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Treating Tuberculosis in the Private Sector: Cambodia

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Operations Research Results

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Treating Tuberculosis in the Private Sector: Cambodia

While AIDS has taken the lead in terms of disease threat to humankind, tuberculosis (TB) remains a serious threat, especially where it attacks people with HIV/AIDS. This report presents 2003–2004 survey data of private sector TB practices in Cambodia so that decision-makers can move forward in ensuring proper case management of TB and stemming its spread while using precious resources effectively. This report provides a solid foundation both for improving the use and delivery of TB services in Cambodia and for measuring progress over time.

I. Introduction

Cambodia's 2002 National TB Prevalence Survey found some unsettling patterns in the care-seeking behavior of people with TB: The survey reports that most TB symptomatics did not seek treatment or resorted to pharmacies and self-medication. It also estimates that over 19% of this group initially went to private clinics or hospitals, only 2% went to government health centers, and less than 1% went to government hospitals.¹ While the private sector was—and continues to be—the dominant provider of TB services in Cambodia, little was known about the nature or extent of such services.

These findings, combined with the fact that Cambodia could leverage the private sector in fighting TB, suggested the need to examine the nature of private sector TB services, particularly those of private practitioners, pharmacies, and drug sellers.² Study objectives were defined as:

- Understand the nature and extent of TB services provided by private sector providers (private doctors, pharmacies, and drug sellers),
- Understand the TB client's motivation in using the private sector, and
- Understand the willingness of private providers to participate in TB service provision (screening, counseling, referrals, and treatment).

II. Methodology

The Cambodian Center for Tuberculosis and Leprosy Control (CENAT) provided the research staff to undertake data collection; the University Research Co., LLC (URC) Quality Assurance Project (QAP) provided technical guidance for study implementation. In-depth interviewing with a survey instrument was the major approach used to gather data. Survey instruments that had been used in the Philippines were adapted for use in this study and pre-tested in Siem Reap and Phnom Penh. The study covered four large urban sites: Phnom Penh, Battambang, Siem Reap, and Kratie.

Over 900 potential respondents—healthcare providers, pharmacy owners and staff, drug sellers, and TB clients—were initially visited, and 552 were selected. The 552 respondents included 162 doctors, 204 pharmacists or pharmacy staff, 126 drug sellers, and 60 TB patients.

After interviews with private healthcare providers, pharmacy owners and staff, and drug sellers, “mystery clients”—staff who presented themselves as having TB symptoms although they were not actually ill—visited 273 pharmacies and asked for treatment. Mystery

List of Abbreviations

CENAT	Cambodian Center for Tuberculosis and Leprosy Control
DOTS	Directly Observed Therapy, Short Course
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IEC	Information, education, and communication
NTP	National Tuberculosis Control Program
PHR ^{plus}	Partners for Health Reform ^{plus}
TB	Tuberculosis
URC-QAP	University Research Co., LLC, Quality Assurance Project

¹ National TB Prevalence Survey Health Seeking Behavior Chart. 2002. Annex 1.

² “Drug sellers” are private drug outlets that typically sell drugs from strategically located kiosks and have staff/owners who have less training than pharmacists.

clients' reports were used to validate or challenge the findings from pharmacies; client interviews were used to validate or challenge findings from healthcare providers, pharmacies, and drug sellers. Clients also contributed information on their health-seeking behaviors, their motivations for choice of provider(s), and their experiences related to treatment.



Physician respondents were selected largely on the basis of their location and patient/client load; pharmacies and drug sellers were selected if they were located in areas with high pedestrian traffic. Since TB patients were located only at government referral hospitals, their experience does not reflect the entire population.

The study examined physicians' drug-dispensing, diagnostic, treatment, and case management practices; maintenance of patient records; knowledge and training; counseling and referral systems; and the use of TB Directly Observed Therapy, Short Course (DOTS) strategies.

III. Choosing a Place for TB Treatment

Of our 60 patients, the greatest number (18) went to a government hospital for the first treatment, closely followed by 17 who went to a private doctor. Thirteen went to a health center, eight to a pharmacy or drug seller, three to a traditional healer, and one to some other. The high proportion of patients who sought initial treatment from a private doctor, pharmacist, or drug seller (a total of 25 out of 60) suggests that it may be effective and cost-effective to involve these providers in bringing TB symptomatics into the healthcare system.

Among the 17 patients who initially visited private doctors, 11 indicated that the advice of family and friends was the major reason for their choice of service provider. Trust and quality of service were reasons given, respectively, by four and three patients. Conversely, 63% of doctors indicated that service quality attracts clients, and 27% indicated that privacy does, suggesting that private doctors are not fully cognizant of clients' motivations.

Most doctors reported having fewer than five TB clients a week, and only doctors in Siem Reap reported more than 10 a week. All doctors said most of their clients are adults, with only Kratie and Battambang reporting an appreciable percentage of clients under 18 years. Doctors indicated that two-thirds of their clients were laborers.

Of eight patients going first to a pharmacy or drug seller, their reasons for this choice were balanced among three options: advice from family/friends (three patients), convenience (three), and trust (two).

Most pharmacists (92%) said they had visits from fewer than two TB clients per day, and most drug sellers (89%) indicated fewer than five clients per week. That is, almost all interviewed pharmacists and drug sellers have only about one TB client per day. This low rate indicates that an information, education, and communication (IEC) campaign targeting TB would have to extend beyond private providers to reach all TB symptomatics with care-seeking advice. Seventy-one percent of pharmacists said they sell TB drugs; fewer drug sellers (36%) said they do.

IV. Perceptions and Practices Relating to Drugs and Costs

Understanding people's ability to pay for private sector services and drugs would help decision-makers plan for enticing greater private sector involvement in treating and controlling TB. It may be that further research is necessary to fully understand the interplay of private doctors' perceptions of affordability and their prescribing practices, the economic forces that drive their prescribing practices, and patients' responses to discounts. Our initial information, presented in this section, could at least guide further investigation.

A. Fee Schedules

Some doctors charge for a consultation, some sell TB drugs, and some include a charge for a consultation in the charge for TB drugs, so making a clear separation of the amounts clients pay to doctors for consultations and drugs is problematic. Doctors most frequently (41%) said they charge between \$1 and \$3 for an initial consultation; 37% said they charge less than \$1; 19% said they don't charge; and 2% said they charge \$3 or more. These percentage rates and charges are similar to what doctors said they charge for initial consultations for other diseases.

There is no particular geographic pattern in the data on doctors' charging practices, except that only doctors in Phnom Penh said they charged more than \$3. However, a clear geographic pattern emerges in the data relating to patients' claims of what they paid: All patients in Kratie said they paid over R5,000 (over US \$1.25)³ for a consultation, while patients in Siem Reap said they paid nothing. Patients in Phnom Penh said they generally paid more (20% at R1,000–5000 and 80% over R5,000) than patients in Battambang (25% under R1,000; 50% at R1,000–5000; and 25% over R5,000). While we can't explain the geographic dichotomy between doctors' reports and patients', both parties seem to mostly believe that a consultation costs US\$ 1–3. Whether these sums exceed households' ability to afford them is another question for further research.

B. Prescribing versus Dispensing Practices

A third of doctors said they dispense TB drugs themselves, nearly a third refer to a pharmacy, and about a quarter refer to a health center or government hospital, where TB drugs are free. However, 41% said they stock TB drugs: Why 41% would stock and only 33% dispense is an open question that may relate to courtesy bias or misunderstanding of one or both questions.

While nearly a third of doctors claim to refer patients to a pharmacy, of our 17 patients who went first to a private doctor, 14 indicated that the doctor did not give a prescription. The three patients who said their doctor gave a prescription were all in Phnom Penh. (The patient sample size of 17 here and some other sample sizes in this report may be too small to offer reliable data.)

When they prescribe, doctors said they usually prescribe one or more of Cambodia's four first-line drugs. Other drugs named in the survey instrument and/or mentioned by doctors were, in order of frequency with most frequent first, Rifater, Rexambuthol, streptomycin, Rimifon, vitamin B6, and penicillin. Doctors said they usually prescribe generic drugs.

Of pharmacists, 31% said that all their clients bring prescriptions.



C. TB Drug Affordability

Nearly 30% of doctors indicated that clients can afford to buy only a one-month supply of TB drugs at a time; 20% claimed that clients can afford only a week's supply; and 8% said it would depend on available cash. Juxtaposing Tables 1 and 2 shows the discrepancies and similarities between doctors' attitudes about their clients' ability to afford drugs and doctors' claimed prescribing practices. Of greatest concern is doctors' failure to prescribe sufficient dosages. Their frequent failures to keep records on TB clients and follow up with those who don't return for further treatment/prescription, discussed below, compound this worrisome practice. We did not ask whether doctors who issue short-term prescriptions (e.g., one month) also advise clients to return for a follow-up exam and prescription extension.

³ Exchange rate: US\$ 1 = 3912 riels (2002). This rate was taken from CIA, *The World Factbook*, 2003, available at www.cia.gov/cia/publications/factbook and accessed 5/13/2004.

Table 1: Dosage Clients Can Afford to Buy at One Time (Doctors' Perceptions)			Table 2: Dosage Prescribed (as Reported by Doctors)		
	n=128	Percentage	n=128	Percentage	
Less than 2 days' supply	1	0.8			
3-day supply	4	3.1	6	4.7	
5-day supply	3	2.3	23	18.0	
1-week supply	26	20.3	48	37.5	
1-month supply	38	29.7	3	2.3	
8-month supply	1	0.8	1	0.8	
Depends on cash	10	7.8	2	1.6	
Others	45	35.2	45	35.2	
Group Total	128	100.0	128	100.0	

Pharmacists confirmed that doctors believe a week or a month's supply is affordable, indicating that doctors usually prescribe a month's worth (54% of received prescriptions) and second most often a week's worth (21%). Pharmacists do not believe that clients see TB drugs as expensive. They indicated that clients often buy a month's worth (31%) or even three months' worth (36%). Almost all pharmacists offer discounts for TB drugs, but only half provide volume discounts: 48% of pharmacists believe clients always buy more when given a discount, and 25% believe they sometimes buy more. Most pharmacists (57%) don't provide credit, although many (37%) do rarely. Asked whether their clients see a difference between commercial brands and the free drugs at government facilities, pharmacists split evenly among "Yes," "No," and "Don't know."

Pharmacists indicated that only 24% of clients asked for branded drugs (perhaps suggesting that affordability is greater than what doctors believe), contrasting sharply with drug sellers reports that 93% of clients requested branded drugs. This difference between pharmacists' reports—25% of clients ask for brands—and drug sellers' reports—93% ask for brands—may reflect clients' perceptions of costs: They may believe that they're saving so much by using a drug seller rather than a doctor or pharmacist that they can afford a brand name.

Only seven interviewed drug sellers who sell TB drugs (15%) indicated that clients sometimes ask for fewer drugs; of those seven, three indicated that affordability was the reason for the request. Other reasons drug sellers gave to explain such request were that clients do not like to take too many drugs (three of seven respondents), insufficient stock (two of seven), and government hospital failure to give enough medicine (one of four respondents).

Of the drug sellers interviewed, most (63%) said they do not sell TB drugs, and only 11% of those who do sell these drugs claimed more than five TB customers a week. That would equate to 4% of all drug sellers reaching more than five clients per week if these data can be generalized. Drug sellers seem to provide small discounts (usually less than 5%) for large purchases, and they sometimes provide credit.

Of our TB patients (again, all found in referral hospitals), 28% initially sought treatment from a private doctor, suggesting that affordability is not a strict determinant for at least a considerable percentage of Cambodia's TB patients. Only eight patients reported the quantity of drugs they received, but their reports suggest that access or affordability may be an issue: Seven claimed they received three days' worth and one a week's worth.

V. Quality of TB Services

The preceding section on perceptions and practices relating to drugs and costs addresses what may be the most important quality-related issues Cambodia will need to consider in engaging the private sector in the battle against TB, that is, What are the cost implications? What can patients afford? What profit margins

would offer patients greatest affordability and the private sector sufficient profitability to ensure private sector participation in service and drug delivery?

This section moves on to other quality issues, such as whether providers provide information and appropriate referrals to TB clients. Many of these issues will be second-tier quality-related matters for Cambodia to consider in making decisions about creating a public-private mix to improve TB service delivery. We have selected a handful from an extensive number in the full report⁴ and urge referral to that report for more information. We conclude our data reporting with information on provider willingness to provide IEC and ability to perform TB DOTS, which are not strictly quality-related issues but should be considered in decision-making.

A. Provider Profiles

All of our interviewed doctors were over 30, and 85% were male. Most (92%) also work at a government health center or hospital, most (74%) said their clinic had been in operation more than five years, and most (62%) had practiced longer than five years. Fifty-nine doctors (46%) said they had had refresher training, but only 58% of those 59 said the training included DOTS. Of those who had taken refresher training, nearly half said it had been six months or a year ago, and a third said it had been five years ago.

Most private clinics are open six days a week or more; and two-thirds are more than a kilometer from a government health center or hospital.

Most of our pharmacy respondents (91%) were pharmacy owners; 71% of all pharmacy respondents stock TB drugs. Most drug sellers owned their shops (90%), two were pharmacists (2%), and 7% were store assistants.

B. Practices Relating to Diagnostic Services

Doctors said they most frequently ask about cough, fever at night, and weight loss in diagnosing TB. (Table 3: Note that only doctors in Phnom Penh said they ask about too much saliva, blood in sputum, night sweat, and headache.)

(n=128)	Total	
	Number	Percentage
Cough more than 21 days	123	96.1
Fever at night	109	85.2
Weight loss	104	81.3
No appetite	38	29.7
Dyspnea	36	28.1
Pain in chest	35	27.3
Too much saliva	20	15.6
Blood in sputum	18	14.1
Night sweat	11	8.6
Bad smell of saliva	2	1.6
Headache	1	0.8

About 96% of doctors indicated that both physical and laboratory exams are necessary to confirm TB, and almost 80% said that a positive smear is always required to confirm TB. Less than a third offer microscopy services.

C. Providing TB Consultations

⁴ The full, 97-page report, “An Assessment of Private Sector Services for Tuberculosis: Cambodia,” may be requested from qapdissem@urc-chs.com.

Asked whether they provide TB consultations to patients, 79% of doctors said they did. Another geographic pattern appears in these responses: All doctors in Siem Reap and Phnom Penh provide TB counseling, two-thirds do in Battambang, and just over—but only—a third do in Kratie. A similar question was asked later in the doctor survey, perhaps to assess consistency of response, and the data came out similarly in that 80% said they provide counseling to TB patients always or most of the time, but no geographic differences are obvious in the second set of responses. Three-fourths of doctors claimed to spend at least ten minutes counseling clients (the question did not stipulate TB clients).

Over 60% of pharmacists and drug sellers claimed to counsel most TB clients.

D. Requiring a Prescription

Over 65% of pharmacists claim they always “ask” for a prescription (which may not equate to “require”) for TB drugs, 15% do most of the time, 9% sometimes, 3% rarely, and 8% never do. About a third of our sample indicated their reason for not asking for a prescription, and the most common response was the client’s having a sample of the medicine (43%). Only 58% said they always require a prescription. While only 28% of our mystery shoppers could buy without a prescription, any access to these drugs without physician guidance should raise concerns among decision-makers about antimicrobial resistance.

E. Physician Record Keeping and Follow-up for TB Patients

Less than a third of interviewed doctors said they keep complete TB patient records, and of those few, only 75% could show complete and up-to-date records. If these figures could be generalized to the entire population, only 24% of doctors are keeping the records that will be essential to control TB. While 40% of doctors claimed that they follow up with TB patients who do not return, their record-keeping practices seem not to support that activity and cast doubt on their claims.

F. Knowledge of Length of Treatment and Effects of Noncompletion

Most doctors (82%) reported that TB treatment requires eight months and knew the effects of noncompliance: become drug resistant (62%), relapse (53%), become seriously ill and die (14%). Pharmacists were less knowledgeable: 47% reported that TB treatment requires eight months, 25% said six months, and 24% said a year. Pharmacists were also less knowledgeable on the effects of noncompliance: 56% mentioned drug resistance and 49% relapse. Drug sellers reported treatment requires eight months (54%), six months (15%), and a year (11%). When asked about the effects of noncompliance, they identified drug resistance (37%), becoming chronically ill (28%), and relapse (24%).

Interestingly, all clients in Kratie, Siem Reap, and Phnom Penh indicated that TB treatment requires eight months, and 83% of patients in Battambang did—higher rates than private providers’. The survey didn’t ask clients about their understanding of the effects of noncompliance.

VI. Other TB Control-Related Issues

A. Willingness to Provide IEC

IEC will be necessary to improve detection and cure rates; reducing stigma, which may be addressed through IEC, will also be essential. More than 95% of doctors indicated a willingness to distribute IEC materials, 94% of pharmacists so indicated, and 85% of drug sellers did. Most pharmacists would be willing to counsel TB clients (98%) as would most drug sellers (93%). These percentages are very promising should Cambodia pursue a public-private strategy to improve cure rates.

B. Stigma

Stigma’s importance should not be underappreciated: Not only does stigma reduce care seeking, but understanding and overcoming TB-related stigma will help us overcome AIDS-related stigma. Over 85% of our interviewed TB patients said they were embarrassed to seek medical assistance, but only 48% of doctors realized that clients would be embarrassed to be known to have TB. Pharmacists and drug sellers

are also unaware of how concerned people can be about revealing their TB status: 72% of pharmacists and 75% of drug sellers said clients were not hesitant to ask for TB drugs.

C. Increase in TB Affliction

Only 25% of doctors said they perceived an increase in TB patients over the previous six months, and of those, most (69%) chose the smallest increase offered by the survey: 25%.

D. Directly Observed Therapy

If not all, certainly some patients will need DOTS to be cured of TB. Furthermore, the private sector will be essential in identifying (and perhaps serving) those patients who need DOTS. Consequently, we asked private providers about their use and impressions of DOTS, and we compared their responses to the desires of patients in government facilities.

While two-thirds of doctors provide TB services and knew that DOTS involves the observation of drug intake by a doctor or nurse, and only half (47%) said they use it for their patients. Three-fourths claimed knowledge of DOTS, but only 12% indicated it is a good treatment. In strikingly different proportions, 93% of surveyed TB patients indicated a desire to follow DOTS.

VII. Discussion of Findings

Most TB symptomatics seek private providers for their initial treatment: The behavior of TB symptomatics in seeking private sources of treatment cannot be ignored. If people see private providers as more effective or less expensive, they will use this source first for treatment and will receive whatever kinds of service these providers offer.

TB case management knowledge is low: While understanding of TB appears to be sufficient, TB case management (screening, diagnosis, treatment, referrals and monitoring, and follow-up) among private doctors, pharmacies, and drug sellers needs improvement. Private doctor, pharmacy, and drug seller staff have limited training in TB, and there is little understanding of TB DOTS, particularly among pharmacies and drug sellers.

Practice of the TB DOTS strategy is low: Because of the limited understanding of TB DOTS, most private providers are not using it. Private sector patients are generally not observed while undergoing either the intensive or the maintenance phase of treatment.

TB drug dispensing practices are not in accordance with National TB Control Program guidelines: Many providers are still prescribing incomplete drug dosages for TB patients. While many claim familiarity with the consequences of incomplete treatment, the typical practice of providers surveyed does not reflect such understanding. In addition to insufficient drug dispensing, many pharmacies dispense drugs that are not indicated for TB.

TB information provided to clients is limited: There are no IEC materials available for providers to distribute, and it is not customary for providers to give adequate information on TB to patients/clients.

TB stigma is strong: While perceived by providers to be less significant, stigma still deters patients from seeking TB treatment.

VIII. Recommendations

Some of the interventions needed to address the above findings include:

Involvement of private sector providers: Because clients seek private providers for TB services, it is essential that a high percentage of this sector be involved in the provision of TB services. Levels of involvement may vary with providers' resources and capacity. It may be essential that some providers be tapped to provide IEC, monitoring, or follow-up of clients, while others provide diagnostic, treatment, and other essential services. It is important, however, that a program exist to facilitate this involvement and that the quality of services provided be monitored and provided in accordance with standards established by the National TB Program.

Training of private sector providers: Training of private providers in proper TB case management (screening, diagnostic, treatment, client counseling and referrals, monitoring, and follow-up) needs to be implemented. Many providers, while knowledgeable of TB, are still poorly trained in case management.

Stronger linkages/support from the National TB Control Program: While most private practitioners are already providing TB services, stronger linkages with and support for their services from the national program should be developed. Multi-sectoral partnerships must be established with the guidance and support of NTP. The control program should embrace private providers as an important component of the service delivery structure, and private providers should be given essential support to strengthen their services.

Stronger support from local health offices to implement public-private strategies: Private providers will also need the support of local and provincial health offices. The delivery of TB services should be a joint effort of both public and private providers working collaboratively under a strong public-private mix partnership.

Note: To request a copy of the full, 97-page report from which this document was derived, please write to gapdissem@urc-chs.com and request "An Assessment of Private Sector Services for Tuberculosis: Cambodia."