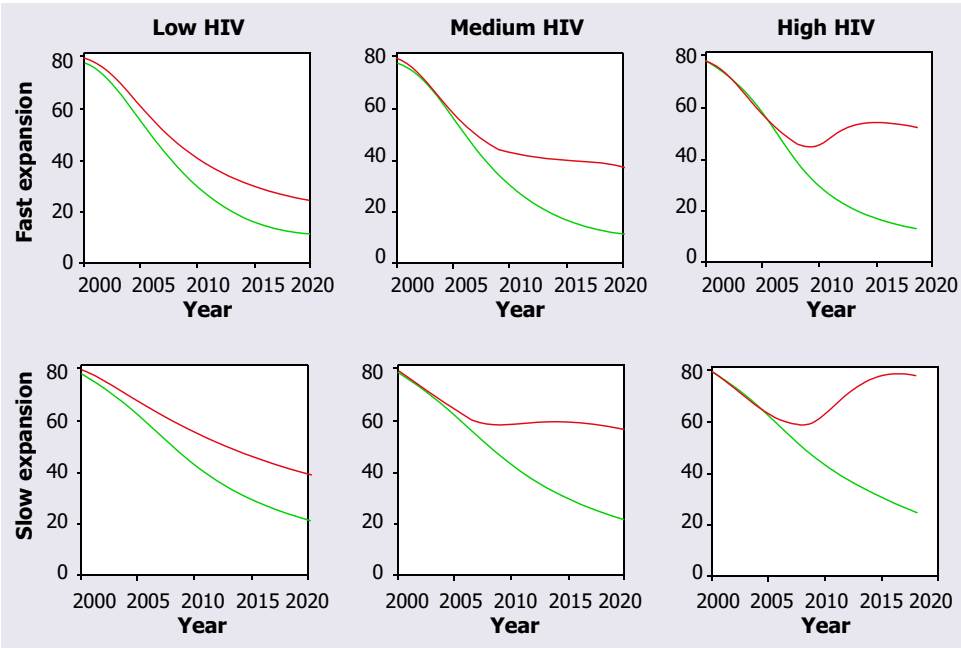
Figure 5: New TB rate by HIV status per 100,000 persons in Chiang Rai, Thailand (1987-2000) (Source RIT-JATA)



TB/HIV Research Project, RIT-JATA, Provincial Health Office Chiang Rai, Ministry of Public Health, Thailand

The extent of the epidemic of HIV/TB in SEA depends on the future course of the HIV epidemic as well as on efforts to control TB. Mathematical modelling has generated predictions concerning HIV fuelling the TB epidemic under different scenarios for example in India (Figure 6). In spite of rapid expansion of the Directly Observed Treatment-Short Course (DOTS) strategy in the Region, the incidence of TB remains high in medium and high-HIV prevalence settings. This modelling suggests that even full implementation of the DOTS strategy will fail to control HIV-related TB in the face of an expanding HIV epidemic. Therefore, it is crucial to implement effective interventions now, at this early stage of the HIV epidemic in SEA Region, when the TB programmes of many countries are showing good results where the DOTS strategy is implemented.

Figure 6: Modelling incidence of smear positive TB per 100,000 people for each of three possible HIV scenarios and two levels of TB control.



(Source: Data from http://naco.nic.in/vsnaco/indianscene/esthiv.htm. Modelling by Williams B for RNTCP India presented at the 2nd Global TB/HIV Working Group Meeting)
Green = No HIV; Red = With HIV. The upper row shows the impact of a fast expansion of the TB DOTS Programme in low, medium and high HIV prevalence scenarios, the lower row in slow expansion.

The six graphs show the consequences of each combination of these HIV and TB scenarios for the epidemic of TB. First of all, the epidemic of HIV has a dramatic effect on the incidence of TB and it is essential to avoid any further increase in the prevalence of HIV. However, for all three HIV epidemics, 'fast' expansion of the DOTS programme reduces the increase in smear-positive cases that result from HIV over the next 20 years by about 20 per cent as compared to 'slow' expansion. In the best case (fast expansion, low HIV) TB incidence in 2020 is about 25 per 100k, instead of 15

per 100k in the absence of HIV, but is still decreasing steadily and the effect of the HIV epidemic will be to delay the time at which targets are reached by about five years.

The HIV/TB epidemic exerts a negative impact on existing AIDS and TB programmes in several ways.

Impact of HIV on TB programmes

- Increased case load of active TB attributable to HIV
- Increased HIV-related morbidity and mortality in TB patients
- Higher default rates and lower cure rates
- High rates of adverse drug reactions during TB treatment
- Increased risk of TB transmission (including nosocomial transmission)
- Increased burden on TB services
- Delay of access to health services for TB suspects due to the stigma of HIV/AIDS

Impact of TB on HIV programmes

- Increased case load of active TB among PLWHA
- TB may accelerate the progression of HIV-related immunosuppression
- Increased morbidity and mortality from TB among PLWHA
- Difficulties with diagnosing TB among PLWHA owing to the different clinical presentations of HIV related TB
- Increased burden on HIV services

3 The Response So Far and Challenges Ahead

WHO has given a high priority to decrease the burden of HIV/TB and has established a Global TB/HIV Working Group which met in Geneva, Switzerland in 2001, in Durban, South Africa in 2002 and in Montreux, Switzerland in 2003. It is one of the working groups instituted under the Global Stop TB partnership, launched by the WHO, Director-General in November 1998. During the first meeting, the working group reviewed and endorsed the WHO Strategic Framework to Decrease the Burden of TB/HIV.[6,7] At the second meeting, draft Guidelines Implementing Collaborative TB and HIV Programme Activities were endorsed. The Working Group urged provision of stronger country level support to TB and HIV programmes to enable collaborative planning and implementation of HIV/TB activities, and for advocacy for increased resources to fight the dual epidemic.

In 2001, the first joint meeting of national TB and national AIDS programme managers in SEAR held in Chiang Mai, Thailand, recommended the development of a HIV/TB regional framework, promoting greater collaboration and interaction between existing AIDS and TB control programmes and capitalizing on the strengths of each programme to implement HIV/TB interventions delivered through the existing health care systems.

Several SEA countries responded positively. For example in India, a national policy to coordinate common activities for HIV/AIDS and TB has been formulated by the National AIDS Control Organization (NACO) and the Central TB Division (CTD). TB and HIV/AIDS are reciprocally included in the national policies of the two programmes. Activities including sensitization and training of key staff from both programmes are underway. *Ad hoc* HIV prevalence surveys among TB patients were carried out in selected sites. The following tools were developed: 1) Treatment guidelines for TB in HIV-infected individuals, 2) TB/HIV guide for health workers and 3) A TB/HIV training manual for medical officers. Voluntary counselling and testing (VCT) services at the sub-district level (AIDS programme) will incorporate screening for TB symptoms and referral to diagnosis and treatment of TB and AIDS care. The recently-appointed national HIV/TB consultants are expected to facilitate the local coordination of service delivery, referral, NGO involvement, cross-training and infection control in the six high HIV prevalence states.[9]

In Myanmar, HIV/AIDS is a priority under the National Health Plan. Increasing HIV prevalence in defined subpopulations for sentinel surveillance has been report-

ed since 1995. Up to 70 per cent of AIDS patients presented with active TB in some settings.[10] Collaborative TB/HIV activities include counselling of TB patients on HIV and *vice versa*, training of health care providers in TB and HIV services, HIV prevalence surveys among TB patients, evaluating treatment outcome of TB among HIV-infected patients, and developing a model for cross-border disease control for HIV/TB in 15 border townships in collaboration with the Royal Thai Government. Future plans include scaling up of cross-border collaboration on control of malaria, TB and HIV/AIDS with Thailand.

In Nepal, a planned collaboration between the national AIDS and TB programmes includes the following components: joint policy and strategy on TB/HIV; joint planning, evaluation and logistics management; information sharing and dissemination; training of health workers; advocacy; and operational research. The national TB programme (NTP) has carried out HIV prevalence surveys in TB patients in selected TB centres since 1993/94. The national TB Programme established a SAARC HIV/TB Centre in Kathmandu.

Thailand is more advanced in containing the HIV epidemic and in the response to HIV/TB. A national HIV/TB working group has been established as an interface between national AIDS programme (NAP) and NTP providing guidance to collaborative HIV/TB activities. The working group developed a national guideline for integrated HIV/TB strategies for the prevention and control of TB. A technical advisory group on isoniazid (INH) preventive therapy has also been established. In northern Thailand where HIV prevalence in active TB cases is the highest compared to the country average, the Ministry of Public Health conducted an assessment of INH preventive therapy services and drafted technical and operational guidelines on INH preventive therapy for PLWHA. Since 2001, INH preventive therapy has been piloted in 22 sites in northern Thailand using the aforementioned guidelines, and is now being expanded to more sites countrywide.[11] In October 2002, the restructuring of the Ministry of Public Health led to the formation of a Department of Disease Control, with structural integration of the TB, AIDS and STI divisions under one umbrella.

Good DOTS implementation is vital for preventing the emergence of MDR-TB and to extend and improve the quality of life among people living with HIV/AIDS. While there are reports of higher levels of MDR among HIV-infected active TB cases, these appear to be related to previous periods of interruption or default from treatment, underscoring the need for adhering to supervised treatment, particularly in this high risk group. India (sub-national), Nepal and Thailand participated in the previous global TB drug resistance surveys and Bangladesh, Indonesia and Myanmar will participate in ensuing rounds. Overall MDR-TB rates reported from around the Region are around 2 per cent. While this level of resistance does not threaten the efficacy of presently recommended first-line regimens of anti-TB drugs being used in the Region, more intensive drug resistance surveillance is needed to continuously monitor trends in MDR-TB.

4 Why a Regional Strategy for HIV/TB?

HIV/TB activities require joint planning and coordination of both AIDS and TB programmes mainly for generating evidence for advocacy, mobilizing partnerships and resources, education of communities for TB and HIV/AIDS and ultimately to manage HIV-related TB. However, in most countries there is no functional collaboration between the two vertical programmes, NAP and NTP. Many countries concerned with HIV/TB have implemented HIV/TB activities mostly through their TB programmes with poor or no coherent national HIV/TB strategy based on collaborative planning between the AIDS and TB programmes.

The aim of the DOTS strategy is to detect and treat infectious TB cases so effectively that new TB infections are limited in the first place. The DOTS strategy, however, initially paid little attention to the impact of the HIV epidemic on TB control. The most powerful intervention against TB beyond case finding and treatment is to prevent new HIV infections in people already infected with TB and to reduce the likelihood that latent MTB infection will progress to active TB.

The aim of HIV prevention and care programmes is to prevent the spread of HIV through interventions such as promotion of condom use, particularly among Commercial Sex Workers (CSWs) and their clients, Sexually Transmitted Infections (STI) control, prevention of mother-to-child transmission, harm reduction targeting Injecting Drug Users (IDUs), ensuring safe blood supply and prolonging quality of life of PLWHA through the provision of care and support including ART. HIV prevention and care programmes in turn have paid little attention to TB, which is the most common life threatening opportunistic infections (OI) in HIV-infected individuals in developing countries. HIV-infected TB patients are either treated in the AIDS unit where the DOTS strategy is rarely applied, or referred to TB services where little attention is paid to their ongoing HIV care.

The epidemiology of HIV and TB as well as the health sector's response in countries of the Region differ from countries in the other WHO Regions. Therefore a Regional HIV/TB Strategy for South-East Asia, drawing on the country-specific experiences, and based on the global framework is needed.

5 Goal and Objectives

The goal of the HIV/TB strategy is to reduce HIV/TB-associated morbidity and mortality.

The objectives are:

1. To decrease the burden of TB among PLHWA and
2. To decrease the burden of HIV in TB patients.

6 Strategies and Interventions

6.1 Strategies

The four strategies to achieve the goal and objectives are:

1. Preventing HIV transmission;
2. Decreasing progression of latent TB infection to active TB among HIV-infected individuals;
3. Decreasing morbidity and mortality in HIV-associated TB; and
4. Strengthening health systems response to HIV/TB

The regional strategy identifies mechanisms and recommends areas for collaboration between the two programmes with the aim that both programmes will benefit from the collaboration. SEARO promotes the adaptation of the framework at national level.

Table 1: Specific interventions for the four strategies

1. Preventing HIV

- Condoms
- STI management
- Harm reduction for injecting drug users
- VCT

2. Preventing progression of latent TB infection to active TB

- Intensified case finding
- Isoniazid preventive treatment for PLWHA with latent TB infection

3. Reducing morbidity and mortality of HIV-associated TB

- Early diagnosis and treatment, DOTS
- Provision of access to antiretroviral treatment
- HIV/AIDS care during and after TB treatment
- Cotrimoxazole preventive therapy

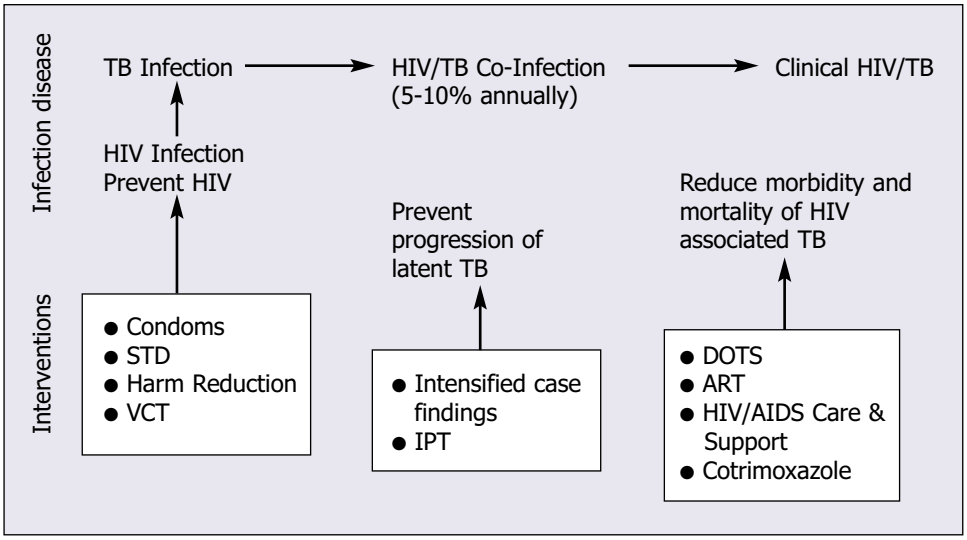
4. Strengthening health systems response to HIV/TB

- Enhancing collaboration of TB and AIDS programmes
- Advocacy
- Mobilizing resources
- Surveillance
- Building partnerships with communities, PLWHA, NGOs
- Establishing an effective referral system
- Strengthening the health systems capacity
- Ensuring accountability, monitoring and evaluation
- Operational research

6.2 Interventions

The regional strategy proposes a number of interventions for collaborative implementation. The NAP and NTP retain primary responsibility for their respective programme areas, while collaborating in agreed areas of joint activity (Table 1, Figure 7).

Figure 7: Strategic framework of interventions for the prevention and control of HIV/TB



6

6.2.1 Preventing HIV transmission

Since HIV fuels the TB epidemic, interventions to prevent HIV transmission should contribute to decreasing the TB burden. Reduction in the number of sexual partners, expanding access to condoms, syndromic management of sexually transmitted infections, harm reduction for injecting drug users, Voluntary Counselling and Testing (VCT) have all been shown to be effective in preventing HIV infection.[12-13] Detailed information about these interventions is documented elsewhere.

6.2.1.1 Targeted interventions

The most efficient way to prevent the spread of HIV is to target populations with high HIV case reproduction number, e.g. those with the most sexual partners and injecting drug users who share needles and syringes.[14] Among the range of measures with immediate impact in decreasing HIV transmission are condom use, treatment of STIs[15,16] and needle-syringe exchange programmes. Thailand has shown the effectiveness of the "100 per cent condom programme" targeting CSWs and their clients in brothels on a national scale.[17] It is well known that the HIV epidemic started in IDU populations in several Asian countries and then spread to other risk groups and the general population. Harm reduction through provision of sterile injecting equipment, peer education and maintenance drug treatment are proven effective in preventing HIV transmission among IDUs.[18]

The 100 per cent condom programme

The 100 per cent condom use programme targeting establishment-based sex workers and their clients was initiated in Ratchaburi province, Thailand in 1989 and was expanded nation-wide in 1991. It was subsequently piloted in Cambodia in 1998 and has expanded nation-wide since 2000. In both countries, this strategy has contributed to the reduction of HIV and STI infection levels in sex workers and their clients, and limited the spread of HIV to the general adult population. The programme includes screening and management of sexually transmitted infections as a key element.

Harm reduction among injecting drug users

Sharing or use of contaminated needles is a well-recognized way of spreading HIV. Since injecting drug abusers are often linked in tight networks and commonly share injecting equipment, HIV can spread very rapidly in these populations. Numerous studies have also found drug injectors to be disproportionately likely to be involved in the sex industry or to engage in high-risk sexual activities.

Deciding on the implementation of the intervention strategies to prevent HIV in injecting drug abusers is one of the most urgent issues. Studies have demonstrated that HIV transmission among injecting drug abusers can be prevented and that the epidemic already has been slowed and even reversed in some cases. HIV prevention activities which have had an impact on HIV prevalence and risk behaviour include HIV/AIDS education, access to condoms and clean injecting equipment, counselling and drug abuse treatment.[18]

6.2.1.2 Management of Sexually Transmitted Infections (STI)

There is clear evidence that STIs are a co-factor for HIV transmission. The risk of HIV infection rises four to ten-fold in the presence of an STI. There has been considerable discussion regarding the role of STI treatment for the reduction of HIV transmission following a study in Tanzania. A decrease in HIV-1 incidence was associated with improved STI case management in Mwanza. However, the impact of STI treatment depends on several factors such as the stage of the HIV-1 epidemic which can influence exposure to HIV-1 and the distribution of viral load in the infected population; potential differences in the prevalence of incurable STIs (such as genital herpes); perhaps greater importance of symptomatic than symptomless STIs for HIV-1 transmission; and possibly greater effectiveness of continuously available services than of intermittent mass treatment to control rapid STI re-infection.[19,15]

6.2.1.3 The role of Voluntary Counselling and Testing (VCT) for HIV/TB prevention and control

The majority of TB patients do not know their HIV status. HIV-infected TB patients receive anti-TB treatment without any consideration for their HIV status. Such patients therefore do not have access to prevention and treatment of HIV-associated OIs and ART. At the same time HIV-infected persons should be offered screening for TB. Also those who are not HIV infected can benefit on how to remain negative. VCT services can serve these purposes.

The recommended intervention to obtain an HIV test result is VCT. VCT is a voluntary and confidential process by which a client chooses to be tested for HIV for a variety of reasons (e.g. perceived risk, recommended by others, pregnancy). VCT includes pre-test counselling, HIV testing, and post-test counselling for both HIV negative and HIV positive persons. VCT has been proven effective in reducing sexual risk behavior.[20,21] Post-test counselling for those tested HIV-positive should offer follow-up counselling and referral to screening for active TB and other HIV/AIDS prevention, care and support services. Post-test counselling for HIV positive individuals should always include information about the symptoms of common HIV-related illnesses in particular TB.

VCT can be an effective entry point to HIV/TB activities directed towards preventing progression of latent TB infection to active disease and reducing HIV–related morbidity among TB patients. VCT services can include screening for active TB and referral for diagnosis and treatment of TB.

6.2.2 Preventing progression of latent TB infection to active TB in HIV-infected individuals

6.2.2.1 INH Preventive Therapy (IPT) to decrease the risk of progression of latent TB infection to active TB in HIV-infected individuals

Intensified case finding is meant for screening HIV positive people for TB symptoms. Intensified case finding has a two-fold purpose - to consider those without symptoms of active TB for IPT and to refer those who are symptomatic for investigation and treatment of active TB. Screening should occur both in the VCT setting and also in the HIV care setting on a regular basis e.g., annually.

Since the administration of IPT requires that the HIV status is known, VCT services with systems for referral to TB clinics/centres must be established. This will allow for intensified case finding with screening for TB symptoms among those identified being at high risk of having active TB and referral for treatment in those found to have active TB. Individuals with active TB will receive TB treatment (DOTS). Those without active TB could be enrolled for further screening of eligibility for IPT. The process of ensuring completion of IPT by the patient involves several steps (pre-test counselling, HIV testing, post-test counselling, identification of HIV positive patients, screening for active TB, agreeing to take IPT, taking IPT and completing IPT). A proportion of PLWHA will drop out at each step and therefore appropriate measures to ensure that as many as possible benefit from IPT have to be taken. Previous studies have shown that only a small proportion of PLWHA complete a six-month course of IPT.[22] In the short term, WHO and UNAIDS recommend promoting IPT as an intervention for the benefit of HIV-infected individuals rather than as a public health measure to control TB. In the medium to long term, ways to minimize drop-outs at each step of the process must be found to implement IPT as an effective public health measure to control TB.[23] The greater the efforts to promote adherence to IPT, the greater the likelihood of effectiveness.

WHO has for many years recommended IPT for children who are household contacts of infectious index cases of TB, and who, after screening, are not found to have

active TB.[24] In high TB prevalence countries, between 3.4 per cent and 10 per cent of tuberculin-positive PLWHA may develop TB every year. Studies in this group have shown that IPT reduced the risk in the short term of developing TB to around 40 per cent of what it would have been without such intervention, but did not prolong survival.[25] A recent cohort study from Brazil reports decreased mortality in patients who used IPT and this was associated with longer survival.[26] These results remain to be confirmed in other settings.

WHO and UNAIDS recommend IPT for 6 months for PPD-positive HIV-infected individuals who do not have active TB (while recognizing that in some settings where tuberculin-testing is not feasible, IPT may still be valuable in HIV-infected individuals at high risk of TB).[27] Among PLWHA, IPT is likely to provide protection against the risk of developing TB through decreased risk of progression of recent, and of reactivation of latent, MTB infection. In high TB prevalence populations, continued exposure to MTB probably accounts for the limited duration of benefit (up to 2.5 years)[28] following completion of a 6-month course of IPT. The duration of protection depends on the duration of preventive treatment.[29]

In northern Thailand, IPT could efficiently be integrated into routine health care settings if investments were made prior to the implementation. Better results for the adherence to IPT were achieved when: 1) IPT was offered as a component of comprehensive HIV/AIDS care package; 2) IPT was offered to HIV-infected persons at Day Care Centres with regular activities for PLWHA; and 3) the service was managed or well-linked to the AIDS unit, and 4) repeated counselling on PT was performed before and during the therapy. The diversion of resources from TB clinics could be minimized when integrating preventive therapy into a care package for HIV-infected individuals under the responsibility of the AIDS unit.[11]

TB programmes are responsible for TB case finding and treatment. TB and AIDS programmes can promote intensified TB case finding for people diagnosed with HIV and refer for TB treatment or preventive therapy. Both AIDS and TB programmes can be responsible for the TB preventive therapy.

6.2.2.2 TB preventive therapy for decreasing risk of a recurrent episode of TB after cure or completion of treatment

Studies in South Africa[30] the former Zaire[31] (now the Democratic Republic of Congo), and in Haiti[29,] showed a higher rate of recurrent TB in HIV-infected individuals than in non-HIV-infected individuals treated with a 6-month regimen containing rifampicin. In Zaire and Haiti, post-treatment prophylaxis (INH and rifampicin in the study in Zaire and INH in the study in Haiti) decreased the risk of TB recurrence in HIV-infected individuals, but did not prolong survival.[31,32] Further studies are needed to confirm the benefit, establish the optimum regimen (drugs and duration) and assess operational feasibility, before widely recommending treatment aimed at decreasing risk of TB recurrence.

6.2.3 Reducing morbidity and mortality of HIV associated TB

6.2.3.1 DOTS strategy and HIV-related TB

The DOTS strategy is the main strategy for control of TB including HIV-associated

TB. The strategy includes five elements:

- *Political commitment;*
- *Sputum microscopy as the primary tool of diagnosis;*
- *Treatment with uninterrupted supply of short course chemotherapy;*
- *Direct observation of treatment; and*
- *Recording and reporting.*

DOTS is a strategy to ensure cure by providing the most effective medicines and confirming that they are taken. The key to the success of the DOTS strategy is that it places the responsibility of caring for TB patients on health workers - not on patients.

WHO recommends the same treatment regimen among TB patients, whether HIV-positive or negative (Table 2). Treatment regimens have an initial (intensive) phase lasting two months and a continuation phase usually lasting 4-6 months. The initial phase consists usually of four drugs. In the continuation phase, fewer drugs are necessary but for a longer time. Recommended treatment regimens for TB diagnostic category I patients are two months isoniazid (H), rifampicin (R), pyrazinamide (Z) and ethambutol (E) (2 HRZE) in the initial phase and 4 HR or 6 HE daily in the continuation phase. The latter regimen may be associated with a higher rate of treatment failure and relapse compared with the six-month regimen with rifampicin in the continuation phase. Thiacetazone should not be used for HIV seropositive patients. The vast majority of patients with sputum smear positive TB become non-infective within two months.

While TB programmes retain primary responsibility for implementing the DOTS strategy, they should collaborate with HIV/AIDS programmes for intensified case-finding among HIV-infected people and harnessing community efforts to promote adherence to TB treatment. The current DOTS strategy offers case detection through passive case-finding by sputum smear microscopy examination of TB suspects among symptomatic patients who are present at health services for diagnosis and management. Intensified case finding among people known to be HIV-positive and those at high HIV risk (e.g household contacts, IDUs and prisoners) represents an opportunity to decrease diagnostic and treatment delays among patients with HIV-related TB (whether pulmonary or extrapulmonary).

6

6.2.3.2 Antiretroviral treatment (ART) and active TB

The recent introduction of combination ART has reduced HIV/AIDS morbidity and mortality by 60% to 90% and improved the quality and duration of life of PLWHA.[33,34] Most patients with HIV-related TB in the USA have advanced immunosuppression and high plasma HIV RNA levels at the time of diagnosis. The clinical correlates are relatively high rates of OIs and death, with most deaths being due to complications of HIV, not TB.[35-36] Given the severity of immunodeficiency among patients with HIV-related TB and the efficacy of ART in reversing HIV-induced immunodeficiency, use of ART in this population has the potential to substantially improve clinical outcomes. However, the use of ART among persons being treated for TB is complicated by overlapping toxicity profiles of some anti-TB

Table 2: Possible alternative treatment regimens for each TB treatment category[32]

TB diagnostic category	TB patients	Alternative treatment regimens	
		Initial phase (daily or 3 times per week)	Continuation phase (daily or 3 times weekly)[a]
I	New smear-positive pulmonary TB; new smear-negative pulmonary TB with extensive parenchymal involvement; Severe concomitant HIV disease or severe forms of EPTB	2 HRZE[b]	4 HR or 6 HE daily[c]
II	Previously treated sputum smear-positive PTB: • Relapse; • Treatment failure; • Treatment after interruption.	2 HRZES/ 1 HRZE	5 HRE
III	New smear-negative pulmonary TB (other than in Category 1); less severe forms of extra-pulmonary TB.	2 HRZE[e]	4 HR or 6 HE daily[c]
IV	Chronic and MDR - TB cases (still sputum-positive after supervised re-treatment)	Specially designed standardized or individualized regimens are suggested for this category.	

In the standard code for TB treatment regimens, each anti-TB drug has an abbreviation: streptomycin (S), isoniazid (H), rifampicin (R), pyrazinamide (Z) and ethambutol (E). A regimen consists of two phases.

[a]Direct observation of drug intake is required during the initial phase of treatment in smear-positive cases, and always in treatment that includes rifampicin.

[b]Streptomycin, (provided that sterile syringes and needles and sharp disposal are available) may be used instead of ethambutol. In meningeal TB, ethambutol should be replaced by streptomycin.

[c]This regimen may be associated with a higher rate of treatment failure and relapse compared with the six-month regimen with rifampicin in the continuation phase.

[d]Whenever possible, drug sensitivity testing is recommended before prescribing Category II treatment in failure cases. It is recommended that patients with proven MDR-TB use Category IV regimens.

[e]Ethambutol may be omitted during the initial phase of treatment for patients with non-cavitary, smear-negative PTB who are known to be HIV-negative, patients known to be infected with fully drug-susceptible bacilli, and young children with primary TB.

[f]Contacts of patients with culture-proven MDR-TB should be considered for early culture and sensitivity testing.

drugs and ARVs, concerns about drug malabsorption and complex drug-drug interactions, and the occurrence of the paradoxical reactions (immune restoration syndrome).[33,37,38]

TB treatment consistent with the DOTS strategy should be initiated promptly in diagnosed HIV-infected cases of TB

The aim of ART in general is to prolong and improve the quality of life by maintaining maximal suppression of HIV replication for as long as possible. Reductions in plasma viraemia achieved with ART account for much of the clinical benefits associated with ART.[39] The choice of regimen depends on a number of factors. These include amongst others, cost of therapy, availability and medium/long term affordability, convenience and likelihood of adherence, regimen potency, tolerability and adverse effect profile, possible drug interactions, and potential for alternate treatment options in the event that the initial drug regimen fails.

ART with single or dual drug regimen is not recommended due to the rapid emergence of drug resistance. Monotherapy with zidovudine is recommended only for the prevention of mother-to-child transmission of HIV Monotherapy with nevirapine is also only recommended for this purpose.[42] The use of a protease inhibitor with two nucleoside reverse transcriptase inhibitors (NsRTI) has shown potent and durable suppression of viral replication.[43-44] Combination of a non-nucleoside reverse transcriptase inhibitor (NNRTI) with two NsRTI also produces viral suppression and immunological improvements which are at least comparable to those seen in combinations that include protease inhibitors.[45,46] Currently, several regimens with acceptable antiviral potency are available. These regimens are composed of three or four drugs. Two NsRTI generally form the backbone of most combinations.

The optimal time to start ART and the drugs to be selected in HIV/TB co-infected patients has to be determined. WHO guidelines refer to the two major issues in HIV-infected persons with active TB treated with rifampicin-containing regimens (rifampicin interacts with many ARVs): when to start ART and which regimen to use (see Annex I).[47-48]

ARVs are increasingly becoming available at reduced prices in SEA countries. Countries planning to introduce/expand ART should consider HIV-infected TB patients as a readily identifiable target group who may benefit from ART. Due to the high prevalence of TB among HIV-infected individuals living in this Region, many patients who are candidates for ART will have active TB and patients already receiving ART may develop clinical TB. TB and AIDS programmes must coordinate activities and ensure close communication between TB and HIV care providers throughout the treatment of HIV-related TB. In a few settings, visits for directly observed therapy for TB have been used to enhance adherence with ART.[49]

6.2.3.3 TB and comprehensive HIV/AIDS care and support throughout the continuum

ART cannot be seen in isolation. HIV-infected patients, including those with TB, should benefit from additional care. Experiences from several countries have

demonstrated that a continuum of care from hospital to home is the optimum to provide care and support to those affected. Community and home-based care is one of the key activities to strengthen the continuum of care with a referral to TB programmes. WHO SEARO is also promoting a continuum of care which includes an adequate referral and collaborative care network from hospital to the community and home.[50]

Providing comprehensive HIV/AIDS care includes:

- Clinical and nursing care in particular the prevention and treatment of common Opportunistic infections (OI)
- Psychosocial support
- Financial support
- Housing and legal assistance
- Care and support of orphans and widows
- Information and training of care givers

6.2.3.4 Cotrimoxazole preventive treatment and HIV-associated active TB

The common HIV-related infections e.g. *Pneumocystis carinii* pneumonia and bacterial infections, cause considerable morbidity during treatment of HIV-infected TB. Preventive treatment against these intercurrent infections represents a possible way to decrease morbidity and mortality in HIV-infected TB patients. Studies in PLWHA in Cote d'Ivoire showed the benefit of cotrimoxazole preventive treatment against some bacterial causes of pneumonia and diarrhoea and their complications.[36-38] UNAIDS and WHO have provisionally recommended the use of cotrimoxazole preventive treatment in HIV-infected individuals in Africa as part of a minimum package of care.[51] Cotrimoxazole preventive treatment is the gold standard in industrialized countries for HIV-infected individuals with CD4<200 cells/uL regardless of TB.[52] *Pneumocystis carinii* pneumonia is among the commonly reported opportunistic infections in Thailand and India.[53-54,] The Thai Clinical Management Guidelines recommend the use of cotrimoxazole following clinical eligibility criteria for those who cannot afford to have CD4 counts done.[55]

Further studies are necessary to evaluate the best model, the feasibility and effectiveness for the use of cotrimoxazole in HIV-infected TB patients in South-East Asia. (Please refer to Annex II for management of preventive and maintenance treatment with cotrimoxazole).

The National AIDS Programme is responsible for ensuring the implementation of interventions to prevent HIV transmission and care including for TB patients whereas the TB programme is responsible to ensure DOTS for all with active TB. However, a number of activities can only be implemented through active collaboration. This includes the cross-referrals, capacity building, development of tools and also the planning of interventions such as IPT.

6.2.4 Strengthening health systems' response to HIV/TB

6.2.4.1 Enhancing collaboration of AIDS and TB programmes

HIV/TB must be tackled by all those who have an interest in keeping or bringing it

under control. This includes AIDS and TB programmes. The two sides share a common goal which is the key incentive for establishing collaboration. The role and level of collaboration in each country should be identified based on the specific needs in the countries.

6.2.4.2 Advocating for political commitment to tackle HIV/TB

Increasing recognition of the scale and growing magnitude of the HIV/AIDS epidemic has helped to promote HIV/AIDS programme activities, including collaboration with national TB programmes. To combat HIV/TB effectively, strong advocacy to counter stigmatization and discrimination for both diseases are needed. TB control programmes include political commitment as a key element of the DOTS strategy and have been adopted in all countries of the Region. HIV/TB strategies cannot be effectively implemented unless HIV and TB programmes both enjoy political support at the highest level. ASEAN, SAARC, WHO, and other UN agencies and partners offer mechanisms for obtaining this type of high-level advocacy.

6.2.4.3 Mobilizing resources

The UN Declaration of Commitment on HIV/AIDS calls for substantially increased national and global funding for HIV/AIDS. The Global Stop TB partnership calls for substantially increased national and global funding for TB and HIV/TB. The World Bank and bilateral donor agencies have substantially increased funding for HIV and TB. The GFATM represents an important new funding initiative which is designed to supplement national government funds and to develop innovative partnerships.

A concerted effort of all countries is needed to maximize funding for AIDS, TB, and HIV/TB through government budget allocations. Developing a detailed funding plan is another key element of national strategic plans for HIV/AIDS, TB and HIV/TB.

Developing an effective funding plan will be supported by:

- A sound process of priority setting for interventions;
- Effective systems and processes for estimating costs of these interventions;
- Effective, transparent systems for funding allocation and accountability; and
- Effective, transparent systems for monitoring and evaluating services and programmes.

6.2.4.4 Surveillance

Generating evidence through epidemiological surveillance and research is vital for advocacy, programme planning, monitoring performance and impact of programmes. HIV/TB surveillance should ideally be integrated into the existing health information system.

HIV/TB surveillance collects data to:

- Make estimations and projections of the HIV/TB burden;
- Measure the impact of HIV on the TB epidemic;

- Evaluate the magnitude of TB as an OI among AIDS cases;
- Monitor the success of collaborative HIV/TB activities as outlined in the strategy;
- Provide evidence for advocacy, mobilizing partnership and resources.

While the TB programme will continue to collect data to monitor TB drug resistance, HIV/TB surveillance should be a collaborative activity by the NAP and NTP. Surveillance for HIV/TB should be systematic and regular. Data collection should be anonymous and unlinked.

(1) Estimating the proportion of HIV infections in new active TB cases

Data from this group can act as an early warning system for the spread of TB due to HIV.

(a) Sentinel surveillance

Sentinel surveillance for HIV includes sentinel sites with unlinked-anonymous testing of defined sub-populations during a defined time period and ideally a defined sample size. Patients identified as treatment category I and III could be useful sentinel populations in assessing HIV infection levels among people with smear positive PTB and EPTB as well as smear negative pulmonary TB.

(b) Cross-sectional surveys

In the absence of sentinel surveillance data, repeated cross-sectional surveys among TB patients can be used in order to estimate the proportion of HIV infections among active TB cases. Cross-sectional serosurveys require the informed consent of participants. The serosurveys could be performed, for example, in clinics/centres of the government TB programme, NGO TB programmes, and university/ teaching hospitals. Such cross-sectional services have been the major sources of data on HIV prevalence among TB patients in countries of the Region where no systematic sentinel surveillance has been established. However, data from cross-sectional surveys should be interpreted with caution since they can be linked and are prone to selection bias.

(c) TB case reporting

Some countries offer VCT to new active TB cases in routine health services. The proportion of HIV-infected TB cases can be reported. However, this type of passive reporting does currently not provide meaningful insights since only a minority of TB patients have access to HIV testing.

(2) Evaluating the magnitude of TB as an OI among AIDS cases

Data on TB prevalence may be collected by specialized programmes or in the regular communicable disease reporting system e.g. AIDS case reporting.

(a) AIDS case reporting

Many countries have set up anonymous AIDS case reporting systems. These systems generally involve regular passive reporting of AIDS cases and deaths. AIDS case reporting is based on a case definition that may or may not require an HIV positive test. AIDS case reporting should include a number of variables such as age, sex,

assumed mode of transmission, AIDS defining illness (which includes TB), and month of diagnosis and reporting.

Other data providing useful information on the HIV/TB epidemic include rapid assessments, studies, clinic and autopsy data. Such data must be carefully analyzed.

6.2.4.5 Building partnerships with communities, PLWHA, and NGOs

Communities, PLWHA and NGO's play a vital role in promoting safer sexual practices and providing care and support for persons affected by HIV/AIDS. Community and home-based care should be one of the key activities for establishing these partnerships. These key stakeholders are involved in managing HIV-related TB and should therefore be involved in the planning and implementation of HIV/TB collaborative activities.

6.2.4.6 Strengthening the health systems' capacity to provide prevention, care and ART services for HIV/AIDS and HIV -related TB

Strengthening of health systems through development of tools and ongoing training of health care workers and laboratory technicians for prevention of HIV, diagnosis and management of HIV/TB, are required. These tools and training can be developed jointly by both programmes.

6.2.4.7 Establishing a referral system[8]

In many districts, a number of TB and HIV/AIDS service providers already exist, but they often work in isolation. The result is that a network of care and support does not exist in the district despite the presence of comprehensive HIV care and TB care and support providers. Therefore, one of the first priorities is to establish links between different service providers in order to create a patient-centred referral system. A patient-centred approach is a priority.

6.2.4.8 Ensuring accountability, monitoring and evaluation

Optimum use must be made of the limited human and financial resources. National strategic plans for HIV/TB must develop systems ensuring accountability within government and in nongovernment sectors, as well as systems supporting monitoring and evaluation. These mechanisms will ensure that:

- Interventions contained in national strategic plans are working effectively;
- Financial and human resources allocated are being used for the purposes intended; and
- The community is informed about the successes of national strategic plans and future actions.

6.2.4.9 Operational research[8]

Research should form an important part of the planning and implementation of collaborative TB and HIV programme activities. An operational research approach to the planning and management of HIV/TB programme collaboration and/or integration at central and district levels should be integral part of the work-plan for collaborative HIV and TB activities.

7 Implementing the Strategy

The implementation of collaborative HIV/TB activities requires prioritization of technical interventional as proposed in the strategy according to the respective countries' HIV/TB epidemiology and available resources (Table 3).

Table 3: Prioritization of technical interventions for HIV/TB in countries of SEA Region

Low HIV prevalence countries	Low HIV prevalence countries with concentrated epidemics	Higher HIV prevalence countries
Bangladesh, Bhutan, Maldives, DPR Korea, Sri Lanka	Indonesia, Nepal India (2 States, 1 Union Territory)	India (6 States), Myanmar, Thailand
Proposed interventions:	**Proposed interventions:**	**Proposed interventions:**
DOTS strategy	DOTS strategy	DOTS strategy
HIV prevention	HIV prevention	HIV prevention
Surveillance	Preparations for quality HIV/AIDS care Cross-referral between TB and HIV programme	And phased implementation of interventions to provide quality HIV/AIDS care Cross-referral between TB and HIV programme
	Preparations for interventions to prevent progression of latent TB infection to active TB and intensified TB case-finding - INH Preventive Therapy - Antiretroviral therapy	Preparations for phased implementation of interventions to prevent progression of latent TB infection to active TB - INH Preventive Therapy - Antiretroviral therapy
	Surveillance	Surveillance

The implementation of collaborative HIV/TB activities requires several steps including

I. Establishing collaboration

II. Conducting situation assessment

III. Developing policy and strategic plan
IV. Preparing the health services and the community
V. Implementing in a phased manner
VI. Evaluation and scaling-up

The number of steps and the timelines for implementation of the steps should be determined by the size of the respective country, the available resources and capacity.

Step I. Establishing mechanism for collaboration between NTP and NAP

The following mechanisms could be envisioned for establishing collaboration between NTP and NAP:

- National HIV/TB working group
- Establishing a secretariat for the HIV/TB working group
- Technical advisory board (s)

The rationale for collaboration for NTP and NAP at the central level is to form a body providing policy direction. The collaborative body identifies modes and areas of collaboration, develops the national HIV/TB policy and strategic plan, guides and supports the phased implementation of HIV/TB interventions, monitors and evaluates the implementation, and makes required amendments and plans for scaling-up of successful interventions.

This framework proposes the establishment of a National HIV/TB Working Group involving various key stakeholders from central government programmes to the health centres, nongovernmental organizations, university/teaching hospitals and community representatives including PLWHA involved in HIV/TB care.

It is recommended to establish a secretariat for the HIV/TB committee involving personnel from NTP and NAP. This secretariat would provide the managerial and administrative support to the National HIV/TB Working Group.

Policy decisions and strategies must be evidence-based. For this purpose technical advisory board(s) to provide support on specific technical areas such as INH preventive therapy and cotrimoxazole should be established.

The National HIV/TB Working Group may recommend the establishment by states/provinces of regional bodies for coordinating the implementation of HIV/TB activities. These bodies can be working groups for HIV/TB activities at state level, regional, provincial and or district level according to the country's health administration system. The roles and responsibilities of focal persons and working groups for HIV/TB activities at all levels must be clearly defined. Personnel of both programmes should be provided appropriate training in AIDS and TB control in preparation for joint collaborative activities.

Step II. Conducting assessment

The development of the national policy and strategic plan requires the generation of

information on the estimated HIV/TB burden, the availability of resources and existing services, advocacy needs, IEC materials, tools, training, procurement and distribution, monitoring and evaluation, structure of the existing surveillance system for HIV and TB, and identification of the respective strengths and weaknesses of the NAP and NTP. The assessment should provide the information needed to develop the national HIV/TB strategic plan. Please see Annex II for some proposed questionnaires which could be used to obtain the mentioned information from health facilities at different levels. Each country, however, could adapt parts of the questionnaire for both state/ region/ province and district levels according to the situation in each country.

Step III. Developing national HIV/TB policy and strategic plan

(a) Development of national HIV/TB policy and strategic plan

The national HIV/TB policy and strategic plan should include goals and objectives, targets and indicators, identify the opportunities existing between the NAP and NTP at central and district levels, and define a package of key interventions for HIV/TB. One lesson learned from the NTP is that effective implementation depends on clearly defining the roles of the respective collaborating partners and executive responsibilities. When planning the phases for implementation, the HIV/TB committee should include planning for a rapid scale-up of the collaborative HIV/TB activities to nation-wide coverage. When planning the process of phased implementation of collaborative HIV/TB activities a monitoring and evaluation system (recording and reporting forms, data collection, flow, analysis and dissemination) is another key element. The monitoring and evaluation plan must determine how to use the existing health information system optimally. The strategy must define criteria for site selection and scaling up.

(b) Mobilization of resources

Based on the national strategic plan the national HIV/TB working group estimates resources and costs required to support all components of the planned phases. Cost estimates include:

- Cost of running the national HIV/TB working group, the secretariat and the technical advisory board (if needed);
- Cost of collaborative activities, for example advocacy, IEC materials, tools, training, procurement and distribution, monitoring and evaluation, surveillance; and
- Cost for implementation at district level, including ongoing technical support and supervision.

The funding plan should include a transparent system for funding allocation and accountability. When committing government funds to planned HIV/TB interventions caution must be taken to avoid diversion of resources from key programme areas.

Step IV: Preparing the health services and the community

The preparation of health services would include a number of activities as mentioned below.

(a) Develop communication strategy and advocacy materials on HIV/TB

HIV and TB are highly stigmatized diseases. Misconceptions about HIV and TB exist in communities with HIV-associated TB.

A communication strategy and advocacy should emphasize that TB is a curable disease when diagnosed and treated early. It must be clearly emphasized that HIV and TB are two different diseases. Although active TB may be HIV-associated in SEAR, only a small proportion of active TB cases are HIV-associated. However, when targeting HIV-infected individuals, the communication strategy should provide information about common AIDS-related diseases, including TB as the most common OI, as well as prevention and treatment opportunities.

(b) Develop tools such as guidelines, training curriculum, IEC materials

The implementation of a defined package of interventions to prevent HIV and to reduce the clinical impact of HIV/TB, requires the development of technical and operational guidelines, IEC materials as well as training modules.

(c) Training

Training should target health care providers, laboratory technicians at all levels as well as state or provincial level supervisors. Training should be conducted in a phased manner starting with training of trainers followed by training of care providers. An essential element of site selection is the capacity to conduct training for other sites.

(d) Strengthen procurement and distribution system for supplies and medicines

Procurement and distribution of supplies (for example, HIV rapid tests, condoms, sterile injecting equipment and medicines) should be considered in the strategic plan to ensure continuous supply. Shortages can occur when the shelf-life of supplies and medicines are not considered, procurement orders are delayed, or not planned according to actual need, and distribution does not take place. The department/unit responsible for procurement and distribution is accountable for appropriate spending according to the national strategic plan.

(e) Reorganize and strengthen service delivery system

Referral systems between VCT, HIV prevention, HIV/AIDS care and support services and TB diagnostic and treatment facilities need to be established to effectively implement collaborative HIV/TB activities at the district level. Referral guidelines and forms or cards (similar to the card used for pregnant women attending antenatal care) could be used for this purpose. New approaches such as improving compliance for chronic treatments (for example IPT, prevention of common OIs and ART) through day care centres could be explored.

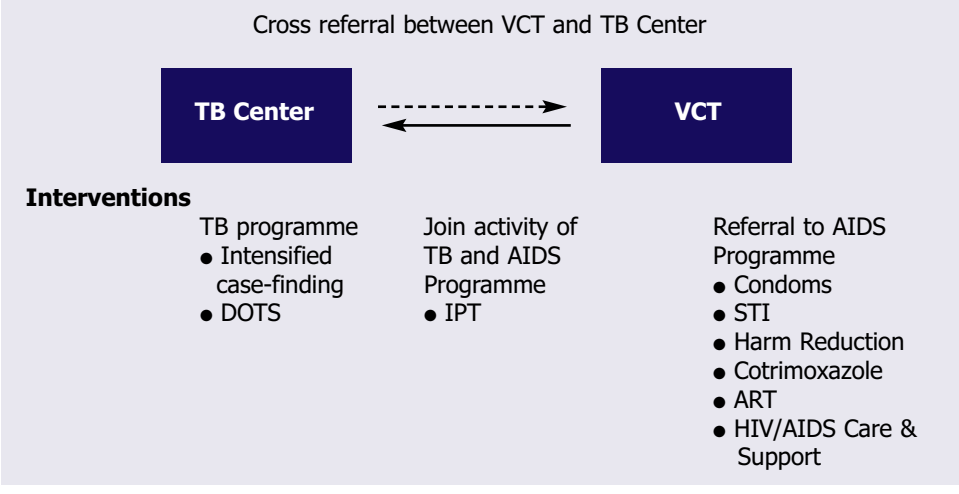
Day-Care Centres (DCCs) are located at district hospitals and at sub-district health centres in northern Thailand. They were established as a policy of the Ministry of

Public Health (MOPH) aiming at providing medical and psychosocial care to PLWHA in the district or subdistrict. DCCs also encourage PLWHA participation in the management and operation of their activities, which subsequently empower PLWHA and make the services of DCCs more suitable to the users. DCCs at district hospitals typically have monthly PLWHA meetings. While HIV/AIDS has become a mounting burden on health care resources, DCCs serve PLWHA as an important part of continuum of care, help the communities to become more supportive and stimulate hospitals to be active instruments for empowerment of PLWHA. Higher adherence to Isoniazid preventive therapy (IPT) when patients were enrolled through DCCs were documented.[11,56]

An efficient referral system between HIV/AIDS and TB services is crucial (Figure 8):

- VCT centres can screen for TB symptoms and refer to TB clinics for diagnosis and treatment
- TB clinics can refer persons with active TB and high HIV risk behavior to VCT

Figure 8: Cross referral between TB Centers and VCT as an essential element of HIV/TB collaborative activities



(f) Involve PLWHA/ peer/ and other support groups

Community awareness, involvement of communities and PLWHA in planning and implementation of interventions is unique to AIDS programmes. New approaches to TB case management could be developed based on the experiences from the AIDS programme. New approaches involving PLWHA/peers, in VCT, IPT and involvement of community boards could be utilized for collaborative HIV/TB activities.

Step V: Implementing the strategy in a phased manner

WHO recommends the development of a 3-5 year plan, incorporating activities in pilot sites which will go to scale (i.e. in a phased, step-by-step manner) over the course of the plan.

One lesson learnt from the implementation of DOTS programmes is the importance of regular supervision, with programme performance often being directly linked to the strength of the supervisory system. Without supervision, mistakes can continue uncorrected and even the most motivated staff may perceive their activities as unimportant. Thus the national strategic plan must ensure that systems are in place to supervise and support the service providers.

An extension of the supervisory system requires support to staff including:

- Regular meetings of service providers with senior staff who are able to advise on difficult cases;
- Regular technical meetings to maintain and update the skills of service providers;
- Confidential support meetings where staff can share their own emotional responses to occupational stress;
- Regular supervision with supportive and constructive feedback to health care providers;
- Exchange visits with care providers in other districts; and
- Strategies to reduce the risk of TB and HIV in health staff.

Regular reviews enable programme planners to assess the progress of implementation and to make corrections during implementation. They use ongoing data collection as well as additional tools to interview key stakeholders and observe HIV/TB services being delivered.

Step VI: Evaluation and scaling-up

Evaluation of the strategy should be undertaken after a given period of programme implementation. This evaluation can be performed by internal and/or external experts, the ideal situation being a mixed evaluation team with expertise in AIDS and TB, as well as HIV/TB. The assessment can use ongoing data collection and include site visits to assess central and peripheral level administrators, as well as supervisors, service providers and clients through interviews and observations.

Criteria for scaling up HIV/TB interventions must be determined. Revisions of the strategic plan and scaling up can be performed accordingly.

8 Monitoring and Evaluation

Monitoring and evaluation of programmes are designed to track what is being done and whether the programme is making a difference. The HIV epidemic and the HIV/TB epidemic are different from many other issues in health and development. Interventions are relatively new and information on feasibility, sustainability and effectiveness in developing countries are rare.

8.1 Indicators

At regional and national levels, substantial work will need to be done to develop outcome and performance indicators as soon as activities are identified. A list of interventions and indicators is proposed in Table 4.

WHO is preparing a guide for monitoring and evaluation of collaborative TB/HIV activities in 2003. It is very important that precise and clear definitions of the indicators that are to be used are defined in order to ensure they are accurately measured.

Table 4: Proposed interventions and indicators

1. Preventing HIV	Proposed indicators
• STI	• Number of TB patients screened for STI symptoms
• Harm reduction for injecting drug users	• Number of TB patients who are injecting drug users referred to needle syringe exchange programmes
• VCT	• Total number of registered TB patients who are tested for HIV (after been offered VCT) and tested HIV positive
2. Preventing progression of latent TB infection to active TB	
• Intensified case finding	• Number of VCT clients that are screened for TB • Number of new cases of active TB diagnosed in clients attending VCT found to be HIV positive
• IPT for PLWHA with latent TB	• Number of HIV positive clients who start IPT

	• Number of HIV positive clients who start IPT complete at least 6 months of treatment
3. Reducing morbidity and mortality of HIV-associated TB	
• Early diagnosis and treatment, DOTS	• Standard DOTS indicators from DOTS expansion framework
• Provision of access to ART	• Number of registered TB patients who are HIV positive and given ART, over the total number of registered TB patients who are HIV positive
• HIV/AIDS care during and after TB treatment	• Proportion of HIV positive TB patients referred to HIV care and support services during TB treatment
• Cotrimoxazole preventive therapy (CPT)	• Number of HIV-positive clients who start CPT
4. Strengthening health system response to HIV/TB	
• Enhancing collaboration of TB and AIDS programmes	• The existence of a national HIV/TB coordinating body with representation from the major stakeholders in collaborative HIV/TB activities, which meets at least quarterly
• Advocacy	• National TB control policy recognizes and addresses the link between HIV and TB • National AIDS control policy recognizes and addresses the link between TB and HIV
• Mobilizing resources	• Annual government health budget allocated for collaborative HIV/TB activities • Joint HIV/TB resource mobilization conducted
• Surveillance	• Joint HIV/TB surveillance plan developed
• Building partnerships with communities, PLWHA, NGOs	• Number of PLWHA groups, community groups, NGOs trained as peer educators for TB, HIV prevention and care
• Strengthening the health systems capacity	• Number of joint HIV/TB training workshops conducted
• Ensuring accountability, monitoring and evaluation	• Regular programme review includes assessment of accountability, monitoring and evaluation system for collaborative HIV/TB activities

8.2 Monitoring

The following steps for developing a monitoring and evaluation system are recommended:

- Assign responsible unit/persons with epidemiological expertise (seek from affiliated institution);
- Data processing and statistical expertise (seek from affiliated institution);
- Data collection and analysis plan;
- Recording and reporting forms for different levels;
- Data flow;
- Guidelines and guidance for different levels including ongoing supervision;
- Regular reviews/ evaluation of the progress in implementation; and
- Data dissemination plan.

Data managers or other staff responsible for recording and reporting need appropriate training. Guidelines for monitoring and evaluation should describe how relevant data are to be collected, recorded and reported, the data flow from peripheral to central level, data analysis and data dissemination.

Ongoing data collection for monitoring is primarily for use at the local level by the service providers to assess their own progress, but should also be reported to the central level on a regular basis.

8.3 Evaluation

A tool for midterm and final evaluation of the HIV/TB collaborative activities after a given time period should be developed. Ideally the evaluation should include a team of public health experts from the government, universities, NGOs, PLWHA and community as well as from international organizations.

8.4 Operational research

Research might include information collected as baseline assessment and a clear description of the process and outputs of the emerging collaboration. Feasibility studies of collaborative HIV/TB activities will not only help to inform national HIV/TB policies, but will also help inform international strategies being developed by the Global HIV/TB Working Group. Innovative approaches for HIV and TB control are needed, and, wherever possible, HIV and TB programmes should work together with research institutes to encourage relevant basic science research and clinical trials to provide much needed new HIV/TB diagnostic tools and therapies.

9 Milestones

The NAP and NTP programme managers proposed the following milestones for HIV/TB activities in SEAR to be achieved by 2005:

1. Five countries have established collaboration between NAP and NTP for collaborative HIV/TB activities
2. Five countries have developed identified collaborative HIV/TB interventions and activities
3. Five countries have established HIV/TB surveillance system

Annexure I

Management of Antiretroviral Treatment and Active TB[48,49,57]

When to start treatment and which regimen to use

The two major issues in the clinical management of patients with HIV and TB are 1) when to start ART and 2) which regimen to use. However TB treatment remains a central priority for patient management and should not be compromised by ART.

The optimal time when to start ARV in patients with active TB is not known. Pending on ongoing studies the initiation of ART for TB patients at very high risk for HIV disease progression and mortality is recommended, i.e., a CD4 count <200 cells/mm3, or extrapulmonary TB at 2 weeks to 2 months after the initiation of TB therapy as soon as tolerated. In the subset of patients with very low CD4 cell counts (<50 cells/mm3) or with other severe HIV disease it is recommended to start ART early. Mortality in many patients with TB during the first two months of TB treatment is high in particular with advanced immunodeficiency and starting ARV earlier might be life-saving. In patients who develop TB with CD4 counts in the 200-350 cells/mm3 range, it may be considered to start ART after the first two months of TB therapy. However the decision should be made in each country based on national policy and guidelines. In the absence of CD4 testing it may be considered that all patients with TB should start treatment. However, this will result in the treatment of individuals who otherwise would not receive ART.

The first line treatment options include ZDV/3TC or d4T/3TC plus either an NNRTI or ABC. If an NNRTI based regimen is used, EFZ is the preferred drug as its potential to aggravate the hepatotoxicity of TB treatment appears less than with NVP. The dose of EFZ may need to be increased to 800 mg/day when used in combination with rifampicin. The 800 mg dose of EFV achieves higher drug levels comparable to those seen in the absence of rifampicin and thus may reduce the chance of HIV drug resistance, but also can increase the toxicity risk.

SQV/RTV 400/400 mg bid, SQV/r 1600/200 mg qd (in soft gel capsule- sgc) or LPV/RTV 400/400 mg bid in combination with the NRTI backbone are an alternative to EFV although tolerability, clinical monitoring and risk of resistance may be problematic. Endorsement of these PI-based regimens requires further data. ABC is another alternative to EFV with the advantage of low pill burden, no

Table 5. ART recommendations for individuals with TB disease and HIV co-infection

CD4 cell count	Recommended regimen	Comments
CD_4<200 mm^3	Start TB treatment. Start ART as soon as TB treatment is tolerated (between 2 weeks and 2 months)[1]: EFV containing regimens [2,3,4]	Recommend ART. EFV is contraindicated in pregnant women or women of childbearing potential without effective contraception
CD_4 between 200-350/mm^3	Start TB treatment. Start one of the below regimens after initiation phase (if severely compromised start earlier): EFV containing regimens[2] or NVP containing regimens in case of rifampicin-free continuation phase TB treatment regimen.	Consider ART.
CD_4>350 mm^3	Start TB treatment.	Defer ART[5]
CD_4 not available	Start TB treatment.	Consider ART[1,6]

[1]Timing of ART initiation should be up to clinical judgement based on other signs of immunodeficiency. For extrapulmonary TB, ART should be started as soon as TB treatment is tolerated irrespective of CD4 cell count.

[2]Alternatives to the EFV portion of the regimen include: SQV/r (400/400 mg bid or 1600/200 qd in sgc), LPV/RTV (400/400 mg bid) and ABC (300 mg bid).

[3]NVP (200 mg qd for 2 weeks followed by 200 mg bid) may be used in place of EFV in absence of other options. NVP containing regimens inlcude: d4T/3TC/NVP or ZDV/3TC/NVP

[4]EFV containing regimens include d4T/3TC/EFV or ZDV/3TC/EFV.

[5]Unless non-TB Stage IV conditions are present. Otherwise start ART upon completion of TB treatment.

[6]If no other signs of immunodeficiency are present and patient is improving on TB treatment, ART should be started upon completion of TB treatment.

interaction with rifampicin, and has the advantage of being able to give to children $\leq$ 25 kg for whom appropriate EFV dosing information is not yet available. Concerns for this regimen include monitoring for hypersensitivity syndrome and virologic potency. Data on the use of NVP +rifampicin are limited and conflicting. NVP levels are reduced in the presence of rifampicin, and higher NVP doses have not been evaluated. Although some clinical experience reports adequate viral and immunologic response and acceptable toxicity, this regimen should only be considered when no other options are available. For women of childbearing age (without effective contraception), pregnant women and children with TB, either

SQV/r or ABC + (d4T or ZDV) + 3TC are recommended. For children ≤ 25 kg, (d4T or ZDV)/3TC/ABC is recommended as an alternative.[74-81]

Patients already receiving ART when they develop TB should adjust the regimen to be compatible with TB treatment. Following completion of TB therapy, the ART regimen can be continued or changed depending upon the clinical and immunological status of the patient.

Annexure II

Cotrimoxazole Preventive Treatment and Maintenance Therapy

Cotrimoxazole preventive therapy in adults and children living with HIV/AIDS[53,54]

1. Criteria for offering cotrimoxazole preventive therapy
   Adults and children older than 15 months

- HIV-positive persons with CD4 count < 200 cells/µL (in children CD4<15% or age specific CD4 count threshold)
  - WHO stage IV disease (children WHO stage III disease) and WHO stage III disease with
  - Oropharyngeal candidiasis
  - Pruritic papular eruption
  - Unexplained chronic diarrhea > 1 months
  - Weightloss > 10% of BW

Infants

- Any child born to an HIV-infected woman should be offered cotrimoxazole from 4-6 weeks of age

Pregnant women

- As for other adults.
- Because of theoretical concerns regarding possible teratogenicity associated with drug exposure during the first trimester, providers may choose to withhold prophylaxis during the first trimester.

2. Criteria for adults and children to prevent recurrent infection

   Persons who have completed initial therapy for *Pneumocystis carinii* pneumonia should be administered lifelong suppressive treatment.

3. Drug regimens

Adults

One single-strength tablet (400/80 mg) bid or 1 double-strength (800/160mg) tablet OD as a self-administered dose are the preferred regimens. However 1 single-strength tablet OD is also effective and might be better tolerated than one double-strength tablet per day.

Infants

- Cotrimoxazole syrup should be given once daily
- If syrup is unavailable cotrimoxazole tablets may be crushed
- The recommended dose is 150mg trimethoprim/m2 and sulpha-methoxazole 750mg/m2.

4. Criteria for stopping cotrimoxazole

- Occurrence of side effects
  - Cutaneous reactions, which may be severe (fixed drug eruptions and Stevens Johnson syndrome)
  - Renal/hepatic failure
  - Haematological toxicity
- If antiretroviral treatment available and the CD4 count rises to greater than 200 cells/µL for 3 months
- Children testing HIV-negative when older than 18 months (in whom CPT was commenced in infancy)

5. Contraindications to cotrimoxazole

- Known allergy to sulpha-containing drugs (which includes cotrimoxazole and sulphadoxine-pyrimethamine)
- Renal or hepatic impairment

6. Follow-up to monitor for toxicity, clinical events and adherence

- Cotrimoxazole should be given in settings where regular patient follow-up is possible.
- Adults should be reviewed monthly initially, and then three monthly thereafter if the medication is tolerated
- Children should be reviewed monthly
- Monitoring of adults should take place every six months, including haemoglobin and white cell count (where facilities are available, or when clinically indicated)

Concerns about the use of cotrimoxazole include:

- Many countries have high bacterial resistance rates to cotrimoxazole so that protection against other opportunistic pathogens than Pneumocystis carinii may be limited
- The spectrum of HIV-related pathogens may differ in other countries, also potentially affecting efficacy to prevent other infections than Pneumocystis carinii pneumonia.
- Many countries that use cotrimoxazole as an essential drug e.g. for the treatment of adult community-acquired pneumonia and childhood acute respiratory illness are concerned that widespread use cotrimoxazole will lead to increased bacterial resistance rates.

The use of cotrimoxazole has been shown to induce resistance in *Plasmodium falciparum* (malaria) against sulphamethoxine-pyrimethamine (a commonly used antimalarial drug).

Annexure III

HIV/TB Questionnaire 2003 for Situation Assessment (Central Level)

Country:			
Program: (tick)	TB	HIV/AIDS	TB/HIV
Name of responder:			
Position:			
Telephone number:			
e-mail address:			
Date:			

Epidemiology				
1	1.1	Do you monitor HIV seroprevalence in TB patients?	Yes	No
	1.2	If yes, what surveillance system are you using? a. Sentinel surveillance b. Periodic survey c. Data from routine patient care d. Ad hoc survey e. Other (please specify) _____		
	1.3	What is the estimated national prevalence of HIV in TB patients?		%
	1.4	What is the highest prevalence recorded in specific high-risk populations/areas		%
TB Morbidity and Mortality				
2	2.1	Do you monitor TB morbidity in PLWHA?	Yes	No
		If yes, what system are you using? a. AIDS notification system b. Periodic survey c. Data from routine patient care d. Ad hoc survey e. Other (please specify) _____		
	2.2	Do you monitor TB mortality in PLWHA?	Yes	No
		If yes, what system are you using? a. AIDS notification system b. Periodic survey		

		c. Data from routine patient care d. Ad hoc survey e. Other (please specify) _____		
	2.3	What is the estimated prevalence of TB morbidity in PLWHA?		%
	2.4	What is the estimated prevalence of TB mortality in PLWHA?		%
3		Please indicate the main population groups at risk for HIV + TB patients in your country. Please list at least three of the most important risk groups in order of risk. Commercial sex workers — Injecting drug users Prisoners — Migrant labourers People living in congregate setting (police and military) — Pregnant women Health workers Immigrants — General population Other (please specify) _____		
Organizational Framework				
4	4.1	Does your country have a National HIV/AIDS Control Programme?	Yes	No
	4.2	If so, does this programme contain a specific section on management of TB in PLWHA?	Yes	No
	4.3	Do you have in this programme a focal person for TB/HIV?	Yes	No
	4.4	Please describe policy and activities in place for ensuring that PLWHA receive optimal prevention, care and support for TB.		
5	5.1	Does your country have a National TB Control programme?	Yes	No
	5.2	If so, does its long-term national DOTS expansion plan have a specific section on management of HIV/AIDS for TB patients?	Yes	No
	5.3	Do you have in this programme a focal person for TB/HIV?	Yes	No
	5.4	Please describe policy and activities in place for ensuring that TB patients receive optimal prevention, care and support for HIV/AIDS?		
6	6.1	Is there a formal administrative arrangement of collaboration between the HIV/AIDS and the TB control programmes?	Yes	No
	6.2	If so, please describe briefly.		

6.3 Please indicate how you would score the effectiveness of collaboration between the HIV/AIDS and TB programmes (1 = non-existent, 2 = poor, 3 = fair, 4 = good, 5 = excellent)

6.4 Regarding the collaboration between HIV/AIDS and TB programme;

- Please identify three main obstacles:

1 _____
2 _____
3 _____

- Please identify three main interventions required to overcome obstacles;

1 _____
2 _____
3 _____

- Please identify three main areas of successful collaboration;

1 _____
2 _____
3 _____

Joint Interventions and Activities	HIV/AIDS Programme		TB Programme	
Activities that increase the ability of the health services and communities to deal with the impact of TB and HIV				
7. Please indicate which interventions and activities are currently being implemented by either or both programmes (Tick the appropriate column)				
7.1 Collaboration with other partners outside the public health sector (e.g NGO's, corporations, private health sector)	Yes	No	Yes	No
7.2 Resource mobilization for TB/HIV	Yes	No	Yes	No
7.3 Training of health workers for TB/HIV collaboration activities	Yes	No	Yes	No
7.4 Development of guideline/ module/ manual for TB/HIV collaboration activities	Yes	No	Yes	No
7.5 Development and implementation of a comprehensive IEC strategy for VCT clients, TB patients and their contacts and communities affected by HIV and TB	Yes	No	Yes	No
7.6 Training of TB/HIV supporting and Community-based Organizations for TB/HIV collaboration activities	Yes	No	Yes	No

7.7 Development of TB/HIV referral system	Yes	No	Yes	No
7.8 Monitoring and evaluation of TB/HIV collaboration activities	Yes	No	Yes	No
7.9 Operational Research for TB/HIV collaboration activities	Yes	No	Yes	No
Interventions aimed at strengthening TB control in HIV+ persons				
7.10 Measures in hospitals and clinics to protect HIV-positive health workers and HIV+ patients from TB infection	Yes	No	Yes	No
7.11 Intensified and active case-finding for TB in VCT services	Yes	No	Yes	No
7.12 Isoniazide preventive treatment for HIV+ persons with latent TB	Yes	No	Yes	No
Interventions aimed at strengthening HIV prevention, care and support in TB patients				
7.13 Routine HIV testing and counselling for TB patients	Yes	No	Yes	No
7.14 Promotion and provision of HIV prevention (condoms and education) in TB patients	Yes	No	Yes	No
7.15 Cotrimoxazole preventive treatment for HIV+ patients during TB treatment	Yes	No	Yes	No
7.16 Antiretroviral treatment for HIV+ TB patients	Yes	No	Yes	No

Indicators for joint collaboration activities	No	%
8. In the following table we invite you to provide quantitative data on services being provided to PLWHA and PLWTB in the interface of TBHIV, in the health sector response.		
8.1 Total number of districts in the country		100%
8.2 Number and % of districts where there are plans to implement TB/HIV interventions and activities		
8.3 Number and % of districts where training packages of TB/HIV collaboration activities have been performed		
8.4 Number and % of districts where TB/HIV collaboration activities have been implemented		
8.5 Number and % of districts where data of TB/HIV collaboration activities have been reported		

8.6 Number and % of districts where monitoring, supervision and evaluation of TB/HIV collaboration activities have been performed		

9. Please use the rest of this page for comments on this questionnaire, and any other additions or comments you would like to make.

Additional comments:

HIV/TB QUESTIONNAIRE FOR DISTRICT LEVEL

In the following table you could collect quantitative data on services being provided to PLWHA and TB patients with regard to collaborative HIV/TB activities, in addition to the selected questions from the central level questionnaire.

Indicators for surveillance and joint planning	No	%
1. Number of Districts affected by HIV/AIDS and TB in the country		
Total number of districts in the country		100%
Number and % of districts where both HIV/AIDS and TB are present		%
Number and % of districts where HIV/AIDS and TB are present, and with an estimate of HIV prevalence in general or specific populations		%
Number and % of districts where HIV/AIDS and TB are present, and with a estimate of HIV prevalence in TB patients		%
2. Number of Districts where both HIV/AIDS and TB are present, and with a plan to implement TB/HIV interventions and activities		%
Indicators for access and performance		
1. Number and % of VCT clients routinely screened for TB	No	%
Total number of clients accessing VCT per year		100%
Number and % of clients HIV+		%
Number and % of clients undergoing routine screening for active TB		%
2. Number and % of HIV+ clients started and completing preventive TB treatment	No	%
Number of HIV+ clients started on Isoniazide Preventive Treatment		100%
Number and % of HIV+ clients completing Isoniazide Preventive Treatment		%
3. Number and % of TB patients being HIV tested and counselled out of all registered TB patients	No	%
Number of all registered TB patients last year (indicate Year ……..)		100%
Number and % of TB patients being counselled and HIV tested		%
Number and % of HIV tested TB patients infected with HIV		%

	Number and % of HIV-TB patients who received HIV prevention education and condoms		
4.	Number and % of HIV + TB patients on cotrimoxazole preventive treatment and antiretroviral treatment	No	%
	Number of HIV+ TB patients		100%
	Number and % of HIV+TB patients accessing cotrimoxazole preventive treatment		%
	Number and % of HIV+TB patients assessing antiretroviral treatment		%

Please use the rest of this page to provide us with comments on this questionnaire, and any other additions or comments you would like to make.

Additional comments:

Annexure IV

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