

# **TB/HIV in the South-East Asia Region**

Status Report

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## Burden of HIV in the South-East Asia Region

It is estimated that 3.5 million persons are living with HIV/AIDS in the South-East Asia Region in 2010 (Table 1). Women account for 37% of the total number of people living with HIV. Annually, there are an estimated 210,000 new HIV infections and 230 000 AIDS deaths. Five countries (namely India, Indonesia, Myanmar, Nepal and Thailand) account for the majority of HIV infections. No case of HIV has been reported from the Democratic People's Republic of Korea. Bangladesh, Bhutan, Maldives, Sri Lanka and Timor Leste together represent less than 1% of all HIV infections in the Region. The number of new infections every year is showing a downward trend in four of the five high HIV burden countries (namely India, Myanmar, Nepal and Thailand). In Indonesia, the HIV epidemic is still on the rise. The majority of HIV infections are transmitted sexually; injecting drug use is the second most common of HIV transmission. The South-East Asia Region accounts for nearly 15% of the global burden of new HIV-positive tuberculosis cases. HIV prevalence among new TB patients is 5.7%. The overall HIV prevalence among the adult population is very low (0.3%) in the Region, but sex workers and their clients, men who have sex with men, transgender and people who inject drugs are disproportionately affected by HIV. In some areas, HIV prevalence has decreased among female sex workers; however, there is evidence of continuing high transmission among people who inject drugs, men who have sex with men and transgender. Prevalence of sexually transmitted infections is very high particularly among sex workers, men who have sex with men and transgender populations.

**Table 1: Estimated HIV prevalence among adult populations and the number of people living with HIV infection in Member states of the SEA Region, 2010**

Country	Proportion (%) of adult population infected with HIV prevalence	Estimated number of people living with HIV
Bangladesh	<0.1	7000
Bhutan	0.1	<1000
DPR Korea	No reported HIV positive individual till date	
India	0.3	2,300,000
Indonesia	0.2	340,000
Maldives	<0.1	<100
Myanmar	0.6	230,000
Nepal	0.44	63,000
Sri Lanka	<0.1	2,800
Thailand	1.2	550,000
Timor-Leste	<0.1	<1000
<b>Total</b>	<b>0.3</b>	<b>3.5 million</b>

Source: HIV/AIDS in the South-East Asia Region; Progress Report 2011

## Epidemiology of TB-HIV

Globally, there were an estimated among 1.1 million incident HIV positive TB cases in 2010; 1.1 million were among PLWHA. The WHO South-East Asia Region accounts for nearly 15% of the global burden. Five countries in the Region with the highest HIV burden also have a high TB burden (Table 2). The incidence rate of HIV-positive TB cases was the highest in Myanmar, followed by Thailand, India and Indonesia. The incidence rate of HIV-positive TB cases was below 1 per 100 000 population in Bangladesh, Maldives, Sri Lanka and Timor-

Leste. India accounted for the majority of new HIV-positive TB cases in the Region. Overall, HIV prevalence among TB cases is 5.7%, but varies widely among countries.

The estimated prevalence of HIV among TB patients between the ages of 15-49 years and the estimated number of active TB cases among PLHA in this age group is as shown in table 2.

**Table 2: HIV/TB Burden South-East Asia Region- 2010**

Country	Estimated people living with HIV	Adult population infected with HIV	Prevalence of all forms of TB		HIV prevalence among new TB cases	Incidence of HIV-positive TB cases	
			Number	Rate per 100 000 population		Number	Rate per 100 000 population
Bangladesh	7,000	<0.1%	690 000	426	0.2%	580	<1
Bhutan	<1000	0.10%	1 300	179	<0.1%	36	
DPR Korea	NA	NA	100 000	423	NA	200	
India	2,390,000	0.3%	3 000 000	249	6.4%	130 000	5.1
Indonesia	300,000	0.2%	660 000	285	2.8%	12 000	<1
Maldives	<100	<0.1%	150	47	<0.1%	<10	<1
Myanmar	230,000	0.5%	300 000	595	9.2%	22 000	44
Nepal	60,000	0.3%	71 000	241	2.4%	1 100	3.8
Sri Lanka	3,000	<0.1%	20 000	101	0.1%	32	<1
Thailand	540,000	1.1%	130 000	189	17%	16 000	23
Timor-Leste	<1000	0.1%	8 400	743	1.1%	<10	<1
<b>Total</b>	<b>3.5 million</b>	<b>0.3%</b>	<b>5 million</b>	<b>278</b>	<b>5.7%</b>	<b>180 000</b>	<b>10</b>

Source: Country reports, national AIDS programmes; Global TB Control WHO Report, 2011

Note: Figures are rounded off. Data shown are the best available estimates

NA=not available

## Responding to TB-HIV

The need to urgently address TB-HIV is well understood in the Region. A Regional Strategic Plan for HIV-TB has been developed, adapting global strategies and guidelines to the unique needs of the Region. In this Regional plan, the following strategies and interventions are recommended in Table 3:

**Table 3: Regional Strategic Plan for TB/HIV collaborative activities**

<i>A. Joint policy and strategy development for planning and strengthening of systems for the implementation and monitoring of TB/HIV collaborative activities</i>	
A.1 Set up coordinating bodies for TB HIV activities at different levels	Jointly by NACP, NTP and partners
A.2 Conduct surveillance of HIV prevalence among tuberculosis patients	
A.3 Joint planning and strengthening of systems to implement TB/HIV interventions	
A.4 Conduct monitoring and evaluation	
<i>B. Decrease the burden of tuberculosis in people living with HIV/AIDS</i>	
B.1 Establish intensified tuberculosis case-finding	HIV control programmes
B.2 Introduce isoniazid preventive therapy	
B.3 Ensure tuberculosis infection control in health care and congregate settings	
<i>C. Decrease the burden of HIV in tuberculosis patients</i>	
C.1 Provide HIV testing and counselling	TB control programmes TB control programmes
C.2 Introduce HIV prevention methods	
C.3 Introduce co-trimoxazole preventive therapy	
C.4 Ensure HIV/AIDS care and support	
C.5 Introduce antiretroviral therapy	

Countries face many challenges in implementing these collaborative TB-HIV activities (Table 4). Broadly, the first challenge is to overcome the administrative barriers to collaboration between two often very different health programmes, and to mobilize the necessary political will and resources at all levels. The second challenge is to increase access to provider initiated counseling and testing in both HIV AIDS and TB settings and to link these to the existing and expanding network of diagnostic and treatment facilities and providers working with TB programmes. The third challenge is to ensure that patients diagnosed with both HIV and active TB, are provided optimal care for TB and promptly linked to the care and support services of National HIV/AIDS programmes, including for co-trimoxazole prophylaxis and anti-retroviral treatment. The fourth challenge is to ensure a patient-centric approach at a unified point of care. Lastly, programmes must find rational ways to monitor and evaluate these activities.

**Table 4: Challenges in Implementing TB-HIV Collaborative Activities**

<b>The need to establish a firm foundation for collaboration</b>
Commitment supporting a firm national policy and mandate for collaborative activities
Establishing well-functioning TB-HIV technical committees at national level and coordinating committees at region/state/provincial and district levels
Strengthening the already overstretched health system infrastructure to effectively undertake

the additional services
Prioritizing TB on the agenda of national HIV/AIDS programmes as the leading cause of significant morbidity and mortality among PLHA
Imparting pre-service and in-service training on TB, HIV, and TB-HIV to new and existing health staff
Mobilizing resources, including community-based resources through advocacy for joint TB-HIV counseling, prevention, control, and care
<b>Addressing diagnostic challenges</b>
Ensuring the availability of decentralized counseling and testing services for HIV at the same peripheral level facilities providing TB services
Cross-training of the health staff to correctly identify, refer and care for patients co-affected by both HIV and TB
Establishing and implementing a well-functioning system of cross-referral
Integrating good administrative and environmental infection control practices into health facilities serving large numbers of PLHA and TB patients
<b>Overcoming treatment challenges</b>
Training staff to initiate and manage concurrent administration of anti-TB treatment (ATT) and anti-retroviral treatment (ART)
Managing drug-drug interactions and adverse reactions associated with simultaneous administration of anti-TB treatment (ATT) and ART
Reducing the risk of immune re-constitution syndrome and preventing any adverse effects on adherence
Coordinating the delivery of uninterrupted supplies of ART and ATT to patients, between the two programmes
Exploring the feasibility of isoniazid prophylaxis for HIV infected persons
<b>Ensuring effective procurement and supply management</b>
Overcoming the present shortages/lack of availability of ART at peripheral health facilities; ensuring uninterrupted supplies of necessary drugs and consumables at all facilities offering TB and HIV diagnosis, treatment and care.
<b>Patient-related and sociological challenges</b>
Overcoming stigma, altering high-risk behaviour
Establishing psycho-social support systems
Reducing delays in through changing health-seeking behaviours
Reducing the indirect costs to patients

Empowering and sustaining NGO and community-based support services
<b>Undertaking effective monitoring and evaluation</b>
Including HIV information within routine TB recording and reporting systems while maintaining the confidentiality of HIV status
Including adequate information on TB diagnosis, and treatment in NAP records
Jointly reviewing implementation, timely action on lacunae
<b>Surveillance</b>
Difficulties in shifting from the 'anonymous unlinked testing' among TB patients to routine 'Provider initiated counseling and testing' for surveillance
Establishing routine surveillance for TB among HIV infected people.

Regardless of these challenges, in most countries, initiatives to establish and expand TB-HIV collaborative activities have commenced or are being actively pursued. In India, Nepal, Thailand, and Myanmar, programmes have jointly developed guidelines for TB-HIV collaborative activities, and are in various phases of scaling up activities nationwide.

## **Actions taken at the Country level**

### **Bangladesh**

National TB Control Programme (NTP) has initiated TB/HIV collaborative activities and is implementing in collaboration with the National AIDS and STD Programme (NASP). A National TB-HIV Coordination Committee is established and functional from 2008. Commitment of policy makers in MOH&HW and DGHS is there to reduce the burden of TB/HIV co-infection and to reduce TB/HIV-related morbidity and mortality.

Currently only one tertiary level Government institute, Infectious diseases hospital (IDH), is managing HIV patients as well as TB/HIV co-infected cases in coordination with NTP and National Institute of Diseases of Chest and Heart (NIDCH). One NGO named Ashar Alo society working with PLHIV are involved in TB HIV management in collaboration with NTP.

In Bangladesh the first case of HIV was detected in 1989. Till December 2010, there were 2088 reported cases of HIV and 850 cases of AIDS, among them 241 died. HIV prevalence in Bangladesh is low (< 1%) among the general population, even within the vulnerable population it continues to be low except for injecting drug users with rates of upto 11% reported in one neighbourhood in Dhaka.

Three limited HIV sero-surveys have been conducted among TB patients in 1999, 2000-01 and 2006-07, data from surveys revealed very low level (0.1%) of prevalence of HIV among TB patients but some HIV health setting, the co-infection prevalence was found to be high (18, 5%) in 2009. Upto September, 2011, Ashar Alo Society ( Partner NGO of NTP for implementing TB-HIV Collaborative activities) tested 210 PLHIV and among them 40 were diagnosed as TB patients.

The National Institute of Diseases of Chest and Hospital (NIDCH) is playing an imperative role in implementation of routine DOTS activities, managing MDR-TB cases and housing the National TB Reference Laboratory. NTP with support from NASP and family health international (FHI) established one VCT centre in NIDCH in 2009. A total of 290 TB patients were tested by the end of September 2011 and 3 were found HIV positive. Among tested patients 225 were male and 65 were female and among positive 1 were male and 2 were female. Under this collaboration, NGO partner of NTP, BRAC and Damien Foundation also providing VCT services for high risk TB patients from 2009. Upto September 2011, 1186 TB patients were tested and no HIV positive were found among them.

The goal of the TB/HIV strategy of NTP Bangladesh is to reduce TB/HIV associated morbidity and mortality through collaboration between National AIDS Programme and National TB programme.

A national guideline was developed to manage TB/HIV co-infection in 2009. NTP and NASP jointly established a mechanism for collaboration between tuberculosis and HIV program by established routine HIV screening among TB patients as per set criteria and yearly screening criteria for HIV patients for TB. NTP and NASP jointly set the criteria for referral from VCT centre to DOTS centre and vice versa.

NTP and NASP jointly working on capacity building of service providers of both programmes, NTP is providing all logistic support to manage TB in HIV patients and NASP is providing all support to manage HIV in TB patients.

Functional collaboration has been established between NTP, NASP, development partners and other TB/HIV stakeholders for implementing the collaborative TB/HIV activities in line with the of global Stop TB Strategy.

The NTP plans for a nation wide HIV sero prevalence study among TB patients in 2012 depends on availability of fundings.

<b>Recommended TB/HIV strategy</b>		<b>Status of activities in Bangladesh</b>	
<b>Establishing mechanisms of coordination</b>			
Establish coordinating bodies at all levels		National TB-HIV coordinating body established at central level	
Undertake surveillance of HIV among TB patients		Not routinely done; periodic surveys undertaken	
Jointly plan TB/HIV activities		Planned	
Monitor and evaluate interventions		Planned	
<b>Decreasing the burden of TB in PLHIV</b>			
Establish intensified case finding		Training on TB imparted to HIV programme staff	
Introduce Isoniazid preventative therapy (IPT)		Currently not part of policy. NTP has a planned for Pilot study	
Ensure TB infection control		Systematic approach to infection control has been initiated.	
<b>Decreasing the burden of HIV in TB patients</b>			
Provide HIV Testing and Counseling		Being done for patients belonging to higher risk groups for HIV (Not nation wide)	
Introduce HIV prevention methods		Available in HIV settings	
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)		For known co-infected patients in some settings	
		For eligible known co-infected patients in some settings	

## Bhutan

According to UNAIDS, the estimated prevalence of HIV in general population and among TB patients is less than (<0.1%). During annual sentinel surveillance, 250 TB patients are routinely screened for HIV each year. So far 11 HIV-positive cases have been identified.

<b>Recommended TB/HIV strategy</b>	<b>Status of activities in Bhutan</b>
<b>Establishing mechanisms of coordination</b>	
Establish coordinating bodies at all levels	Will be established once the TB/HIV guideline is developed
Undertake surveillance of HIV among TB patients	The surveillance of HIV among TB patients is under process for initiation.
Jointly plan TB/HIV activities	Joint plan will be developed once the TB/HIV guideline is developed.
Monitor and evaluate interventions	Coordinated monitor and evaluate interventions to be established between two programs
<b>Decreasing the burden of TB in PLHIV</b>	
Establish intensified case finding	Counseling to be intensify for all HIV positive patients for TB diagnosis and treatment and vice versa
Introduce Isoniazid preventative therapy (IPT)	IPT included in the TB guideline.
Ensure TB infection control	Infection control measures are being practiced in all the health facilities.
<b>Decreasing the burden of HIV in TB patients</b>	
Provide HIV Testing and Counseling	All TB patients are counseled and offer HIV testing.
Introduce HIV prevention methods	Advocated through advocacy strategies adopted by the country
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	ART is provided by the national HIV programme. CPT will be introduced in revised HIV guideline.

## DPR Korea

No cases of HIV have been reported in the country.

<b>Recommended TB/HIV strategy</b>	<b>Status of activities in DPR Korea</b>
<b>Establishing mechanisms of coordination</b>	
Establish coordinating bodies at all levels	Not available
Undertake surveillance of HIV among TB patients	In 2010, 3050 TB patients were tested for HIV and all tested negative.
Jointly plan TB/HIV activities	In process
Monitor and evaluate interventions	Under consideration
<b>Decreasing the burden of TB in PLHIV</b>	

Establish intensified case finding	No policy
Introduce Isoniazid preventative therapy (IPT)	Available for child contacts of all smear positive TB patients
Ensure TB infection control	Infection control guidelines and plan has been prepared and essential renovations and procurement of equipment are under process
<b>Decreasing the burden of HIV in TB patients</b>	
<i>Provide HIV Testing and Counseling</i>	No policy
Introduce HIV prevention methods	Only in hospital settings or specialized clinics
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	No policy

## India

It is estimated that there are 2.3 million people living with HIV in India with an estimated adult HIV prevalence of 0.3% (range: 0.2%–0.4%). HIV prevalence among TB patients was estimated using national data to be 4.9% (95% CI 4.1%–5.7%), or using global data to be 6.7% (95% CI 5.5%–7.9%). National surveillance has shown that the distribution of HIV among TB patients is highly heterogeneous, and is closely correlated with the distribution of HIV infection.

A national policy to coordinate common activities for HIV/AIDS and TB has been formulated by the National AIDS Control Organization and the Central TB Division, and has been updated annually through active coordination at the National level. TB and TB/HIV interventions are reciprocally included in the national policies of both programmes. Implementation of the revised “National framework of joint TB/HIV collaborative activities” began in early 2008 and interventions now cover the entire country. The Framework was updated in late 2009, and again in 2010. An “intensified TB-HIV package”, initiated in 2008 in 9 states, has now been expanded to 29 States in 2010, covering more than 900 million population. The country plans to cover entire country with the intensified TB-HIV package by the end of 2011.

Intensified TB case finding has been implemented nationwide at all 5,223 HIV testing centers (known as integrated counseling and testing centres, or ICTCs), with better reporting coming from States implementing the intensified TB-HIV package. During 2010, in just the 7 highest-HIV burden States implementing the Intensified TB-HIV package, more than 393,000 TB suspects were referred from ICTCs to RNTCP and of them 35,500 were diagnosed as having TB.

HIV testing of TB patients is now routine through provider initiated testing and counseling (PITC), implemented in all states with the intensified TB-HIV package. In these settings, the density of HIV counseling and testing services is adequate for PITC for TB patients to be effectively implemented. In 2010, 480,752 TB patients (59% of total TB patients registered in the 19 States implementing the intensified TB-HIV package for at least 2 quarters) were tested for HIV; 41,476 (9% of those tested) were diagnosed as HIV positive and were offered access to HIV care. Based on pilot-testing of decentralized delivery of Co-trimoxazole preventive therapy (CPT) for HIV infected TB patients in three high HIV prevalence districts of Andhra Pradesh, CPT for HIV-infected TB patients has been included into national policies. For patients registered in 2009, among 36,383 HIV-infected TB patients, during TB treatment CPT

was provided to 88% and ART to 49%. Both programmes are making substantial efforts in 2011 to improve early initiation of ART in HIV-infected TB patients.

Persons found to be HIV-positive are eligible for free HIV care at a network of antiretroviral treatment (ART) centres. ART centres are located in medical colleges, mainly staffed and operated by the State AIDS Control Societies, and a few are situated within the facilities of private or NGO partners. As of December 2010, 292 ART centres were operating in the country, and 550 link-ART centres. Ten Regional Centres of Excellence provide state-of-art services for PLHIV. TB-HIV co-infected patients who are on protease inhibitors based second line ART will get rifabutin based treatment in place of Rifampicin.

Airborne infection control at ART centres and associated HIV care settings (community care centres and “Link” ART centres) has been identified as an area of increasing importance. Studies have shown high rates of exogenous re-infection among HIV-infected persons with recurrent TB, suggesting that these patients have been re-exposed to TB after being cured. National Airborne Infection Control guidelines have been developed, including special recommendations for airborne infection control activities in ART centres. Ten ART centres are included in a pilot project for airborne infection control currently underway in three States.

<b>Recommended strategy</b>	<b>TB/HIV</b>	<b>Status of activities in India</b>
<b>Establishing mechanisms of coordination</b>		
Establish coordinating body at all levels		National and State TB/HIV coordinating bodies in place; Service delivery level coordination bodies established at district levels in all settings.
Undertake surveillance of HIV among TB patients		A special survey of HIV amongst TB patients completed in 15 districts, 2006-7; National estimation of HIV burden among TB patients conducted for 2007 (4.8%); Ongoing surveillance of HIV among TB patients through routine reporting of HIV status for TB patients from 11 higher-HIV burden states; number of states with ongoing surveillance increasing each year
Undertake Joint TB/HIV planning		Jointly-developed framework for TB-HIV collaborative activities in place at national and state levels; updated in 2009 and 2010.
Monitor and Evaluate interventions		Joint monitoring in all states, with periodic joint reviews by both programmes; Joint evaluations being conducted in states where TB-HIV activities have been intensified
<b>Decreasing the burden of TB in PLHIV</b>		
Establish intensified case finding		Intensified case finding in place since 2004 in all Integrated Counseling and Testing Centers (ICTC) and Antiretroviral treatment (ART) centres, using symptom-based screening; Systematic system of recording, reporting, and monitoring intensified TB case finding has been established in ICTCs and ART centres.
Introduce Isoniazid preventative therapy (IPT)		Not included in national guidelines; subject of ongoing research activities.
Ensure TB infection control		Airborne infection control guidelines developed,

	with special section on measures required for ART centres. Pilot testing underway
<b>Decreasing the burden of HIV in TB patients</b>	
Provide HIV Testing and Counseling	HIV testing facilities expanding rapidly; Provider initiated offer of voluntary HIV counseling and testing for TB patients now national policy for 18 states implementing intensified TB-HIV package; Risk-based referral of TB patients for voluntary HIV counseling and testing recommended in remaining states, till adequate decentralized HIV testing services available to enable routine HIV testing of all TB patients
Introduce HIV prevention methods	Integrated into general health care system
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	ART being made increasingly available and subsidized for patients covered by National AIDS Control Programme, but barriers to access remain. CPT included in national guidelines, is available at all ART centers, and is being made available through state governments in states implementing intensified TB-HIV package.

## Indonesia

Indonesia has an overall low prevalence of HIV. The estimated prevalence of HIV among the adult population is 0.2% nationally and it is estimated that there are 186,000 people living with HIV in the country (2010). The country is at the stage of concentrated epidemic, with a generalized epidemic in Papua province where the HIV prevalence in the general population is at 2.4%. Twelve provinces have been identified as priority areas for HIV interventions. By December 2010, there were 196 hospitals providing HIV testing and antiretroviral treatment (ART) nationwide and 388 voluntary counselling and testing (VCT) centres providing HIV testing in the country.

The estimated prevalence of HIV among incident TB cases is 4.0% nationally in 2010 (WHO, global report 2011). The HIV prevalence surveys among new TB patients in the provinces showed the results of 2% in Jogjakarta (2006) and 0.8% in East Java, 3.8% in Bali and 15% in Papua (2008). TB is the commonest opportunistic infection reported among PLHIV.

A national policy for TB-HIV collaborative activities is in place and guidelines and training materials/ modules have been developed, including PITC and TB-IC. TB-HIV IEC materials have been developed and distributed. The NTP has revised the recording and reporting formats to include information on TB-HIV. TB-HIV communication forum has been established at the national level for coordination among partners. NTP and NAP have assigned the focal persons and have conducted joint work plan on TB-HIV. The national working group will be re-vitalized.

TB-HIV collaborative activities in Indonesia are implemented in 12 provinces where the prevalence of HIV is high. In these provinces, the working groups have been established, the staff was trained, the services provided with M&E. These provinces are Papua, West Papua, DKI Jakarta, East Java, West Java, Central Java, Bali, Riau Islands, DI Yogyakarta, South Sulawesi, West Kalimantan and North Sumatra. Twelve provinces more are in the plan for expansion.

TB-HIV in the prison system has been implemented. At the national level, the Ministry of Laws and Human Rights has issues the strategic plan on TB and HIV services in the correction system. The model services have been developed in few prisons. Due to limited resources, the scale up plan is slow in implementation. With TGF Round 10 support, NTP and The Directorate of Health and Care in Correction Institutions will scale up TB screening and treatment, utilize GeneXpert to screen TB among inmates who have HIV and start up pilot PMDT within prison setting.

<b>Recommended TB/HIV strategy</b>	<b>Status of activities in Indonesia</b>
<b>Establishing mechanisms of coordination</b>	
Establish coordinating bodies at all levels	National TB-HIV Working Group established in 2003 (being revitalized)
Undertake surveillance of HIV among TB patients	HIV surveillance among TB patients started in 4 provinces
Jointly plan TB/HIV activities	National Policy Guidelines developed in 2007, and disseminated in 2008; Joint planning for further expansion initiated; Socialization of TB-HIV collaborative activities conducted; TB-HIV IEC materials for health facilities developed; training of several HIV health personnel on TB-HIV interventions undertaken
Monitor and evaluate interventions	The electronic record and report has been piloted in 10 facilities and will be scaled up. Joint monitoring and supervision have been implemented in priority provinces
<b>Decreasing the burden of TB in PLHIV</b>	
Establish intensified case finding	All HIV positive persons can access TB diagnostic and treatment services provided by the public health system; Formal referral mechanisms only in priority areas
Introduce Isoniazid preventative therapy (IPT)	Will be conducted as operation research in 2011
Ensure TB infection control	Guidelines have been developed for hospitals, health centers and prisons; implementation is still limited
<b>Decreasing the burden of HIV in TB patients</b>	
Provide HIV Testing and Counseling and PITC for TB patients	Routine offer of HCT to TB patients in Papua and West Papua, other areas use HIV risk assessment and offer HCT, PITC implementation is still limited
Introduce HIV prevention methods	Available to general population
Provide Co-trimoxazole preventive	CPT is provided for all PLHIV with TB, ART is

therapy (CPT) and Antiretroviral therapy (ART)	provided based on CD 4 count and staging
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## Maldives

Available data suggests that HIV remains relatively uncommon in the Maldives. Surveillance is conducted through routine notifications. Screening of all HIV positive cases for active TB is being undertaken in collaboration with HIV programme since 2003, and it has been planned to screen all the TB patients for HIV in 2011.

<b>Recommended TB/HIV strategy</b>	<b>Status of activities in Maldives</b>
<b>Establishing mechanisms of coordination</b>	
Establish coordinating bodies at all levels	Coordinating body at national level
Undertake surveillance of HIV among TB patients	National treatment protocol updated, to test all TB patients for HIV, will become standard protocol from 1 December 2011
Jointly plan TB/HIV activities	As part of integrated planning at the Centre for Community Health and Disease Control
Monitor and evaluate interventions	As part of integrated monitoring by the Centre for Community Health and Disease Control
<b>Decreasing the burden of TB in PLHIV</b>	
Establish intensified case finding	All HIV positive people are tested for TB on the first visit to the treating Physician. And if found to be positive for TB, treatment services will be provided through the health care system
Introduce Isoniazid preventative therapy (IPT)	No formal policy
Ensure TB infection control	Initiated and On going
<b>Decreasing the burden of HIV in TB patients</b>	
Provide HIV Testing and Counseling	TB patients will be offered, and counseled to attend VCT services from 1 <sup>st</sup> December 2011
Introduce HIV prevention methods	Not Initiated.
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	Not initiated.

## Myanmar

The HIV prevalence rate for the adult population in Myanmar was 0.61% in 2009, a decline from the peak of 0.94% in 2000. At the end of 2009, there were an estimated 240,000 adults and children living with HIV in Myanmar. Among this population, 74,000 people are in need of anti-retroviral therapy (ART), out of which there are only about 1/3 (or a bit more than 25,000 patients) on treatment. It is estimated that 18,000 people died of AIDS in 2009 and that 17,100 people were newly infected with the virus in the same year.

A 2010 sentinel survey show that among 2865 new TB patients (1861 male and 1004 female) screened for HIV in 20 randomly selected sites, 2863 (10.4%), were living with HIV/AIDS. However, as the sentinel survey data is non-representative, for 2010, WHO has used standard modeling approaches to estimate an HIV prevalence among TB patients to 20%, translating to 37,000 HIV-infected TB cases annually.

TB/HIV collaborative activities are being implemented jointly by the NTP and National AIDS Programmes in 15 townships. Furthermore, implementing partners from both TB and HIV have independently included TB/HIV activities within their projects, such as TB screening in targeted intervention sites or ART centres.

The interventions offered by both the TB and AIDS programmes at the 15 sites are cross referral of TB patients for VCCT, TB screening for PLHIV, CPT for HIV positive individuals, HIV prevention (condom promotion) for TB patients and provision of ART. HIV screening for TB patients are conducted at 45 VCCT in total sites. In addition, the NAP and NTP are jointly piloting the provision of isoniazid prophylactic treatment for people living with HIV/AIDS attending ART centres in Mandalay, Lashio, and Tachileik.

In 2010, 4362 TB patients knew their HIV status (3% of TB patients). Out of these cases, 961 TB patients were HIV positive (22% of tested TB patients were HIV positive). A total of 94% of known HIV positive TB patients were enrolled on ARTs. Also during 2010, 6417 HIV-positive people were screened for TB and 514 people living with HIV were provided with IPT.

<b>Recommended strategy</b>	<b>TB/HIV</b>	<b>Status of activities in Myanmar</b>
<b>Establishing mechanisms of coordination</b>		
Establish coordinating bodies at all levels		National TB/HIV coordinating body established
Undertake surveillance of HIV among TB patients		TB/HIV surveillance conducted in 2006 in 10 sites, 2008 in 15 sites, 2009 in 20 sites, as part of the annual HIV surveillance; TB patients are included
Jointly plan TB/HIV activities		Joint planning is conducted, but needs strengthening
Monitor and evaluate interventions		Joint M&E is conducted, but needs strengthening
<b>Decreasing the burden of TB in PLHIV</b>		
Establish intensified case finding		PLHIV suspected to have active TB are referred to TB clinics for screening at 15 pilot sites
Introduce Isoniazid preventative therapy (IPT)		Not part of national guidelines, except for children below 4 years (independent of HIV status); IPT pilot project ongoing in 9 townships.
Ensure TB infection control		Airborne infection control guidelines not yet fully in place; TB suspects/ patients wear masks in waiting rooms of TB clinics. MDR-TB hospitals as well as clinics in 10 pilot townships have been refurbished to ensure better infection control measures. N-95 respirators are in use by health care workers supporting the MDR-TB management.

<b>Decreasing the burden of HIV in TB patients</b>	
Provide HIV Testing and Counseling	HIV testing infrastructure growing: 45 VCCT centers are available at the moment; HIV testing is available at the TB clinics at all pilot sites; VCCT for TB patients now national policy, implementation still needs strengthening
Introduce HIV prevention methods	Integrated into general health care system; 100% condom promotion being implemented in all TB/HIV pilot sites
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	ART available for about 25,000 PLHIV by the end of 2009, provided by NAP, MSF-Holland, and various international NGOs. CPT included in national guidelines and available at 45 VCCT clinics including 15 TB/HIV pilot sites within the HIV/STI clinics.

## Nepal

The country has formed a National Working Group on TB-HIV in 2006. National TB HIV Coordination Committee was established in mid 2008. A national strategy for TB-HIV was officially endorsed by both National TB and HIV Programme Managers in 2009, which was subsequently endorsed by the Ministry of Health & Population. Progress has been made in the areas of joint planning, evaluation and logistics management; information sharing between the two programmes, advocacy and operational research. Sentinel site survey of HIV among TB patients conducted in 2006/07 shows prevalence of HIV among 2.4% among 996 TB patients. NTP in close collaboration of NCASC conducted a survey of HIV among TB patients in 2010; preliminary results show a prevalence of about 1.7%.

<b>Recommended TB/HIV strategy</b>	<b>Status of activities in Nepal</b>
<b>Establishing mechanisms of coordination</b>	
Establish coordinating bodies at all levels	National TB/HIV working group established in 2006; National TB HIV Coordination Committee established in mid 2008; Regional and District level Coordination Committees planned to be established in early 2011
Undertake surveillance of HIV among TB patients Surveillance of TB among HIV cases	Sentinel surveillance of HIV among TB patients carried out regularly, the most recent one was conducted in 2010. The surveillance of TB among HIV cases in six ART sites is on going in coordination with NCASC.
Jointly plan TB/HIV activities	National TB HIV strategy developed and endorsed by the Ministry of Health and Population; Implementation guidelines and training materials developed 2010. Both programme, in particular NTP has program activities and funding for joint activities. .
Monitor and evaluate interventions	Not in place; NTP and NCASC are in the process of finalizing the indicators and modalities for M&E. Some indicators on TB/HIV has been finalized in 2010 by TB/HIV M&E sub group. NTC has been trying to make

	TB/HIV is one of the component of recording and reporting formats in its regular system
<b>Decreasing the burden of TB in PLHIV</b>	
Establish intensified case finding	All HIV +ve persons are screened for tuberculosis
Introduce Isoniazid preventative therapy (IPT)	National policy was developed in 2011 and currently being approved by the Ministry of Health and Population, implementation expected to start in 2012.
Ensure TB infection control	National policy and plan for infection control developed by NTP, funding available through NSA (R9) grant
<b>Decreasing the burden of HIV in TB patients</b>	
Provide HIV Testing and Counseling	All MDR TB cases are screened for HIV. Testing of all TB patients is not a national policy. NTP and NCASC are working on developing a policy of screening TB patients for HIV risk and then offer HIV testing. NTC has initiated PITC in DOTS Center in some targeted district where TB/HIV program is being implemented. and referral system has been established in those TB/HIV program implementing districts
Introduce HIV prevention methods	Health education on TB and HIV is provided to all patients
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	Done in the hospital settings HIV care service available

## Sri Lanka

TB patients have been included under the annual surveillance for HIV since 1993. Only 8 cases have been detected from among 13,993 TB patients tested. Although numbers are few, since 80% of HIV cases reported in the country are in the age group of 20-44 years, this is a concern especially since the annual notifications for HIV have been increasing since 1987. A national policy for provision of CPT and ART to HIV positive TB patients is in place.

TB-HIV guidelines have been drafted and operational tools, cross-referral forms and case registers have been designed. A training of trainers for 25 medical officers from the districts has been completed and cross trainings of TB and HIV staff were also completed. The development of training materials for counselling for PLHIV, their spouses families has been completed. Counselling training of chest clinic staff will be carried out. TB-HIV services have been rolled out to all the districts. Reporting of TB patients with HIV is taking place through the NAP with cross-referral with the NTP for treatment. Treatment outcomes are reported by the NTP. The management of OIs and HIV care is provided through the NAP while the patients are on treatment for TB. The recording and reporting system of the HIV/AIDS programme requires to be strengthened to accurately capture data on the numbers of PLHIV registered.

The policy for HIV screening of TB patients is based on a risk assessment. Patients are primarily screened at chest clinics and are referred to the NAP services should further investigations are required. However the NTP requires having staff skilled in counselling patients

screened for HIV. A mechanism is in place to provide feedback to the TB programme on the HIV status of TB patients referred to NAP, and this is recorded at the national level.

<b>Recommended TB/HIV strategy</b>	<b>Status of activities in Sri Lanka</b>
<b>Establishing mechanisms of coordination</b>	
Establish coordinating bodies at all levels	Established at central level
Undertake surveillance of HIV among TB patients	Continued among high risk groups
Jointly plan TB/HIV activities	Guidelines prepared
Monitor and evaluate interventions	Guidelines prepared
<b>Decreasing the burden of TB in PLHIV</b>	
Establish intensified case finding	Guidelines being developed
Introduce Isoniazid preventative therapy (IPT)	Draft guidelines being prepared (IPT Not recommended)
Ensure TB infection control	Guidelines and plan developed
<b>Decreasing the burden of HIV in TB patients</b>	
Provide HIV Testing and Counseling	Only for the patients suspected to be in the high risk group
Introduce HIV prevention methods	Available through all health facilities
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	National policy adopted

## **Thailand**

TB/HIV collaborative interventions have been widely available throughout the country since 2006. National TB/HIV guideline including manual for provider-initiated HIV testing and counseling (PITC), manual for intensified case finding (ICF), and standard TB/HIV reports are in place.

HIV testing among TB patients at public facilities has increased from 68% in 2007 to 88% in 2009. The overall HIV infection rates among TB patients tested for HIV were 18% in 2008 and 16% in 2009. It was observed in prison settings that in 2009, 68% of TB patients knew their HIV status. HIV infection in TB patients in prisons was found to be 37%. The challenge is to ensure and maintain adequate capacity among HIV and TB staff at hospital and clinic levels to provide HIV counseling.

Much has been achieved in strengthening and monitoring the provision of CPT and ART to HIV-infected TB patients. The national HIV guidelines now recommend that CPT be provided to all HIV patients with CD4 <200 cells/cu.mm. The proportion of TB patients with HIV infection receiving CPT has increased gradually from 69% in 2008 to 72% in 2009. The national TB/HIV guidelines were revised in 2008 to recommend the provision of ART to TB/HIV patients with CD4 <250 cells/cu.mm, with a view to placing at least 60% of all eligible TB/HIV patients on ART by 2011. The proportion of TB/HIV patients receiving ART was 50% in 2009. It is evident that TB/HIV care in prison settings was limited as TB/HIV patients

received CPT for 67% and ART for only 36%. While the provision of ART and CPT to TB/HIV patients in general population has indeed improved, the engagement of all care providers would be necessary to achieve further significant progress towards the national ARV targets of 60%.

Reaching CPT and ART to a greater proportion of TB/HIV patients early on in the course of HIV is critical to reducing the present high death rates among TB/HIV patients. In 2009, among new smear positive TB patients, 18.2% of TB/HIV patients died compared to 5.9% of TB patients with HIV negative or unknown status and reduced to 17% in 2010. The incorporation of isoniazid preventive treatment (IPT) into routine opportunistic infection care for PLHIV attending HIV clinics, is another important but presently inadequately addressed issue.

IPT had been introduced in some health facilities primarily in Northern part and currently in some hospitals in Southern part of Thailand, but this has been largely discontinued. IPT has been proposed for discussion by the national TB/HIV coordinating committee later this year. Draft guidelines have also been developed and are expected to be finalized later this year in consultation with various stakeholders towards systematically implementing IPT from 2010, beginning with several pilot or demonstration projects. Fostering support from health providers and other stakeholders involved in the treatment and care of HIV patients will be essential in this regard.

Intensified TB case finding among newly detected patients with HIV has been initiated. Routine and periodic symptom screening for TB among HIV infected patients is undertaken at all public hospitals at initial diagnosis, during follow-up visits for HIV care, and when the decision to initiate anti-retroviral therapy is made. The national target for TB screening among newly diagnosed HIV patients is  $\geq 95\%$ . The proportion of newly diagnosed HIV patients screened for TB was 93% in 2008 and 85% in 2009. The proportion diagnosed with TB for each of these years was 20% in 2009 and 2009.

Recommended TB/HIV strategy	Status of activities in Thailand
<b>Mechanisms of coordination</b>	
Establish coordinating bodies at all levels	National TB/HIV technical working group in place; Regional level and service delivery level coordination bodies being established
Undertake surveillance of HIV among TB patients	Routine testing and recording of HIV status of all registered TB patients
Jointly plan TB/HIV activities	Joint planning in some regions and provinces
Monitor and evaluate interventions	TB coordinators responsible for TB/HIV activities designated in most regions; Monitoring indicators for HIV testing and treatment incorporated into routine TB register; Bureau of TB and Regional Offices for Disease Control, Provincial and local authorities are mainly responsible for M and E of TB/HIV activities.
<b>Decreasing the burden of TB in PLHIV</b>	
Establish intensified case finding	National guideline on intensified case finding (ICF) has been revised; Scaling-up of ICF is underway
Introduce Isoniazid	IPT is being implemented as pilot projects

preventative therapy (IPT)	
Ensure TB infection control	Infectious control guidelines and a checklist have been developed and is used as a tool for monitoring; Staff at 31 sites have received training
<b>Decreasing the burden of HIV in TB patients</b>	
Provide HIV Testing and Counseling	PITC for HIV recommended for all TB patients; 88% of TB patients were counseled and tested for HIV in 2009
Introduce HIV prevention methods	Integrated into general health care system; HIV prevention and counseling messages included in training materials
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	National TB/HIV guidelines recommend CD4 testing for all HIV infected TB patients and CPT for HIV-infected TB patients with CD4 <200; ART for HIV-infected TB patients with CD4 <250; ART widely available and subsidized for patients, and covered under public health insurance scheme

### Timor-Leste

Available data suggests that HIV remains relatively uncommon in Timor Leste. The country has till December 2010 about 200 cases of HIV infection have been reported in the country. The latest round of HIV Sentinel Surveillance was concluded in August 2010. As per this survey the crude prevalence rate was estimated at 0.68% (10/1473). Among the TB patients included in the survey 1.13% tested positive to HIV.

<b>Recommended TB/HIV strategy</b>	<b>Status of activities in Timor-Leste</b>
<b>Establishing mechanisms of coordination</b>	
Establish coordinating bodies at all levels	A coordinating body at national level has not been established yet
Undertake surveillance of HIV among TB patients	Sentinel surveillance has been completed August 2010 and covers TB patients
Jointly plan TB/HIV activities	Joint planning has been initiated and initial training for PITC is underway (in 2011)
Monitor and evaluate interventions	Coordinated monitoring by both programmes initiated
<b>Decreasing the burden of TB in PLHIV</b>	
Establish intensified case finding	All HIV positive persons can access TB diagnostic and treatment services provided by the public health system; a formal mechanism for referral from VCTC to DOTS services has been established in selected districts.
Introduce Isoniazid preventative therapy (IPT)	IPT has not been introduced yet
Ensure TB infection control	Not initiated
<b>Decreasing the burden of HIV in</b>	

<b>TB patients</b>	
Provide HIV Testing and Counseling	TB patients can access VCT services provided under the National AIDS Control Program. Provider initiated counseling and testing established in pilot sites.
Introduce HIV prevention methods	Available to all population including TB patients
Provide Co-trimoxazole preventive therapy (CPT) and Antiretroviral therapy (ART)	ART is provided by the National HIV Programs; CPT has not been introduced yet