TB Screening and IPT initiation among HIV-infected persons: Pilot Experience in Battambang Province

- Battambang Provincial Health Department,
- Family Health International/Cambodia,
- Gorgas TB Initiative at UAB

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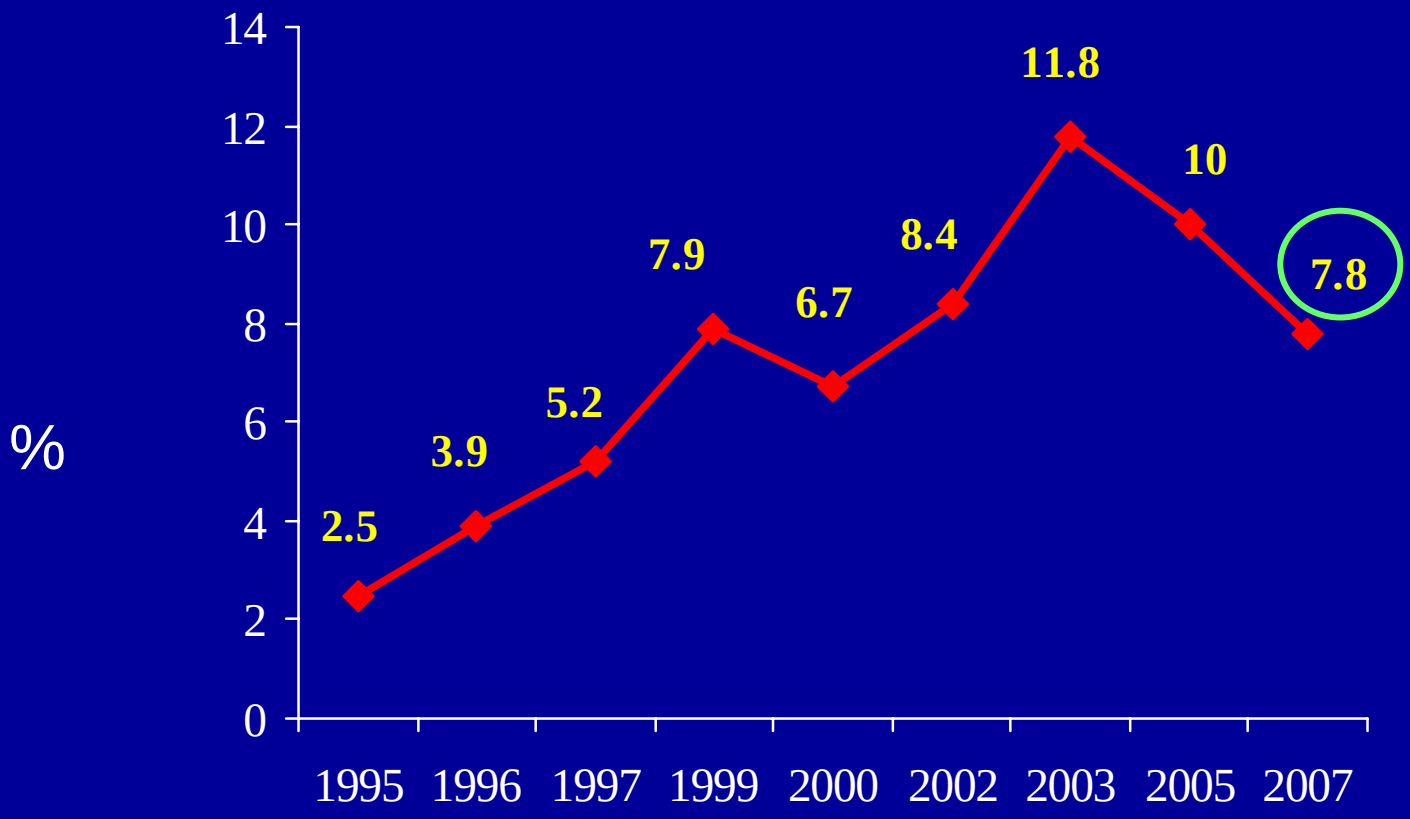
PRASIT

TB burden in Cambodia

- Cambodia ranks 22nd among the world's 22 countries with the highest TB burden
- Estimated TB infection 64% of total population
- WHO, 2005 estimates:
  - Incidence all TB cases = 506 /100,000 pop/yr
  - Incidence SS+ TB cases = 226 /100,000 pop/yr
  - Prevalence all TB cases = 703 /100,000 pop/yr
  - Mortality = 87 deaths/100,000 pop/yr
  - MDR : Prevalence still unknown

WHO Report 2007

HIV sero-prevalence among TB cases



Sources: HSS (NCHADS) & HIV Sero-prevalence survey report (CENAT)

Battambang province as a pilot site for TB-HIV activities

- One of 4 pilot sites implementing TB/HIV activities in Cambodia
- Since Sept. 2003 in Battambang OD (pop=293,423) and Moung Russey OD (pop=165,569)
- Battambang, Moung Russey RH and local VCCT centers as sites for implementing TB/HIV activities
- within HIV package of Continuum of Care (CoC) for PLHIV

Goal and objectives of the study

Goal:

Reduce TB morbidity and HIV-associated mortality among PLHIV

Objectives:

- Strengthen systematic active TB case finding and treatment among PLHIV
- Strengthen access to VCCT among TB patients
- Assess the feasibility of Isoniazide Prophylaxis Treatment (IPT) implementation for HIV-infected patients
- Establish infrastructures to conduct operational research

Isoniazide Prophylaxis treatment (IPT) for PLHIV

- Goal = treat latent TB in TB-infected people
- IPT = 6-9 month course of INH after exclusion of active TB
- Must rule-out TB before initiating IPT

IPT : Does it work ?

- Many studies : reduction in TB risk 33-67%
- Benefit mainly in tuberculin skin test (TST) positive, but TST not recommended when prevalence of Latent TB > 30%
- Duration of benefit approximately 2-4 years
- Additive benefits with ART :

Golub et al. (*AIDS* 2007): 11,026 PLHIV followed 2 y for incidence of active TB:

No IPT, no ART:	4.0 % pt/y
ART alone:	1.9 % pt/y
IPT alone:	1.3 % pt/y
IPT + ART:	0.8 % pt/y = 76% reduction Risk (p<0.001)

- Most studies do not show mortality benefit
  - One cohort study shows improved mortality
  - Mortality benefit in children in small study

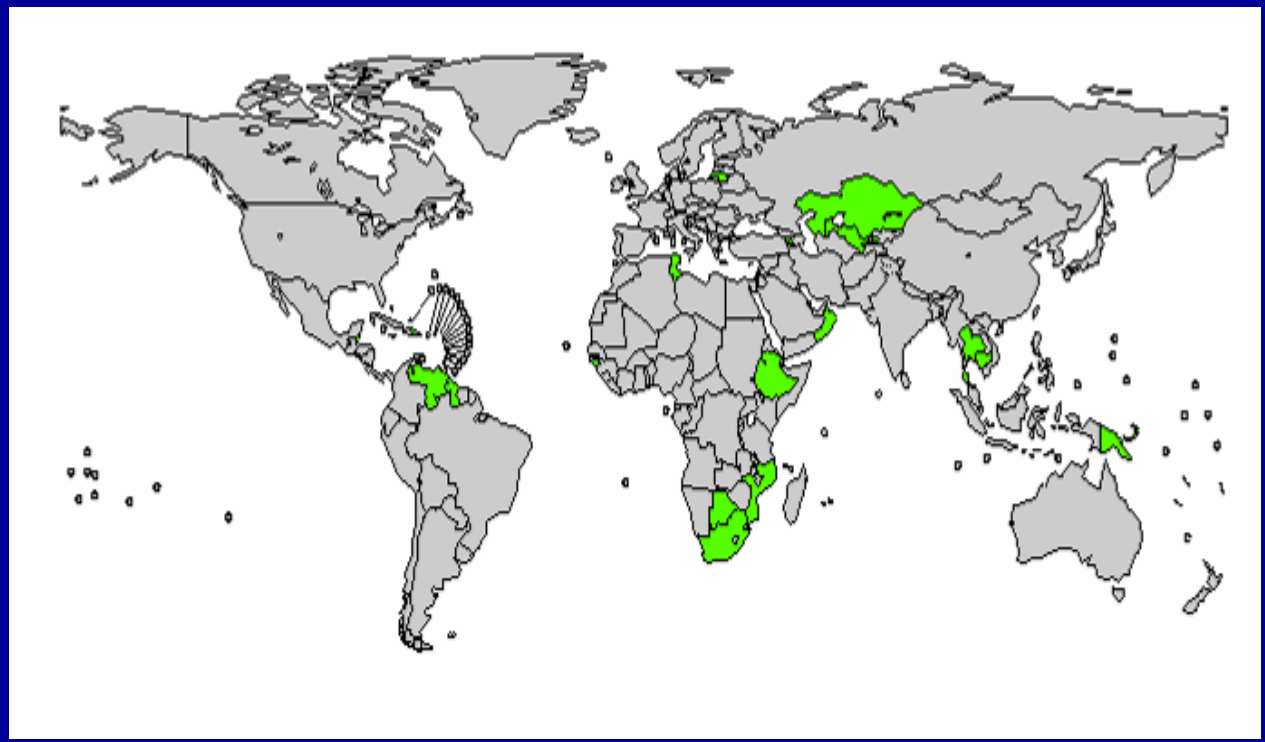
IPT: Drug-resistance and toxicity

- Studies do not demonstrate production of drug-resistance
- Resistance is possible, but even when TB occurs, treatment with standard regimen remains effective
- Combination of IPT and ART less toxic than combination of TB treatment and ART

IPT: Operational issues

Countries providing data on IPT to PLWHIV 2006

Globally, uptake of IPT very low (<1%)



- How to implement IPT within CoC sites ?
- How to scale-up IPT in Cambodia ?

Key challenges in Cambodia

- Not well defined national protocol for TB screening among PLHIV
- Limited staff capacity for diagnostic skills on extra-pulmonary and sputum negative TB in PLHIV
- Limited TB lab capacity to do smear and culture exams
- Lack of human resources and/or multitasked staff
- Initial limited access to HIV services for TB patients
- Referral issues to transfer TB patients from HC to VCCT sites (transportation cost)
- Simplification and scale-up of IPT protocol

Project implementation

- Set up provincial TB/HIV technical support team
- Established TB/HIV cross-referral system:
  1. Referral of PLHIV from VCCT to TB screening :
     - ✓ TB screening → TB treatment or IPT
     - ✓ IPT → completion of IPT (9 months) → 6-monthly follow-up for 3 years
  2. Referral of TB patients for HIV testing and care
- Integration of TB/IPT services within HIV/ART clinic

Project implementation: training and coordination meetings

Project implementation (cont')

- Developed TB/IPT database
- Set up recording and reporting system
- Developed monitoring and supervision system
- Developed IPT protocols and patient flow algorithms
- Developed related IEC materials including IPT manual
- Established sputum collection system for smear and culture exams and MTB identification at reference lab.

Project implementation (cont')

- TB/IPT screening for all PLHIV
- Counseling for IPT
- Regular follow-up

Progress & achievements

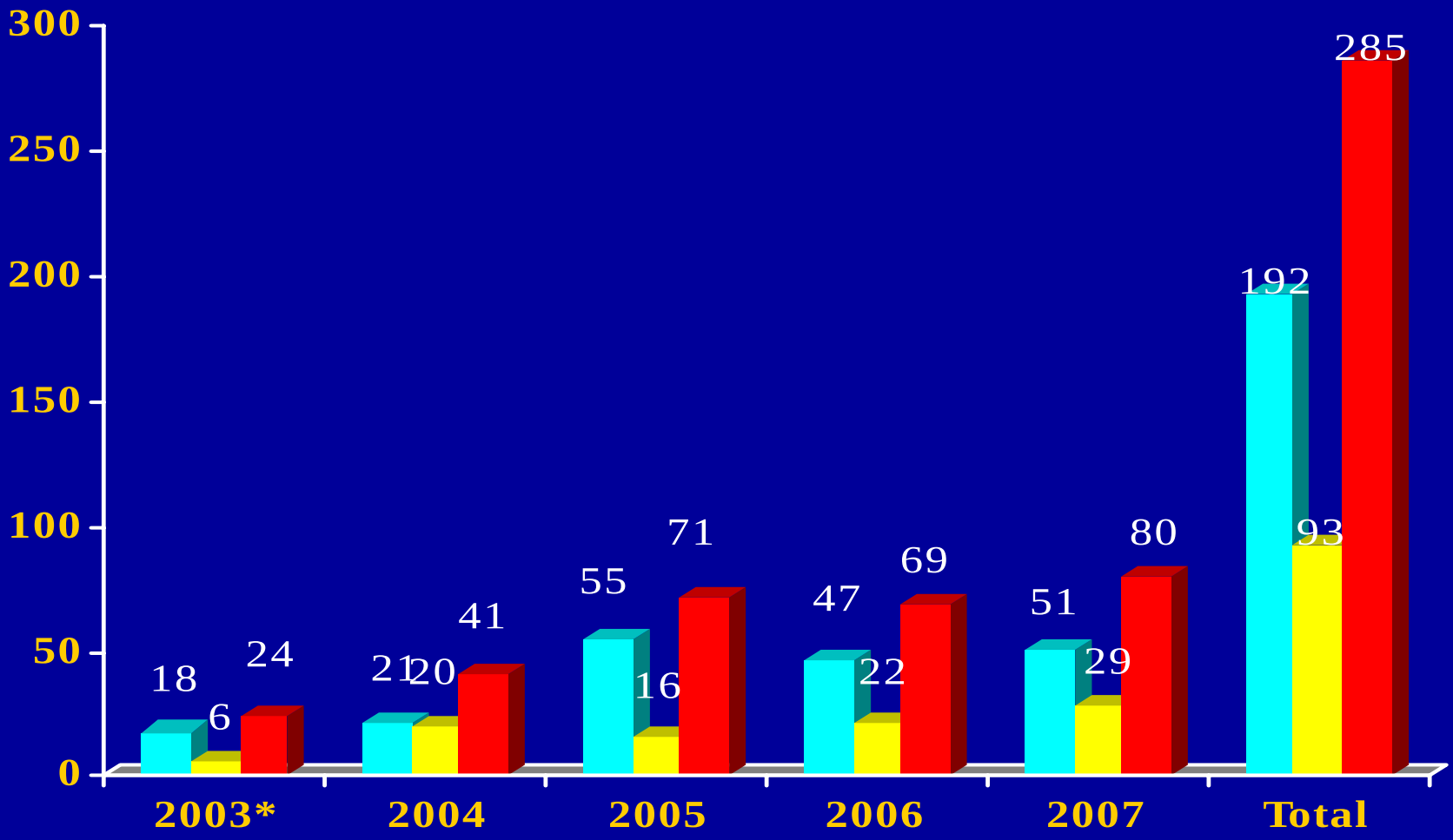
- Increased collaboration and coordination between TB/HIV programs
- TB and HIV cross referral system in place
- Increased capacity of health staff in providing TB/HIV services
- Increased knowledge and participation of community on TB and HIV/AIDS care
- Reduced TB and HIV stigma and discrimination
- Learning site for national programs to scale-up TB/HIV to other CoC sites
- Produced and collected good TB/HIV data for operational research

Results of TB/IPT Screening
(Sep 03 – Dec 07)

Indicators	BTB-RH N(%)	MRS-RH N(%)	Total N(%)
HIV testing	**19,829**	**4,429**	**24,258**
HIV positive	**3,416** (17.2)	**812** (18.3)	**4,228** (17.4)
HIV positive screened for TB/IPT	**3,801**	**920**	**4,721**
Active TB cases	**842** (22.2)	**295** (32.1)	**1,137** (24.1)
- Smear positive	***250*** *(31.8)*	***84*** *(30.0)*	***334*** *(31.5)*
- Smear negative	***328*** *(40.8)*	***76*** *(17.4)*	***404*** *(33.8)*
- EPTB	***264*** *(27.4)*	***135*** *(51.6)*	***399*** *(34.6)*
IPT enrolled	**192** (5)	**93** (10)	**285** (6)

IPT Enrolment in Battambang (BTB) and Moung Russey (MRS) Referral Hospitals (RH)

(Sep 03 - Dec 07)

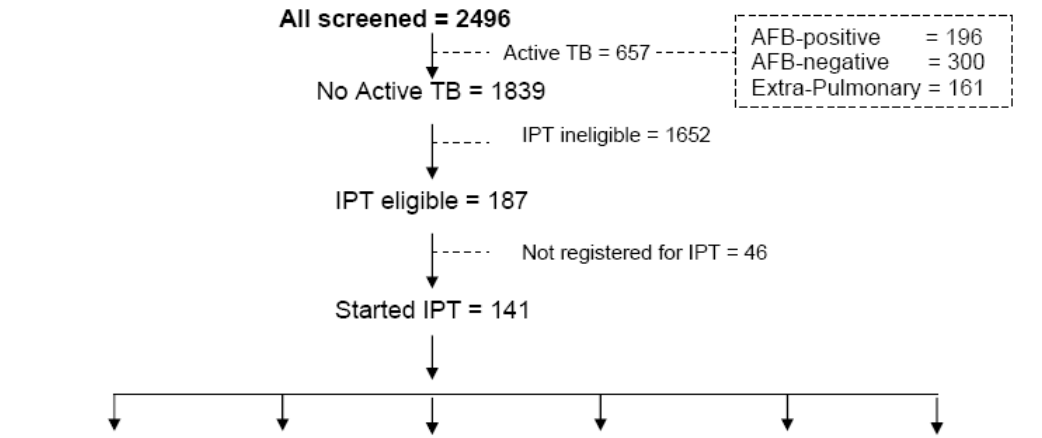


Outcomes Upon IPT Completion at 9th month in Battambang (BTB) and Moung Russey (MRS) Referral Hospitals (RH) (Sep 03-Dec 07)

Indicators	BTB	MRS	Total	
	#	#	#	%
1. # clients on IPT before this period	0	0	0	NA
2. # clients enrolled for IPT this period:	192	93	285	NA
2.1. New	*192*	*92*	*284*	*99.6*
2.2. Return after default	*0*	*0*	*0*	*0.0*
2.3. Repeat	*0*	*0*	*0*	*0.0*
2.4. Transfer in	*0*	*1*	*1*	*0.4*
3. # clients finished 9 month treatment this period:	143	60	203	NA
3.1. Complete	*120*	*53*	*173*	*85.2*
3.2. Died	*2*	*0*	*2*	*1.0*
3.3. Defaulted	*17*	*4*	*21*	*10.3*
3.4. Sever Adverse Reaction	*1*	*1*	*2*	*1.0*
3.5. Failure	*2*	*2*	*4*	*2.0*
3.6. Transfer out	*1*	*0*	*1*	*0.5*
3.7. Others (unreconized TB)	*6*	*0*	*6*	*3.0*
4. # clients on IPT by this period	49	33	82	NA

IPT Outcomes after IPT Completion, BTB-RH

(TB/IPT screened cohort: Sep 03 to Dec 06, follow-up as of Dec 07)



	No TB	TB	Death	L to FU
At 6th MFU = 107	92	**2**	0	13
On follow-up = 13				
At 12th MFU = 79	69	**2**	2	6
On follow-up = 17				
At 18th MFU = 52	46	**4**	0	2
On follow-up = 13				
At 24th MFU = 33	30	**3**	0	0
On follow-up = 8				
At 30th MFU = 22	20	**1**	0	1
On follow-up = 8				
At 36th MFU = 12	12	**0**	0	0

Lessons learned

- Great technical support (guidelines, training, supervision) from national programs
- Good collaboration between TB and HIV/AIDS programs, and implementing partners at provincial and district levels
- Motivation and capacity of health staff to provide TB and HIV/AIDS care and treatment
- Implementation of the national TB/HIV framework is feasible at the district level within CoC sites

Lessons learned (cont')

- All HIV positive persons should be symptomatically screened for TB
- Patients with clinically excluded TB should be rapidly proposed IPT
- IPT process increases TB case finding but getting patients onto IPT in this study was difficult because of study constraints
- TB screening algorithm and IPT inclusion criteria need to be revised to increase IPT uptakes (IPT SOPs)
- Health education and counseling on TB/HIV and IPT are very important to increase IPT enrollment and achieve good treatment adherence
- Transportation support for patients help increasing case finding and follow-up
- Support and participation of HBC teams is important for patient follow-up and referral

Acknowledgements

- TB/IPT and OI teams of Battambang Provincial Hospital and Moung Russey Referral Hospital
- Battambang and Moung Russey Operational Districts
- Provincial TB and HIV/AIDS Offices of Battambang Provincial Health Department
- CENAT and NCHADS
- FHI/Cambodia & Gorgas TB Initiative at UAB
- USAID and other partners


Thank You For Your Attention