

REPORT

COMMUNITY-DOTS AND PPM EVALUATION

in

Cambodia

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Ministry of Health



CENAT



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Summary of the report

An evaluation was conducted on Public-Public and Public- Private Mix and Community DOTS (C-DOTS) activities in Cambodia with the objective to assess the contribution of Community DOTS and Public-Private Mix activities in improving access, reducing diagnostic delays, and increasing the case detection and cure rates of TB patients in Cambodia. Additionally, to document initiatives, best practices and lessons learned; and provide recommendations for all stakeholders.

The first C-DOTS pilots were initiated in 2002, but rapid expansion began only in 2004. By 2008, around 500 health centers (52%) in 42 ODs were implementing C-DOTS activities with the support of NGOs funded by USAID, JICA and the Global Fund. On the other hand, PPM pilots began in August 2005, supported by USAID and JICA through PATH and URC, and is currently under way in 36 ODs spanning 11 provinces in the country. Providers ranging from pharmacies, clinics, cabinets, hospitals and laboratory to workplaces and prisons are effectively being engaged in TB control efforts. Furthermore, all provincial and OD hospitals and half of the national referral hospitals are successfully integrated in the NTP.

Before initiation, situational analysis's on PPM and C-DOTS were conducted by CENAT and URC establishing good evidence base for the models applied. The availability of National Guidelines for C-DOTS have proven to be very instrumental in achieving uniformity in strategies and approaches for community DOTS. Treatment outcomes remained stable during the stepwise expansion of C-DOTS and PPM activities with very low failure rate and defaulter rates.

Despite all constraints and limitations the team witnessed an excellent performance in most health centers, a high level of dedication of staff at CENAT, PHD, OD and health center level, sound commitment and motivation of donor (USAID, JICA) and NGO partner organisations assisting the implementation of C-DOTS and PPM – DOTS in Cambodia. Strong commitment of local government seems conditional for successful implementation and performance of C-DOTS and PPM DOTS. At village, and OD level C-DOTS and PPM appears to be one continuum, both sharing many similarities.

C-DOTS and PPM DOTS improve access to diagnostic and treatment services, increases patient satisfaction, decreases patient- and diagnostic delay and as such contributes to decreased transmission of TB. Though the exact proportion could not be disaggregated, C-DOTS seem to contribute to a significant increase in overall case detection as well as in improving compliance and excellent treatment outcomes. Involvement of pharmacies, private doctors, and drug sellers is successful and productive. However, the contribution of PPM-DOTS to an increase in overall case notification seems to be less evident, partly because routine programme data does not yet fully capture this information.

Challenges

Challenges still remain. Public perception of the quality of DOTS services in the NTP network is still rather negative, resulting in patient shopping in the private sector and considerable out-of-pocket spending. Chronic staff shortages and poor salaries in public sector are crucial bottlenecks to be solved: the high work load in some facilities leads to diagnostic and treatment delays.

Majority of formal providers operate without license and a certification system does not exist. There are considerable flaws in the PPM and C-DOTS referral system, characterised by a one way flow lacking feed back and checks in particular to private providers. Involvement of informal providers (Pet Phum) seems very promising and has a high potential with an effective supervision system in place. Most hospitals are strongly linked to the NTP though challenges remain regarding three of the national referral hospitals. Dissemination of the Khmer translated version of the ISTC has only taken place in a small scale. Coordination between NTP, NGO partners and donors is existing but needs strengthening. Another major challenge remains sustainability since PPM and C-DOTS are very dependent on external support.

Main Recommendations

General

- There is a need for stronger support to local health centres in the area of implementation and scale up of C-DOTS and PPM strategies.
- Scale up implementation of C-DOTS and PPM, and intensify focus on and engagement of private doctors, cabinets and clinics.
- Coordination of the involvement of Pharmacies should be further delegated to the Pharmacy Association of Cambodia (PAC)
- Develop a sustainability plan for C-DOTS and PPM so that activities will continue after the phasing out of external donor and local/ international NGO support.

For improved coordination

- Strengthen coordination between the various partners at all levels under leadership of CENAT through regular meetings of ICC at national level, and partner coordination of PPM / C-DOTS Technical Working group meetings.
- Finalization of PPM guidelines (in alignment with the current C-DOTS guidelines) is a priority.
- Harmonize the incentive system between implementing NGO's working in the same areas. Standards for compensation / incentives should be set by NTP in coordination with partners.

Recommendations for improved referral systems

- Improve recording/reporting of "source of referral" in patient cards, registers and quarterly report formats to enable proper monitoring of C-DOTS and PPM.
- Assure timely feedback on diagnostic results of referred TB suspects (C-DOTS and PPM), best by written feedback or directly by telephone to the referring provider.
- Assure systematic feed back for every diagnosed TB patient referred to another facility (referral registers, facility directories and referral feedback / checks by telephone).

Recommendations related to DOTS services in the public sector

- Improve clinical evaluation of smear negative suspects at health center level through systematic referral to hospitals at OD or PHD level (with resources from NTP).
- Implement a strategic ACSM plan and conduct public awareness campaigns to promote the availability of quality DOTS services in government health facilities.
- Improve logistics for IEC materials to ensure adequate supply for use in the community and patient education activities
- Strengthen diagnosis at health center level and shorten diagnostic delay by providing compensation for more frequent transport of sputum smears.
- Systematically implement contact examination and referral of suspected contacts by all providers and Village health Volunteers.
- Improve quality of sputum collection and smear reading

Recommendations with regard to PPM

- Selection of providers for Phase 2 PPM should be based on agreed criteria and specified task mix:
- Alternatively certification should be considered, setting standards based on the task mixes. Particularly for Phase 2, only selected cabinets should be designated.
- Social franchising and marketing approaches should be considered for qualified DOTS providers so that the public knows where to access quality services (e.g. through recognizable logo etc).
- Include informal providers such as Pet Phums and traditional healers, initially in the same capacity as VHV/VHSG under C-DOTS.
- Consider simplification of the PPM models currently described in the draft PPM guidelines and base the guidelines on a simple grid of task mixes for the various provider types.

Recommendations with regard to Human Resource Development

- The scale up of PPM-DOTS and C-DOTS requires strengthening of human resources at health center and at OD/PHD level. Posting additional staff seems to cope with increasing work load.
- Develop a comprehensive HRD approach for private sector providers and include this in the national plan for human resource development of the NTP.
- TB training (including PPM/C-DOTS) to be expanded for all staff working in OPD and HC.
- Identify and mobilize PPM champions and involve them in the establishment of PPM/ISTC taskforces for dissemination and implementation of ISTC.

Other recommendations

- Involve the remaining national referral hospitals in the DOTS program and link them to the NTP. (Consider conducting ISTC seminars to convince hospital management and clinical specialists).
- Step up advocacy to Cambodia Medical Association (CMA) and increase efforts to achieve official endorsement of the International Standards of TB Care by the Association



Mother & child admitted for TB treatment



TB patient admitted at CENAT hospital

List of Contents

1	Introduction.....	1
2	Background	2
2.1	TB Burden in Cambodia and NTP achievements:	2
2.2	History of Community DOTS (C-DOTS) in Cambodia	3
2.3	History of PPM in Cambodia	3
2.4	Assessments and reviews of private sector.....	3
3	Assistance to date.....	5
3.1	Main NGO partners supporting C-DOTS and PPM-DOTS.	5
4	Methodology of the review	8
5	Overall findings	10
5.1	Community DOTS: Findings and conclusions	10
5.2	Challenges to Community DOTS	11
5.2.1	Issues related to limitations in human resources at health service level:	12
5.2.2	Sustainability of C-DOTS and PPM DOTS.....	12
5.3	PPM: findings and conclusions	13
5.3.1	Utilization of formal and informal private providers	13
5.3.2	Involvement of private pharmacies	16
5.3.3	Involvement of Pet Phums.....	16
5.3.5	Involvement of hospitals:	18
5.4	Challenges towards PPM expansion in Phase 2.....	19
5.5	Challenges towards coordination.....	20
5.6	Challenges towards recording, reporting and referral	20
6	Recommendations for Community DOTS and PPM DOTS.....	22
6.1	General Recommendations:	22
6.2	Recommendations for improved coordination:	22
6.3	Recommendations for improved referral systems:	23
6.4	Recommendations related to DOTS services in the public sector:.....	23
6.5	Recommendations with regard to PPM.....	23
6.6	Recommendations with regard to Human Resource Development	24
6.7	Other recommendations	24
7	Annexes	25
	Annex 1 : Mapping of C-DOTS and PPM sites, and sites visited	25
	Annex 2 : Resource Persons contributing to the evaluation	27
	Annex 3 : Map of Cambodia and provinces visited	28
	Annex 4 : Example of task mixes for Phase 2 PPM in Cambodia;	29
	Annex 5 : References and resource documents for this review.....	30
	Annex 6 : Review Team, schedule of visits, and persons met.....	311
	Annex 7 : Checklist/evaluation tool for Community-DOTS and PPM Evaluation	36

Abbreviations

ACSM	Advocacy, Communication and Social Mobilization
C-DOTS	Community DOTS
CATA	Cambodian Anti Tuberculosis Association
CDR	Case Detection Rate
CRS	Catholic Relief Services
CENAT	National Centre for Tuberculosis and Leprosy Control
CMA	Cambodia Medical Association
DRS	Drug Resistance Survey
DW	DOTS Watcher
EQA	External Quality Assurance
FHI	Family Health International
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
HC	Health Centre
ICC	Interagency Coordination Committee
IEC	Information education and Communication
ISTC	International Standards of TB Care
JATA	Japan Anti Tuberculosis Association
JICA	Japan International Cooperation Agency
MDR	Multi Drug Resistant
MOH	Ministry of Health
NGO	Non Governmental Organization
NTP	National Tuberculosis Control Programme
OD	Operational District
PAC	Pharmacist Association of Cambodia
PATH	Programme for Appropriate Technology in Health
P-FHAD	Partners for Health and Development
Pet Phum	Informal provider (mobile village health care provider)
PHD	Provincial Health Department
PPM-DOTS	Public Private Mix for DOTS implementation
RHAC	Reproductive Health Association of Cambodia-
RACHA	Reproductive and Child Health Alliance
SCA	Save the Children Australia
SOP	Standard Operation procedures
TBCTA	Tuberculosis Coalition for Technical Assistance
URC	University Research Corporation
USAID	United States Agency for International Development
VCCT	Voluntary Confidential Counseling and Testing
VHSG	Village Health Support Group
VHV/VHSG	Village Health Volunteer/Village Health Support Groups
WHO	World Health Organization
WPRO	Western Pacific Regional Office of WHO

1 Introduction

A team consisting of international and national experts evaluated Public-Public-, Public Private Mix and Community DOTS (C-DOTS) activities in 7 out of 11 provinces in Cambodia where these strategies have been implemented.

Methods of the evaluation included review of NTP documents, searches of publications and studies made on C-DOTS and PPM in Cambodia, field visits, interviews with stakeholders, private providers, community volunteers, health workers and TB patients through focus group discussions.

Furthermore, besides understanding the process, the team compiled and analyzed available data to determine demonstrable effects of C-DOTS and PPM DOTS in the country from the NTP perspective, private provider perspective and from the perspective of TB patients. To ensure consistency in information collection by the various assessment teams an assessment tool, developed before the mission was used.

Objectives of the evaluation were:

- To assess the contribution of Community DOTS and Public Private Mix activities in improving access, reducing diagnostic delays, and increasing the case detection and cure rates of TB patients in Cambodia;
- To document both initiatives (C-DOTS and PPM) including the models adopted, lessons learned, and best practices;
- To provide recommendations for all stakeholders including the NTP, donors, technical agencies, and implementing partners.



Pet Phum visited at his house

2 Background

2.1 TB Burden in Cambodia and NTP achievements

Cambodia has a high TB incidence of 500 / 100.000 for all cases and 220/100.000 for smear positive cases (WHO, 2006). TB case notification rate was 244/ 100,000 for all cases and 136 for smear positives. CDR reached 65.4 % in 2007 and preliminary data for 2008 suggest no significant increase. Estimated mortality is 92 per 100.000 population.

Implementation of DOTS in Cambodia started in 1994 mainly through the existing hospital network. However case notification rates increased only marginally: from 99 per 100.000 (in 1994) to 116 per 100.000 (2001). Involvement of the network of health centers took off in 1999, achieving full coverage of all health centers in 2004.

In 2007, notifications of new cases increased slightly compared to the previous year. It is not yet possible to say whether this is a result of declining incidence or an indication of problems with case-finding.

TB-HIV collaborative services are improving very well, being rolled out to almost all 76 OD's including 5 National Referral Hospitals. Collaboration between the TB and HIV/AIDS programs is improving continuously.

HIV sero-prevalence among TB cases has decreased from 11.8% in 2003 to 7.8% in 2007. Around 50 % of all TB cases notified in the first three quarters of 2008 were tested for HIV: Around 3 % of the cases that were tested appeared HIV positive. This is in line with the decreasing trend of TB-HIV co-infection observed over the last few years.

Drug resistance is no major problem based on the findings of the first DRS on 638 new cases carried out in 2002. Only 10% were resistant to INH and 0,6% resistant to Rifampicin. No MDR cases were found among new cases, while 3.1 % of 96 previously treated cases had MDR;

Over the last decade Cambodia has reported high treatment success rates of well over 90% reaching 93.4% in 2007. Treatment performance remained stable during the stepwise expansion of C-DOTS and PPM activities. Failure rate and defaulter rate stay very low at 0.3% and 1.6% respectively. These are excellent results of the national TB program. The treatment of MDR-TB has begun on a small scale; in order to treat more patients the NTP will need to ensure that culture and DST are available and of high quality. The NTP budget increased in 2007 and 2008 compared with previous years; despite the increased funding from Global Fund in 2007–2008 there are still increasing funding gaps

2.2 History of Community DOTS (C-DOTS) in Cambodia

In its efforts to accelerate DOTS expansion and to improve access of patients to the DOTS network CENAT decided to embark on Community DOTS activities particularly in remote areas.

In 2002 Community DOTS (C-DOTS) has been adopted by the National TB Programme (NTP) to engage community level volunteers to provide DOTS to TB patients, in particular those that have limited access to the local health facilities. The aim of C-DOTS strategy, as formulated in the guidelines is to improve access, increase case finding through referral of TB suspects by communities, and increase treatment adherence by providing drugs to patients who are not able to access health centres on a daily basis. These initiatives are expected to promote early case detection, and improve cure rates by decreasing defaulter cases and minimizing transportation expense for TB patients. C-DOTS in Cambodia is being implemented by various NGOs in collaboration with the National Center for Tuberculosis and Leprosy Control (CENAT), provincial health department, operational district, health centers and community.

The first C-DOTS pilots were conducted in 3 ODs (2002), and scaled-up since 2004. By the end of 2007, 497 health centers (52%) in 42 ODs were implementing C-DOTS activities with the support of NGOs funded by USAID, JICA and the Global Fund. By July 2007, the number of health centers implementing C-DOTS activities increased to 503. With support from existing GF grants as well as the recently approved GF Round 7, the coverage of Community DOTS is expected to reach more than 80% of all Health Centres. While C-DOTS has been expanded successfully, there are concerns and challenges related to quality of C-DOTS implementation, as also pointed out in the annual NTP report and the joint program review.

2.3 History of PPM in Cambodia

Attention for the potential of private sector involvement increased after the National Prevalence survey in 2002 revealed that only 3% of TB suspects and patients directly went to government health centers and hospitals. Around 48% of TB suspects first visited private pharmacies (self-medication), 19% visited private clinics and 35% did not seek treatment at all.

2.4 Assessments and reviews of private sector

These findings urged CENAT in collaboration with University Research Co (Quality Assurance Project) to conduct a comprehensive assessment of the private sector in 4 provinces, interviewing a large number of private doctors, pharmacies, drug sellers and TB patients.

The assessment provided a wealth of information regarding practices in the private sector and health seeking behavior of TB suspects and patients (see technical report; Assessment of Private Sector for TB: Cambodia, June 2004). The report revealed that almost 80% of private doctors provided TB consultations. Patients were seldom referred to the NTP. Less than half of the doctors knew about DOTS. Less than 2% indicated that they prescribed TB treatment for the full 6-8

months of therapy. Moreover the study showed that 71% of pharmacies visited had TB drugs for sale and that majority of pharmacy staff had limited understanding of TB.

The report recommended NTP to actively involve private sector providers, depending on provider's resources and capacity, train these providers, and link them to the NTP through multi-sectoral partnerships. It also emphasized the need for stronger support to local health offices for the implementation of these PPM strategies.

Based on these findings several pilot projects were constructed to test innovative approaches involving various formal and informal providers in the national TB program.

URC supported CENAT in various other important assessments (see annex) including a review of laws, policies and clinical practices of the private medical and pharmaceutical sector for TB control (2004). This review indicated that there are very few legal restrictions impeding public private mix.

NTP launched Public Private Mix (PPM) in 2005 as another approach to improve access to DOTS services through engaging various types of private health care providers.

The objective was to increase TB case detection and also to improve the quality of TB services provided by the private sector. The first PPM-DOTS pilot projects were initiated with support from PATH (USAID funding), JICA in two ODs of Phnom Penh, and from URC in Battambang (also USAID funding). Since then, PPM has gradually been expanded to now cover 36 ODs in 11 provinces in the country and the number of NGO partners as well as funding sources for PPM have increased. In Cambodia, the types of providers targeted for PPM activities include pharmacists, individual private physicians (so-called cabinets), private hospitals, private lab technicians and drug sellers. Recently, garment factories, prisons and military establishments etc have also been engaged through this approach.

The model in the first phase of PPM-DOTS implementation was based on establishing referral mechanisms: private health care providers refer patients with signs of TB to public DOTS facilities. One of the main challenges appeared to be the high number of patients lost during the referral process. Partly to address this issue, the second phase of PPM-DOTS implementation will see an expanded role for eligible private practitioners to also take on the role of diagnosis and treatment.

Annex 1 provides a summary of NGO implementing partners, their areas of operation and the funding source, including a list of relevant persons met during the review.

3 Assistance to date

The NTP is being supported by a range of partners. Main donors are USAID, GFATM, JICA, WB and WFP. Moreover there are several local and international organisations and NGO's assisting the NTP, in particular WHO, RIT, CDC/GAP and FHI.

Main support for C-DOTS and PPM-DOTS is provided by USAID, JICA, Global Fund through ten NGOs. Complete list is available in annex 1.

An ICC (Inter Agency Committee for TB Control) was established in 2001 as a multi-sectoral partnership with the objective to improve partner coordination, to strengthen resource mobilisation and to provide technical assistance on program management. Despite its potential it has so far functioned mainly as a forum for information exchange, though less instrumental in assuring proper coordination between organisations. Meetings of the ICC are not regularly held but now and then partners meet ad-hoc when needs arise and circumstances dictate..

USAID support to the NTP Cambodia has the following objectives:

- Strengthen public-private partnership for TB control through the referral system.
- Increase the capacity of private providers and community to identify TB suspects and refer them to public DOTS facilities for diagnostics, treatment and follow-up.
- Reduce diagnostic delay for TB treatment and increase case detection.
- Strengthen smear microscopy through expansion on quality assurance system and improved smear making, and improve capacity for smear negative TB diagnosis including through the use of culture and chest radiography.
- Improve TB/HIV collaboration and linkages.
- Improve the recording & reporting system.
- Improve quality of information and counselling provided by both public and private providers.
- Prevent the emergence of Multi-Drug Resistant and Extensively Drug Resistant TB.

3.1 Main NGO partners supporting C-DOTS and PPM-DOTS

URC

URC, through the Health System Strengthening Project (HSSP), has played a major role in providing the evidence base for development of comprehensive PPM strategies and models and the implementation of the first PPM DOTS pilot projects in 8 OD's. These models have helped to lay the foundation for various PPM pilot projects which have been adopted, adjusted and currently scaled up by several other NGO's. URC also supports CENAT in development of guidelines (PPM-DOTS, TB in children, MDR TB, TB-HIV etc), national strategic plans and training. URC transferred its activities to PATH and TBCAP in 2008.

RACHA

RACHA supports implementation of C-DOTS in 11 OD's (6 provinces) focusing on poor communities. Main activities are support for capacity building of health staff, VHSG, traditional healers and strengthening quality of services delivery (through support of surveillance and supervision) and strengthening TB-HIV collaboration

RHAC

Starting in 2004 RHAC (Reproductive Health Association of Cambodia) supports scaling up of C-DOTS and PPM in 10 OD's (5 provinces). It also assists in TB-HIV collaborative activities.

Activities include support for guideline development, awareness building, training for HC staff and VSHG's, incentives for supervision to OD and HC level and support for monitoring meetings.

PATH

PATH supports PPM, ACSM, C-DOTS and TB-HIV collaborative activities through Tuberculosis Task order 2 (2007- 2010), taking over from URC.

CARE

Care supports TB control in one province as part of the project "Strengthening Capacity for Community Health" (MCH/TB-HIV/Nutrition). Objective is to improve the quality of HC DOTS and C-DOTS, capacity building for TB laboratory and TB case management at HC and community level and strengthening the integration of TB and HIV-AIDS services.

CHC

Assist the National TB Program (NTP) Provincial and Operational District (OD) with implementation of C-DOTS, TB/HIV collaborative activities level to improve access to quality DOTS, including administrative, technical, and managerial aspects of TB program. Target areas consist of 6 Operational Districts in 2 Provinces covering a population of 996,944. It also supports the implementation of (GLC assisted) DOTS Plus at 6 sites (both hospital and community based)

CATA

The Cambodia Anti Tuberculosis Association is established in 2003 with support from JATA. 4 Staff and 1 volunteer manage this small NGO with 153 members. CATA supports the NTP with TB control efforts focussing on elderly people (IEC) and implementation of DOTS in work places.

P-FHAD

Partners for Health started assistance to the NTP Cambodia in 2004 and now assists implementation of C-DOTS and collaborative TB-HIV activities in 3 provinces, focusing on capacity building for health center staff and VHV/VHSG (DOT watcher) training, supervision and coordination.

SCA

SCA is a large international NGO which has provided humanitarian relief and development assistance to Cambodia since 1979. In the health sector, SCA is implementing projects on Health

Sector Support, Integrated Management of Childhood Illness, and HIV OVC programmes. In the field of TB control, SCA has been working with CENAT as well as the PHD and OD staff in implementing C-DOTS.

CRS

CRS/Cambodia is implementing health programmes in remote locations in rural Cambodia. It has over 12 years of experience in implementing TB activities, including support for training, follow-up and maintenance of patient compliance, development of IEC materials, monitoring of food support for TB patients, and in recent years C-DOTS and TB/HIV activities,

4 Methodology of the review

The evaluation applied various methodologies using a wide variety information sources, amongst others:

1. Review of relevant NTP document and a selection of studies, reviews, technical reports and other assessments, including the National Strategic Plan for TB Control in Cambodia 2006-2010, the report of the Joint Programme Review of the NTP, 2006, Guidelines for Community DOTS, the draft NTP Guidelines for PPM-DOTS, draft ACSM strategy, the SOP for TB/HIV collaboration and various studies conducted by URC, NGO project documents and progress reports from implementing partners.

For a complete list of documents we refer to the annex references and resource documents

2. Meetings with CENAT, donor and partner organizations including most NGO's involved.
3. Field visits to project sites (see annex for overview of NGO project sites for DOTS and PPM). Sites for field visits were selected based on criteria amongst others:
 - ODs implementing both PPM and C-DOTS
 - Representativeness of NGOs implementing PPM and C-DOTS, including the models adopted for both initiatives
 - Feasibility regarding travel time and logistics involved
 - Geographical characteristics and differences between rural v/s urban were considered to identify whether particular models work better in specific situations
4. Direct in-depth interviews and discussions with TB patients ("walk-ins" and patients visited through home visits), family members, health staff, CENAT, PHD and OD staff stakeholders. All interviews were based on a semi-structured questionnaire that was developed before the review (see Annex 7).

Furthermore, interviews and discussions were held with WHO representatives, NGO representatives, focal-persons for PPM/C-DOTS, non-NTP health care providers engaged in PPM, and representatives of Donor organizations

5. Focus group discussions were conducted between TB patients and family members, Community volunteers, members of Village Health Support Groups involved in C-DOTS implementation, and local Health centre staff of ODs, involving local staff of NGOs implementing C-DOTS and PPM.
6. In order to provide guidance on field visits and to standardize data and information collection between the various field-teams, the consultant, in collaboration with the Core Team, developed a Checklist / evaluation tool for both Community-DOTS and PPM (see annex 7)

With the above selection of sites, 7 out of 11 provinces where PPM and C-DOTS are implemented have been observed by the evaluation team. The 4 provinces not visited were Takeo, Kampot, Koh Kong and Kampong Speu. RHAC works in Takeo and Kampong Speu, while RACHA and CHC work in Kampot. These NGOs also work in other provinces which are included in the site visits, thus all implementing NGOs have been included in the evaluation.

Review team, schedule of visits and persons met is at Annex 6.

Team composition for field visits

Two teams were formed, each of 7 members including an external evaluator: One from WHO and one from KNCV Tuberculosis Foundation. Other members represented TBCAP, CENAT, USAID, JICA and representatives of NGO's (see Annex 6). In the field these teams were split in 2 sub-groups depending on the needs. Preliminary briefings between the 2 evaluation groups were held twice during the first week and at the end of the second week.



Review team visiting health center during review



Health center staff facing increasing workload



Private cabinet owned by "PPM-DOTS champion"

5 Overall findings

The review team was impressed by the good quality of DOTS services observed in many of the places visited, and especially by the strong efforts made in the program to improve patient access, increase case detection while maintaining outstanding treatment results.

Despite all constraints and limitations the team witnessed an excellent performance in many health centers, a high level of dedication of staff at CENAT, PHD, OD and health center level, sound commitment and motivation of donor and NGO partner organisations assisting the implementation of C-DOTS and PPM – DOTS in Cambodia. It was also found that strong commitment of the local government was conditional for successful implementation and good performance of C-DOTS and PPM DOTS.

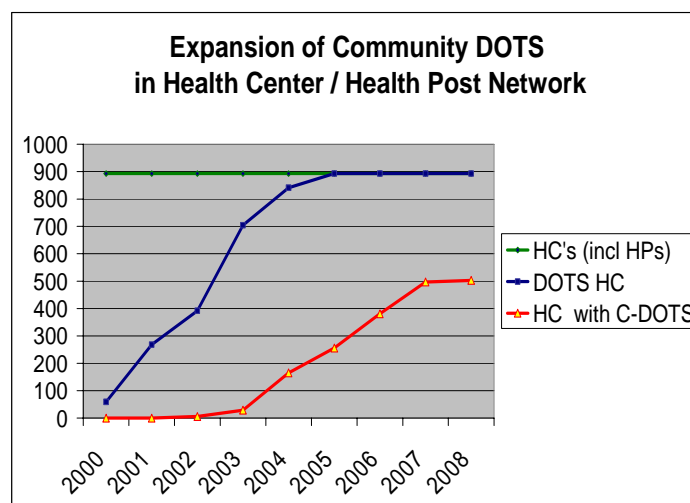
C-DOTS and PPM at village, and even OD level seems to be one continuum as both share many similarities.

Though since the initiation of C-DOTS and PPM DOTS the overall case notification has not increased significantly the team found that availability and active involvement of community volunteers and involvement of private sector providers has the potential to improve access to diagnostic and treatment services and increased patient satisfaction. These strategies are major contributing factors to decreased patient- and diagnostic delay and as such contributing to decreased transmission. Moreover we found that C-DOTS contributes to maintaining good compliance and excellent treatment outcomes, with cure rates around / above 90%.

5.1 Community DOTS: Findings and conclusions

The Evaluation team found that almost the DOTS services in health centers and hospitals in all OD's visited are of excellent quality. This has resulted in a significant increase in TB case detection over the last decade.

Though first Community DOTS pilots were already initiated in 2002, rapid expansion only followed in 2004.



Source: CENAT

The expansion was achieved with strong support from several NGO's including RACHA, RHAC, CRS and CARE (funded by USAID) and CHC (funded by JICA). In 2008 around 500 out of a total of 853

Health Centers (60%) are implementing C-DOTS. Furthermore all provincial- and OD- hospitals, and 50% of National Referral Hospitals are successfully integrated in the NTP. All these efforts allowed the NTP Cambodia to achieve the Global Targets in 2005, with treatment completion rates well above 85% for more than 12 years.

Strong NGO support has proven to be essential in the efforts, and the good evidence base has been well documented allowing the CENAT in 2004 to develop national C-DOTS guidelines.

- The availability of National Guidelines for C-DOTS have proven to be very instrumental in achieving uniformity in strategies and approaches for community DOTS. Field visits revealed little difference in approaches between the various NGO's: Differences in approaches for implementation of C-DOTS are mainly related to training (training materials, duration, trainers), the type of providers engaged (VHSG only / DW as selected by patient) and targeting of communities for C-DOTS (all versus only those far away from HC and severely ill). There is also some variety in recording and reporting documents (variations in format of referral slips, some use referral registers) and the scope of community activities (some do education campaigns, some only TB work, other combine with other activities).
- In general VHVs/VHSG's, drug sellers, pharmacies and Pet Phums do not mention financial incentives as their main motivation: social responsibility, contributing to the national TB program, and helping TB patients are mentioned as the major reason for involvement. However compensation for transport costs is also considered important
- There are several differences in financial compensation of activities. Some NGO's pay only operational costs (meetings/trainings/supervision), others provide financial compensation " per case detected or cured". We found no preference or difference in effectiveness for any of the payment systems: important seems to be the financial compensation for transport by volunteers, additional to acknowledgement and appreciation for their work from community and health service.
- However there is a wide variation in output of C-DOTS between OD's. Strong commitment and motivation of local government and health staff at all levels is clearly conditional for success.
- In general there is little formal collaboration between members of the Home Based Care teams and Village Health Volunteers, although sometimes there is cross referral. This is a missed opportunity.
- Supervisory visits for C-DOTS provide an opportunity for HC staff to look at other programmes and sensitize community members about health related issues.
- Food support provided to TB patients by the World Food Programme is possibly an incentive for TB suspects to seek care from the public sector and comply with treatment.

Despite some constraints described below (challenges) we conclude that Community DOTS results in improved access to information and increased community awareness of TB and its symptoms and helps decreasing levels of stigma.

5.2 Challenges to Community DOTS

Despite the availability of good quality DOTS services in the public sector facilities, the community and most TB patients are not aware of these services, and the general perception of the quality of public services is still rather negative. The Focal Group Discussions conducted by the team revealed that many TB patients, before they are diagnosed and treated at DOTS facilities, consult a wide variety of informal and un-qualified providers, buy drugs at pharmacies or drug sellers and spend considerable amounts of time and out-of-pocket money. However an increasing number of patients are being referred by village volunteers and diagnosed at an early stage, considerably reducing out-of-pocket expenditures. Few spent money consulting private providers before they were identified and referred by C-DOTS network.

5.2.1 Issues related to limitations in human resources at health service level

Regarding human resources in the public sector there are also major bottlenecks affecting access: These are mainly related to the high work load and staff shortages at public health centers, OD and PHD, but also to the poor salaries of government health workers combined with low incentives for “extra” work and C-DOTS / PPM etc activities (related to “new” initiatives).

The limited number of staff at the HC, but also at OD and PHD level are facing an ever increasing work load due to multi tasking. We observed for example that HC staff have extreme difficulty to cope with the increasing number of programs, projects and other activities outside their daily routine work of patient care.

- Moreover not all health workers operating in OPD’s or health centers have been trained in DOTS, C-DOTS and PPM. Frequent absenteeism as a result of invitations to numerous trainings and workshops (euphemistically referred to as “Workshop crisis”) is another major factor affecting availability of qualified health workers and regularity of supervision. In some OD’s we noted weak leadership and poor monitoring negatively affecting C-DOTS and PPM performance.
- Regarding TB diagnosis there are several constraints notably with regard to poor sputum smear preparation, and the rather long “turn around” time for smear results leading to considerable diagnostic delays.
- We also observed some constraints in the logistic supply system for laboratory and ACSM materials.
- Health facility staff and VHVs/VHSG’s do not systematically carry out contact examination, resulting in many “missed” adult and in particular paediatric TB cases.
- DOTS is included in the curricula of the medical (and nursing) school , though DOTS practice for medical students is limited to 5 hours in 5th year and 2 hours in 6th year.

5.2.2 Sustainability of C-DOTS and PPM DOTS

Another concern is the sustainability of C-DOTS and PPM activities: Currently all these activities are financially supported by external donors, leaving these new initiatives extremely vulnerable to availability of funding. In some districts we observed a considerable drop in the level of activities but also project outputs after funding was delayed or stopped. This needs full attention.

5.3 PPM: findings and conclusions

The private health sector in Cambodia is rapidly growing and increasingly used by the public in general and TB symptomatics (60-75%) in particular. In response to this the Cambodia's National Tuberculosis Programme (NTP) initiated the Public-Private Mix for DOTS (PPM DOTS) approach in August 2005, engaging various types of private health care providers in TB control.

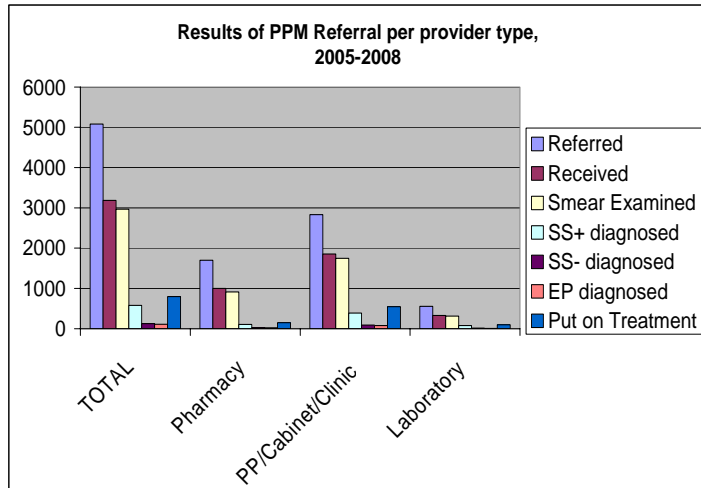
The NTP with support from its partners developed the Public-Private Mix (PPM) strategy (phase I & Phase II). During Phase I, NTP and partners with support from USAID and JICA developed pilot projects in several provinces, designing and implementing referral networks between private health providers including pharmacies whereby all TB symptomatics are referred to public sector DOTS facilities for treatment and care. PPM initiatives supported by USAID and JICA through PATH and URC are currently under way in 36 ODs spanning 11 provinces in the country. Providers ranging from pharmacies, clinics, cabinets, hospitals to workplaces and prisons are effectively being engaged in TB control efforts. As a result the number of referrals to the public sector is increasing over the last 3 years. Engagement of prisons (4 out of a total of 26 prisons) and factories (16) are still at piloting phase.

5.3.1 Utilization of formal and informal private providers

The evaluation revealed that a substantial number of TB patients still spend considerable time in the private sector before being diagnosed in the public sector, ranging from ten days to even a year. Moreover TB patients spend anywhere between \$10 and \$ 1000 in this process. Accessibility to the private sector seems superior to access to public health services. (\pm 7000 private health facilities compared to \pm 1000 public health facilities).

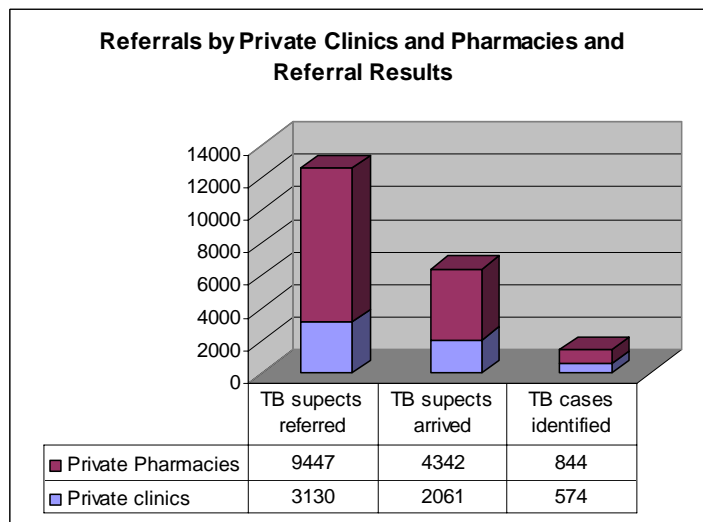
Referral

The team observed that the referral system is mainly a one-way process without any checks and feed backs resulting in poor effectiveness. Though the number of cases being identified and referred by private care providers is increasing, it is as yet too early to conclusively determine whether PPM results in an overall increase in case detection.



Source: PATH

In June 2008 the services PPM DOTS covered 11 out of 24 provinces and 38 (out of 77) Operational Districts and included 488 private clinics and 896 private pharmacies.



Source: PATH

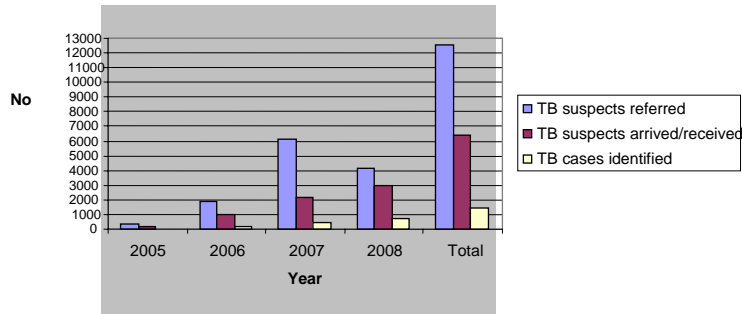
In PATH supported areas 12,577 TB suspects were referred during the period 2005- Sept 2008. Some 6,403 suspects arrived at the health facility and their sputa were examined by which 1,418 TB patients (11 % of all referred suspects) were diagnosed as shown in the table below.

	Private clinics	Private Pharmacies	Total
TB suspects referred	3130	9447	12577
TB suspects arrived	2061	4342	6403
TB cases identified	574	844	1418
% SS positive suspects	18%	9%	11%

Source: PATH

In this project, the yield of smear positive TB patients per provider is slightly higher for private clinics but comparable to pharmacies, taking into account that part of the referrals from private clinics were made by Pet Phums

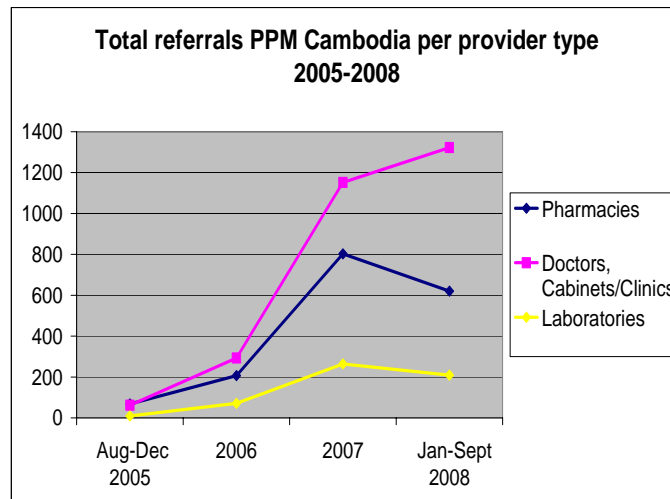
**TB suspects referred (by Private Sectors)
received (by Public Sector) and TB Cases identified,
in PATH supported OD's**



Source: PATH

5.3.2 Involvement of private pharmacies

Cambodia has no endorsed government regulation for sale of TB drugs in the private market. The Pharmacist Association of Cambodia (PAC) aims to promote legal pharmacies (and succeeded to decrease the number of illegal pharmacies) through effective social marketing (providing PAC logo's to legal pharmacies). Awareness building of pharmacy staff seems the key factor for success. No TB drugs were found in any of the visited pharmacies in PPM DOTS areas. This is the result of effective awareness building and behaviour change efforts initiated by PAC.



The organisation is very committed to assist the NTP in controlling the over-the-counter sale of TB drugs. Involvement and contribution of the Pharmacists Association of Cambodia (PAC) since 1995 has been exemplary: for example more than 300 pharmacies were successfully engaged across Phnom Penh and many more engaged across the other provinces: These pharmacies stopped selling drugs and now refer suspects to the national program without any compensation.

5.3.3 Involvement of Pet Phums

At village level in rural areas, PPM is rolled out in tandem with Community DOTS through the engagement of informal providers such as Pet Phums (mobile village health care provider), drug sellers and traditional healers in referral and supervision of treatment.

The involvement of Pet Phum is still controversial, because these informal healers are considered illegal practitioners applying potentially harmful practices (unsafe injection methods, use of dangerous/ expired medicines). However they are widely used by the community due to their excellent access at village level (mobile on motor bike, visiting patients at home).

Some Pet Phums met during the visit demonstrated strong motivation, potential capacity and high interest to participate in TB control efforts. Others referred up to 10 TB suspects per month to the local health center (positivity rate between 8-12%). Some were less active but had good knowledge about signs and symptoms of TB. Other Pet Phums were also involved as treatment observers.

From the perspective of public health there is also another crucial argument for involvement of Pet Phums with the health system: their unsafe injection practices are a hazard for the transmission of HIV. Rejection by the health system will make things worse while a positive approach may convince these providers to review and change their dangerous practices (as with illegal drug sellers and pharmacies).



Interview with Pet Phum



Unsafe equipment of Pet Phum



Used needles, expired medicines and vials

5.3.5 Involvement of hospitals

Implementation of DOTS in Cambodia was more or less initiated in the provincial and district hospitals and as a consequence almost all OD and PHD Referral Hospitals are effectively linked to the NTP providing sound DOTS services. There are eight National Referral hospitals in Cambodia. Five of these facilities are linked to the NTP and provide excellent DOTS services. The remaining three hospitals still remain to be linked to the DOTS program (Kuntha Bopha children hospitals, Ang Duong Hospital, and MCH Hospital). In particular, the Kuntha Bopha hospitals remains a challenge as the director refuses any collaboration with the NTP and do not accept DOTS while the facilities diagnose and treat numerous children with TB.

During the visit to Siem Reap we encountered several children sick with TB (contacts of confirmed smear positive patients) who had visited the Kuntha Bopha hospitals but were missed on diagnosis (treated for ordinary lung infection). This needs to be addressed.

5.3.6 Engagement with workplaces

Efforts to engage businesses in TB control are very recent in Cambodia. The NTP in collaboration with the Cambodia Anti Tuberculosis Association (CATA) initiated a project in February 2007 to engage businesses in TB care and control. In the pilot phase 6 factories (5 garment and 1 tobacco factory) were engaged. CATA conducted advocacy programmes on TB for the management and employees of these factories, technical training for the medical staff and regular monitoring and supervision, while the NTP provided diagnostic facilities through their health centres and anti-TB drugs to the clinics at the factories to facilitate ease of DOT at the workplace. In March 2008 the project was expanded to include 10 more factories. Currently the project covers 22,000 workers across Phnom Penh. Around 40 patients in 2007 and 49 patients in 2008 were referred to health centres from the factories for TB diagnosis. Of these around 25 (6 patients in 2007 and 19 in 2008) were diagnosed with TB. Plans are in place to expand the project to cover more workplaces with support from the Global Fund.

5.4 Challenges towards PPM expansion in Phase 2

During discussions with private providers we encountered several concerns shared by private providers particularly with regard to:

- long waiting time at public health facilities
- lack of timely and regular feedback on cases referred by private providers: It may be considered to support communication expenses like providing phone cards.

Relevance of phase II PPM: Cabinets who are “less busy” (low patient load) are generally more interested in providing DOT but not the pharmacies or “busy” cabinets. In these places the workload is often too high, and these clinics do not have the resources to retrieve patients defaulting on their treatment, or manage side effects of drugs. Therefore it should be considered to select only certain cabinets (meeting criteria set by NTP) for phase 2 (through process of certification)

Many pharmacies visited in PPM areas have stopped selling TB drugs after their involvement in PPM. It has not affected their business and they are keen to contribute to TB control in their communities. Therefore, all pharmacies even in non PPM areas should be approached to stop selling drugs (In Svay rieng, a non-PPM area, pharmacies were still selling TB medicines)

Through all the progress, challenges still persist:

- Nearly half the providers in the country are operating without license: Massive efforts on the part of the MoH will be required to systematically legalize these providers. In addition, some National Referral Hospitals, specifically the Kuntha Bopha hospitals, Ang Duong, and MCH hospitals are yet to be involved in national TB control efforts.
- Challenges exist in the referral and feedback systems between public-private and even public-public providers. There is no systematic feedback to providers who refer suspects to the public sector and to follow up on TB patients referred between health centres or between health centres and hospitals. There is a lack of facility data bases for referral (like a DOTS directory for PPM partners) Availability of health facility directories with contact information would greatly facilitate referral feed back across the country and recording and reporting of referrals from PPM and C-DOTS. There is also need for training and systematic follow up of private providers to ensure that they contribute effectively to TB control efforts.
- Finally implementation of International Standards of TB Care (ISTC), recently translated into Khmer, could effectively be used as a tool to motivate private providers and non-DOTS hospitals to adhere and provide TB services in line with international standards. The ISTC could even be used as a basis for certification of DOTS facilities / providers.

5.5 Challenges towards coordination

Overall coordination (Between PHD/OD and NGO staff and between NGOs) needs to be strengthened through:

- Regular coordination meetings: quarterly meetings, organised and hosted by the NGOs in turn with set agendas or like the TWG-H meetings convened by the PHD in Kampong Cham
- Information sharing between partners and PHD is still poor: Activity reports are generally not shared or provided to PHD as well as OD in a timely manner. Also workplans are rarely shared between NGO's which often operate in relative isolation from others. We encountered several instances where NGOs were working in the same area and had overlapping activities, without coordination (FHI and SCA were both planning similar support for the KC prison (CC3))
- There is no standardisation of compensations provided by NGO's and little alignment in the way this compensation is implemented and there is a need for alignment of financial support in particular for NGO's working in the same area (PHD/OD and HC). For example RACHA used to pay 30-40 USD to health centres for weekly supervision of DW, RHAC is now paying 12 USD which caused some dissatisfaction.

5.6 Challenges towards recording, reporting and referral

During the review it was difficult to analyse and validate data on C-DOTS and PPM contributions because recording and reporting was often incomplete: This is due to following reasons:

- Though the new TB registers in use in some places now include specific columns ("source of referral" and who is the "DOTS watcher for the patient"), entries in the registers are not always made. Lab register and reporting forms do not yet have specific columns for this. (Need to ensure all HC use the new register, revise the lab register as well as reporting forms and train staff to use them and monitor them)
- The contributions of C-DOTS and PPM are underestimated. Data availability also depends on whether referral slips are filled and received at the HC while many patients arrive without referral slips (following education campaigns), pharmacies and DW do not always fill up the referral slips.
- Referral slips vary also between partners (some use NTP referral forms - but no record for the referee unless a register is used).
- Comparison of the lab register and TB register in KC provincial referral hospital indicate high initial default rate. We had no means or possibility to check whether these cases are indeed smear positive patients not registered for treatment or simply not captured in the recording system. In any case, feedback on referred or transferred cases should be proactively sought to ensure that all diagnosed TB cases are accounted for.



Private cabinet referring TB suspects to NTP



Team visiting Private Pharmacy collaborating with NTP under PPM DOTS

6 Recommendations for Community DOTS and PPM DOTS

6.1 General Recommendations

- There is a need for stronger support to local health offices in the proves of implementation and scale up of C-DOTS and PPM strategies.
- Finalization of PPM guidelines (in alignment with the current C-DOTS guidelines) is a priority.
- Scale up implementation of C-DOTS and PPM, and intensify focus on and engagement of private doctors, cabinets and clinics.
- Coordination of the involvement of Pharmacies should be further delegated to the Pharmacy Association of Cambodia (PAC)
- Develop a sustainability plan for C-DOTS and PPM so that activities will continue after the phasing out of external donor and local/ international NGO support.

6.2 Recommendations for improved coordination

- Strengthen coordination between the various partners at all levels under leadership of CENAT. It should be considered to arrange more regular meetings of the ICC at national level and partner coordination of Technical Working group meetings at PHD level.
- Expand the PPM / C-DOTS working group (to include prisons, work places) and intensify meetings, amongst other to finalize and get approval for PPM guidelines (in alignment with the current C-DOTS guidelines)
- Improve coordination between the various health programs for training / workshops for government employees to avoid the problem of chronic absenteeism at service provider level
- Effectively link Village health Support Groups and DOT watchers with Home based Care Teams at village level: HBC teams are potential resources in the community and should be engaged to include TB in their work (health education, other IEC activities, as DW for TB/HIV co infected patients etc)
- Make efforts to harmonize/ develop a more standardised incentive system to be implemented by all NGO's working in the various areas and consider waiving fees for VHV's/VHSGs at referral hospitals. Standards for compensation / incentives should be set by NTP in coordination with partners.
- Consider supporting transportation cost for DW and reimbursement for communication expenses to HCs to improve feedback of patients referred from the private sector

6.3 Recommendations for improved referral systems

- In order to enable proper monitoring of C-DOTS and PPM:
 - Improve recording/reporting of “source of referral” in patient cards, registers and quarterly report formats.
 - Assure timely feed back on diagnostic results of referred TB suspects (C-DOTS and PPM), best by written feed-back or directly by telephone to the referring provider.
 - Assure systematic feed back for every diagnosed TB patient referred to another facility (through introduction of referral registers at OD/ PHD and national level, introduction of facility directories and implementing referral checks by telephone).
 - Introduce directories of public DOTS facilities to assist PPM partners to refer TB suspects to the appropriate facility, and to facilitate DOTS centres to provide feedback to the referring provider.

6.4 Recommendations related to DOTS services in the public sector

- Improve clinical evaluation of smear negative suspects at health center level through systematic referral to hospitals at OD or PHD level (NTP to provide resources for diagnosis of these cases).
- Implement the ACSM plan and conduct public awareness campaigns to promote the availability of quality DOTS services in government health facilities.
- Improve logistics system to prevent stock outs of drugs and supplies (including IEC materials)
- Strengthen laboratory capacity at health center level and shorten diagnostic delay by providing compensation for more frequent transport of sputum smears.
- Systematically implement contact examination and referral of suspected contacts by all providers and Village Health Volunteers

6.5 Recommendations with regard to PPM

- Selection of providers for Phase 2 PPM should be based on agreed criteria and specified task mix: It should be considered to develop a system of social franchising for these providers. Alternatively certification could be considered whereby certification standards are set based on the task mixes (see annex). It is recommended that, in particular for Phase 2, only selected cabinets should be designated.
- Social marketing of qualified DOTS providers is required so that the public knows where to access quality services (e.g. through recognizable logo etc).
- Include informal providers such as Pet Phums and traditional healers, initially in the same capacity as VHVs/VHSGs under C-DOTS.
- Consider simplification of the PPM models currently described in the draft PPM guidelines and base the guidelines on a simple grid of task mixes for the various provider types as described in the report. The guideline should contain a uniform system for referral.
- Private laboratories should be linked only after assessment based on agreed criteria regarding quality assurance and laboratory safety through a process of certification by NTP.

6.6 Recommendations with regard to Human Resource Development

- The scale up of PPM-DOTS and C-DOTS requires human resource strengthening, in particular at the health center but also at OD/PHD level. Additional staff at these centers is crucial to be able to cope with the increasing work load related to the new initiatives.
- Develop a more comprehensive HRD approach for private sector providers and include this in the national plan for human resource development of the NTP.
- Strengthen systematic supervision of all private providers, VHV/VHSG's and DOT watchers (define specific task mixes)
- TB training (including PPM/C-DOTS) need to be expanded for all staff working in OPD and HC (in particular those who have not yet been trained so far). The training should be based on the competencies required (suspect identification, diagnosis, and case management including RR).
- Identify and mobilize PPM champions and involve them in the establishment of PPM/ISTC taskforces at national and provincial levels to support the NTP in dissemination and implementation of ISTC.
- Training of VHV/VHSG should include IEC focussing on "good" health seeking behaviour practices and include TB education to family members
- Improve planning coordination between OD/PHD and other national programs to avoid shortage of staff working at service delivery levels

6.7 Other recommendations

- Involve the remaining national referral hospitals in the DOTS program and link them to the NTP. Seminars on implementation of ISTC could be used as an effective tool to convince hospital management and clinical specialists of the National referral hospitals not yet linked to the NTP. Kuntha Bopha hospitals should be prioritized in these seminars.
- Step up advocacy to Cambodia Medical Association (CMA) and increase efforts to achieve official endorsement of the International Standards of TB Care by the Association

7 Annexes

Annex 1: Mapping of C-DOTS and PPM sites and sites visited

Province	OD	C-DOTS	PPM	Visited? (Y/N)
		Supported by: USAID, JICA, GF R5	Supported by: USAID	
Pursat	Sampov Meas	RACHA (USAID)	URC, now PATH*	Y
	Bakan	RACHA (USAID)		Y
Battambang	Battambang	RHAC (USAID)	URC, now PATH*	Y
	Thmarkol	RHAC + JICA project	URC, now PATH*	Y
	Muong Russey	RACHA (USAID)		Y
	Sangke	RHAC (USAID)		Y
	Sampov Loun	AHEAD (CRS) (USAID)		N
B. Meanchey	Monkol Borey	RACHA (USAID)	URC, now PATH*	Y
	Ochroy	RACHA (USAID)	URC, now PATH*	N
	Preah Net Preah	RACHA (USAID)		N
	Thmor Puok	Ponhleu Koma (GF)		Y
Siem Reap	Siem Reap	RACHA (USAID)	URC, now PATH*	Y
	Angkor Chum	RACHA (USAID)		N
	Kralanh	RACHA (USAID)		N
	Sothnikum	PFHAD (GF)	URC, now PATH*	N
Kg. Cham	Memut	SCA (GF)	PATH	N
	Cheung Prey-Bateay	SCA (GF)	PATH	N
	Ponhea krek-Dambe	SCA (GF)	PATH	Y
	Chroch. Chhmar	SCA (GF)	PATH	N
	Tbong Khmum	RHAC (USAID)	PATH	Y
	Sreysanthor-Kong Meas	RHAC (USAID)	PATH	N
	Ch.Leu –Stung trang	RHAC (USAID)	PATH	N
	Preychhor-Kang Meas	RHAC (USAID)	PATH	N
Oreang Ov-Koh Sotin		PATH	N	

	Kg Cham-Kg Siem		PATH	Y
Svay Rieng	Svay Rieng	CHC (JICA)		Y
	Chiphou	CHC (JICA)		N
	Romeas Hek	CHC (JICA)		N
	Kg Trabek			N
Not included in this evaluation :				
Koh Kong	Sre Ambel	CARE (USAID)		
	Smach Meanchey	CARE (USAID)		
Takeo	Daunkeo	RHAC (USAID)	PATH	
	Bati	RHAC (USAID)	PATH	
	Prey Kabas	RHAC (USAID)	PATH	
Kampot	Angkor Chey	RACHA (USAID)		
	Kampong Trach	CHC (JICA)		
	Kampot	CHC (JICA)		
	Chhouk	CHC (JICA)		
Sihanouk Ville	Sihanouk Ville	JICA project	PATH	
Kompong Speu	Kong Pisey	RHAC (USAID)	PATH	
	Kompong Speu	RHAC (USAID)	PATH	
Phnom Penh				
Kratie	Kratie	PFHAD (GF)	URC, now PATH*	
	Chhlong	PFHAD (GF)		

*PATH took over from URC since late 2008

Annex 2: Resource Persons contributing to the evaluation

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CENAT		Dr. Mao Tan Eang	mao@online.com.kh
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Annex 4: Example of task mixes for Phase 2 PPM in Cambodia

To be considered for the various providers

TASK MIX for PPM

	Uncertified Laboratory	Certified Laboratory	VHV	Certified informal (Pet Poum, drug sellers etc)	Certified formal provider private Cabinet, Clinic	Certified formal provider: HC	Certified formal provider: hospital
IEC							
Suspect identification							
Referral of suspects							
Smear preparation							
Smear examination							
Diagnosis							
Contact examination							
Recording							
Initiation of Treatment							
DOT							
Management minor side effects							
Treatment follow-up							
Reporting							
Management severe side effects							
Etc etc							

Annex 5: References and resource documents for this review

1. National health Strategic Plan for TB control in the Kingdom of Cambodia, CENAT 2006-2010
2. National Health Policies and Strategies for TB control in the Kingdom of Cambodia 2006-2010, CENAT
3. Tuberculosis Report 2007, MoH Kingdom of Cambodia
4. Joint Program Review, NTP Cambodia 2006, MoH CENAT and partners
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7. A comparative Analysis of the approaches to Community Outreach in Cambodia's Health Systems, Scheyer 2003
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9. Community DOTS Guideline, CENAT, 2004
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16. Resistance and renewal: health sector reform and Cambodia's national tuberculosis programme: Hill, Mao Tan, WHO Bulletin 2007
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21. An assessment survey of anti-tuberculosis drug management in Cambodia. Medline Uchiyama Y, Mao TE e.a.
22. Operations Research Results: Treating Tuberculosis in the Private Sector: URC Cambodia Quality Assurance Project, December 2004
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Annex 6: Review Team, schedule of visits, and persons met

Review Team 1

Ms. Monica Yesudian, WHO/HQ
Dr Jamhoih Tonsing, WHO/TBCAP
Dr In Sokhanya, CENAT
Dr Long Ngeth, CENAT
Dr Leng Chheng Lay, JICA TB project

Review Team 2

Dr Jan Voskens, KNCV
Dr Chak Chantha, USAID
Dr Team Bak Khim, CENAT
Dr Kou Summardy, CENAT
Mr Seak Kunrath, JATA/TBCAP
Dr Nicole Seguy, WHO/Cambodia

Place Visited

Persons Met

Position

1. Pursat province

Pursat Provincial Health Department

Dr Ung Sophoan	PHD Deputy Director
Mr Sdoeun Saray	TB Laboratory Supervisor
Dr Chhum Phally	URC Provincial Coordinator (PC)
Dr Khol Samnang	URC Assistant PC
Dr Him Ryda	RACHA ID Assistant Team Leader
Dr Khoy Dy	RACHA PC

	Mr Poeuv Manuth	RACHA Assistant PC
	Mr Hor Sinang	IDF/RACHA
	Mr Tol Bunheng	PATH Community Facilitator
Sampov Mean Operation District (OD)	Dr Krourch Rapho	TB OD Supervisor
	Mr Eng Pheara	TB OD Supervisor
	Mr Sdoeung Saray	TB Laboratory Supervisor
	Mr Tol Bunheng	PATH Community Facilitator
	Dr Khol Samnang	URC Assistant PC
	Dr Him Ryda	RACHA ID Assistant Team Leader
	Dr Khoy Dy	RACHA Provincial Coordinator
Kandieng Health Center	Mr Tim Sara	Health Center Deputy Chief
	Mr Kheik Ky	TB Laboratory Technician
Prey Nhi Health Center	Ms Seng Ratana	Health Center Staff
Koh Chum Health Center	Mr Mao Seang Dy	Health Center Staff
	Mr Meang Seang Yeun	Health Center Staff
Bakan Operational District	Mr Sokha Ratha	OD TB Supervisor
	Mr Tep Sareth	OD TB Staff
Snam Preah Health Center	Mr Chhourn Chorn	Health Center Staff
Beong Kna Health Center	Mr Kong Chanrith	Health Center Staff

2. Battambang province

Thmarkol Operational District	Mr Seng Souv Aug	TB OD Supervisor
	Mr Yun Bunna	TB OD Staff
Tamoeun Health Center	Mr An Chheng	Health Center Staff
	Mr Ngoch Socheat	Health Center Staff
Klaing Meas Health Center	Ms Saing Sovath	TB OD Supervisor
	Mr Chhot Hoeun	Health Center Staff
	Mr Chheuy Sophal	Health Center Staff
Lavea Health Center	Mr Kroch Channa	Health Center Chief
Moung Russey Operational District	Dr So Sok	Moung Russey RH Director
	Dr Kim Arunrith	TB OD Supervisor

Sangke Operational District	Mr Kong Phandara	TB OD Supervisor
	Mr Noun Kim Tav	OD TB Staff
	Mr Yean Kea	OD TB Supervisor
Kor Koh Health Center	Mr Seng Kim Sea	Health Center Chief
	Mr Thun Rum	Health Center Staff
Prek Chik Health Center	Mr Hum Mab	Health Center Staff
	Mr Sun Saroeun	Health Center Staff
Odambang I Health Center	Mr Phlong Sak	Health Center Staff
	Mr Preung Reurn	Health Center Staff
Vat Tamem Health Center	Mr Tak No	Health Center Staff
	Mr Huy Chantha	Health Center Staff
Battambang Operational District	Mr Chim Sokha	OD TB Supervisor
	Mr Phoung Vantha	Deputy OD TB Supervisor
Svay Por Health Center	Mr Sor Kim Chhouk	Health Center Staff
Phnom Sampov Health Center	Mr Chheang Kou	Health Center Staff
Thep Pathey Health Center	Mr Keurn Darin	Health Center Chief

3. Siem Reap province

Siem Reap Provincial Health Department	Dr Keang Sok Try	PHD Deputy Director
	Dr Pin Prakak	TB Lab Supervisor
	Dr Ney Phorlen	Sothnikum OD Director
	Mr Mean Sovann	TB PHD Supervisor
	Mr Eng Kheang	OD Pharmacist
	Mr Hun Cheang	OD TB Supervisor
	Mr Yun Siphorn	OD TB Supervisor
	Dr Phong Choun	PFHAD Executive Director
	Dr Duth Yokly	PFHAD Project Officer
	Mr Hong Piseth	PFHAD TB Project Assistant
	Mr Ly Phavuth	PFHAD TB Project Assistant
	Mr Pick Hatha	URC Assistant PC

Meanchey Health Center	Mr Chan Nara	Health Center Staff
Prasat Bakong Health Center	Mr Pot Vuthea	Health Center Staff
Sothnikum Operational District	Mr Touch Rorong	Health Center Staff
	Dr Ney Phorlen	Sothnikum Operational District
	Dr Yun Siphorn	OD TB Supervisor
	Dr Eng Kheang	OD Pharmacist
	Mr Hun Cheang	OD TB Staff
	Mr Mean Sovan	PHD TB Supervisor
Kachas Health Center	Mr Sy Chandara	Health Center Chief
Spean Thnot Health Center	Mr Somphy Run	Health Center Staff
	Mr Oun Sam Nam	Health Center Chief
	Mr Bun Sarath	Health Center Staff
Laveng Russey Health Center	Mr Tan Moly	Health Center Chief
	Mr Lo Sithan	Health Center Staff

4. Bantey Meanchey province

Bantey Meanchey Provincial Health Department	Dr Eng Sophyrum	PHD Deputy Director
	Dr Kim Sameurn	PHD TB Supervisor
	Mr Heng Kim Soth	PHD TB Lab Supervisor
	Mr Chum Nary	PHD TB Staff
	Mr Phal Vimean	PHD TB Staff
	Mr That Kontol	OD TB Supervisor
	Mr Chun Bunda	OD TB Supervisor
	Mrs Sim Chanborina	Director, Ponleu Koma
	Hoeun Sar	Director Assistan, Ponleu Koma
	Meas Sitha	Staff, Ponleu Koma
	Dr Kunnavuth	RACHA PC
	Dr Somrith Sorya	URC PC
	Phum Thmey Health Center	Mr Vath Vorn

	Mr Keo Buntheurn	Health Center Staff
	Mr Leng Sophorn	TB Supevisor
Treas Health Center	Mr Sin Sopheap	Health Center Staff
Svay Chek Health Center	Mr Chouth Sam Eith	Health Center Staff
	Mr Phin Saorath	Health Center Staff
Ta Pho Health Center	Mr Eam Chanthy	Health Center Staff
	Mr Srey Piseth	Health Center Staff
5. Kompong Cham province		
Kompong Cham Provincial Health Department	Ph. Cheang Sena	PHD Deputy Director
	Dr Keo Chandara	PHD TB Supervisor
	Mr Chey Vichetmony	PHD Lab Supervisor
	Mr Svay Sereivithi	OD TB Supervisor
	Mr Chea Sokha	OD director
	Mr Hay Ra	PPM Coordinator
Tbong Khmum Operational District	Dr Say Heng	OD Director
Soung I Health Center	Mr Meach Sory	Health Center Staff
	Mr Keng Phy	Health Center Staff
Ponhear Krek Operational District	Mr Chan Line	OD TB Supervisor
	Mr Ros Sun Hak	Health Post chief
	Mr Kea Sovanna	Prison Health Center Staff
6. Svay Rieng		
Svay Rieng Provincial Health Department	Dr Pen Sona	PHD Director
	Dr Men Sokhanarith	PHD TB Supervisor
	Dr He Sythan	OD Chief
	Mr Prak Sam An	OD TB Supervisor
	Mr Chhuor Samaly	TB Supervisor
	Mr Chhouk Bandit	PHD HIS

Areas of inquiry at Central Level:

NSA:

- Has a National / local Situational Assessment been done after full stakeholder analysis?
- Which stakeholders were involved in the NSA?

List the organizations:

- Does Cambodia have a PPM Task Force? Does this TF have a TOR/ workplan?
- What are the results / outcome of SA and are the results used for planning?
- Characteristics of the various providers?
 - Numbers Rural- urban, organized / non-organised?
 - Formal- Non formal,
 - Attitude versus DOTS ("TB-practices")
 - Need for enablers / incentives?
- Has there been any prioritization of providers, and if so, how was it done?
- Is there a clear PPM policy for the various categories of providers?
- Have PPM and C-DOTS strategies been developed based on any formal assessment?
- How were PPM guidelines developed (based on the "Lessons learnt" from Pilots?)

Human resources for PPM:

- Is there a designated PPM focal point within NTP?
- Is there an active PPM task force to assist in implementation and M&E of PPM
 - Who are the participating stakeholders? CMA included?
 - Are other provider groups involved in the planning of PPM strategies?
 - HIV stakeholders included (NGO etc)
- Are resources adequate for PPM ? (Human resources, funding)
- Have clear task mixes been defined for the various providers
- Has staff / other providers been trained based on task mix?

Monitoring and Evaluation of PPM and C-DOTS:

- Are other providers involved in the monitoring and evaluation of PPM strategies?
- How is monitoring and evaluation done?
- Who is responsible for reporting and data analysis
- What are the indicators for M&E of PPM?
- Targets for PPM and C-DOTS?

Role of professional organizations (PO)/ Councils

- List the PO / councils relevant / potential for TB control in Cambodia
- Have all PO been involved in planning / implementation of PPM
- What are the roles of the P.O. with regard to setting standards for their members?
- Is TB care included in the minimal service package (MPA)
- How is the mind-set / attitude of PO's towards DOTS implementation: committed?, willing ?
- Does the PO set any standards for practices related to diagnosis and treatment :
 - Diagnostic practices: Lab? X- ray? Other diagnostics?
 - Treatment: Treatment regimen? Source of drugs
- Are P.O. involved in:
 - Advocacy
 - Training
 - Monitoring and evaluation of PPM and C-DOTS
- Are PO aware of ISTC? Have they been exposed? Endorsement?
- In case involvement of PO is still low: what are the reasons for this?
- What is necessary to solve these bottle necks and get PO on board?

Regulations on

1. Drugs

- Is there any regulation on the use of TB drugs? (need for prescription, use etc)
- Is the regulation enforced?
- Is there any QA on the drugs sold in private market?
- Would regulation

2. Patient notification

- Is there any existing regulation on notification of TB (as a notifiable disease)?

3. Licensing of providers

- Is there a system in place for licensing of providers (private doctors, pharmacies etc)
- Is the licensing regulated?
- Is licensing a requirement for practicing?
- Is licensing related to CME?

4. Certification of providers / clinics / hospitals?

- Is there a system in place for certification?
- Would certification for TB be an option in Cambodia (as official recognition (qualified DOTS provider) ?
- Accreditation for insurance?
- Corporate health schemes for employees

Areas of Inquiry at Provincial / DO level

- When did the first PPM – C-DOTS pilots start?
- Who took the lead? NGO, MoH, Donor?

Creating Resources:

- Has a local situational assessment on PPM – C-DOTS been done? (including prioritization of providers?)
- Results / Outcome of SA used for planning?
- How was prioritization of providers done?
- Human resources for PPM and C-DOTS:
 - How is attitude of NTP staff regarding PPM? Positive acceptance?
 - Is there a designated PPM focal point?
 - Is there a local PPM task force to assist in implementation and M&E
 - Are other providers involved in the planning of PPM strategies?
 - Are resources adequate for PPM and C-DOTS (Human resources, funds?)
- Implementation:
 - Have clear task mixes been defined for the various providers
 - Has staff / other providers been trained based on task mix?
- Monitoring and evaluation of PPM- C-DOTS
 - Are other providers involved in the monitoring and evaluation of PPM strategies?
 - How is monitoring and evaluation done?
 - What are the indicators for M&E of PPM and C-DOTS ?

Referral system:

- How is referral organized? Explain:
- Is the referral mechanism successful?
- Are referral guidelines put on paper and known to the various stakeholders?
- List the tools used in referral:
 - Any registration of referrals?
 - Are inventory of providers available?
 - Notification for "early" referrals (referral in diagnostic process)
 - Notification for "late" referrals (during treatment)
- How is referral feed back and are there checks? (telephone, sms, paper based)
- Who is responsible for proper functioning of the referral system?
- How are data on referral
 - collected,
 - analysed and
 - used for planning / adjustments?

Area of inquiry for Non-NTP providers (public and private)

1- Collect General info on facility / private practice

- Number of professional staff:
 - % staff trained in DOTS:
 - Number of TB suspects: per month
 - Number of cases diagnosed: per month
 - Number of TB patients put on treatment (DOTS)
 - Proportion of TB patients non-DOTS (“outside” DOTS program):
 - Proportion smear conversion / completed / cured
 - Laboratory quality assurance implemented?
- Take a sample (3-5) of patient cards and check completeness with laboratory register
- Is information on “referral history” available on patient cards?

2. Practices related to TB patients:

- How is the providers attitude towards DOTS implementation: Is provider committed?, willing ?
 - What are current practices for diagnosis and treatment :
 - Diagnostic practices: Lab? X- ray? Other diagnostics?
 - Treatment: Treatment regimen? DOT? Source of drugs?
 - Are current strategy/ practice directed at
 - prevention of delays in diagnosis and follow up?
 - assuring completion of treatment?
 - Does provider trace absentees / defaulters?
 - Does the provider have the capacity for DOT and defaulter tracing (staff/ transport)?
 - Does provider has capacity / willingness for patient data recording and reporting to NTP?
 - Practices for referral:
 - Number of suspects/ cases referred from this provider
 - Number of suspects / cases referred to this provider
 - If no referrals: what is the problem (Is provider willing to refer)?
 - Are there any guidelines for referral / tools?
 - Is there referral feed back (checks on successful referral);
 - Are there any data on referral?
 - Where are records of referred patients kept
 - Is there any other mechanism for notification of TB patients (eg using ICDX) ?
 - Does the provider levy any fees :
 - for diagnose?
 - for treatment (clinical management? Drugs) ? Any other costs for patients?
3. What are the problems related to implementation of DOTS for this provider
4. What is the motive / incentive of the provider to collaborate with the DOTS program?

Area of inquiry for patients and community members

Still to be finalized:

FGD (patients, health centre staff, community volunteers) as well as for collecting data from health centres(C-DOTS and PPM)

Patiens:

How much time between onset of TB symptoms and first contact with provider (weeks / months)

Who was the first contact (local drug store, community volunteer, private doctor, health center, clinic, hospital etc)

Self treatment:

What was the reason the patient opted for self treatment? ? (distance / costs?etc)

How long was this self treatment?

Where did he/she get the drugs?

What were these drugs?

What were the costs?

Why did the patient select this drug store (For what reason)

Was the patient happy with the services ?

Was the patient happy with the treatment?

How long (weeks / months) did it take the patient to start Tb treatment within the program?

Non-NTP doctor / facility

What was the reason the patient opted for a private doctor? (distance / costs?etc)

How long was the delay after onset of syptoms?

Where did he/she get the drugs?

What were these drugs?

What were the costs?

Why did the patient select this person / facility (For what reason)?

Was the patient happy with the services ?

Was the patient happy with the treatment? (did he/she get better?

Would he /she recommend this provider to family of friends?

Was the patient referred to any laboratory/ doctor / Clinic / hospital?

How long (weeks / months) did it take the patient to start Tb treatment within the program?

III. Methodology

7. Direct interviews and discussion with stakeholders using a semi-structured questionnaire (to be developed): (i) CENAT, PHD, OD staff (ii) NGO representatives or focal-persons for PPM/C-DOTS (iii) non-NTP health care providers engaged in PPM (iv) Donors (USAID, JICA, PR of GFATM)
8. Focus group discussions: (i) Community volunteers/Village Health Support Group and other community members involved in C-DOTS implementation (ii) TB patients: Include a mix of C-DOTS/PPM patients and direct walk-ins (iii) Health centre staff of ODs that will be visited (iv) local staff of NGOs implementing C-DOTS and PPM
9. Data collection using standard data collection forms (to be developed)