

Food Support to Tuberculosis Patients under DOTS

*A Case Study
of the Collaboration
between the World Food
Program and the
National TB Control
Program in Cambodia,
December 8–17, 2002*

Management Sciences for Health
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ACRONYMS

ADB	Asian Development Bank
AIDS	acquired immunodeficiency syndrome
CENAT	Centre National Anti-Tuberculeux
CRC	Cambodian Red Cross
DFID	Department for International Development
DOTS	Directly Observed Treatment, Short-course
FDH	former district hospital
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
HC	health center
HIV	human immunodeficiency virus
IEC	information, education, and communication
JICA	Japan International Cooperation Agency
KET	Khmer Express Transport
KHR	Cambodian riel
MOH	Ministry of Health
MSH	Management Sciences for Health
NGO	nongovernmental organization
NTP	national tuberculosis control program
OD	outpatient department
PLWHA	people living with HIV/AIDS
PRRO	Protracted Relief and Recovery Program
RGOC	Royal Government of Cambodia
RH	referral hospital
RIT	Research Institute of Tuberculosis [Japan]
RPM Plus	Rational Pharmaceutical Management Plus (Program)
SWIM	system-wide management reform [Cambodia MOH]
TB	tuberculosis
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
WB	World Bank
WFP	World Food Program
WHO	World Health Organization

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This case study depended most essentially on the time provided by the TB patients, families, and service providers whom we interviewed, from whom it was a special privilege to learn.

MAP OF CAMBODIA



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EXECUTIVE SUMMARY

Background

In 2002, Cambodia was 18th among the 22 countries carrying 80 percent of the global tuberculosis (TB) burden. Directly Observed Treatment, Short-course (DOTS) was launched in 1994, and TB control is a priority for the health sector program. Treatment success was 91 percent in 2001, but case detection was only about 41 percent. HIV-attributable TB is increasing in Cambodia, and the national tuberculosis control program (NTP) has prioritized the need to develop integrated TB-HIV programs. At the same time, health system reforms are pushing the decentralization of DOTS service delivery points and moving from hospital-based intensive-phase care to fully ambulatory care. More than 50 percent of newly established health centers were providing DOTS in 2002, and 100 percent coverage was planned by 2004. Early results show a rise in case detection.

Food insecurity is a major challenge in Cambodia. The food support to TB patients program was initiated in 1994 along with the overall DOTS program and rapidly scaled up to national coverage. Once a month for eight months, fish, oil, and rice are provided to all TB patients. The program is a collaboration between the World Food Program (WFP) and the Cambodian NTP: WFP is responsible for food procurement and first-level distribution and the Ministry of Health (MOH)/TB program is responsible for distribution to patients. Both agencies monitor food stocks to keep tabs on leakage.

In December 2002, a team from Stop TB/World Bank and Management Sciences for Health/Rational Pharmaceutical Management Plus conducted a case study of the food support to TB patients in Cambodia. The purpose was to inform other programs and partners involved in controlling TB in high-burden countries and other public health counterparts and food assistance programs seeking to serve persons at high risk of malnutrition, worldwide. The team also considered the relevance and the feasibility of the Cambodia approach for other settings.

The mission team members reviewed background documents, held briefings with key partners, and conducted in-depth interviews with providers and managers of TB services at the national, referral, provincial, operational district, and health center levels, and with TB patients and their family members.

Key Findings

- Food support is seen as an essential element of the national TB control strategy and of DOTS service.
- Neither the impact on treatment success nor case detection could be quantified by this case study, for a variety of reasons. However, food is viewed by both patients and providers as a means to offset the direct and indirect costs of treatment, to improve nutrition and to reduce stress, and to contribute to a positive patient experience.

- Cured patients and their families are powerful communicators of the benefits of the food support and promoters of TB treatment-seeking in the community.
- DOTS providers uniformly believe that food support contributes to treatment adherence.
- Patients confirmed that the provision of food enabled them to remain in treatment until cure; some patients said that prior knowledge of the food support program motivated them to seek treatment earlier.
- The logistics and food distribution infrastructure requirements are substantial for both WFP and MOH.
- An early problem with food leakages through “ghost” patients was identified and resolved through coordinated information and monitoring systems between WFP and the Centre Nationale Anti-Tuberculeux (CENAT).
- Regular coordination meetings between MOH/CENAT and WFP have been critical for creative problem-solving, effective monitoring, and program evolution and success.

Conclusions

Food assistance has contributed to the success of the DOTS program and should continue to add value under a new ambulatory DOT model. Its adoption as a formal adjunct to established DOTS programs elsewhere will likely be (a) effective if the poverty and food insecurity of patients is acute and (b) feasible if it is sponsored by a well-managed food program. Food assistance and TB control programs should consider the following criteria before embarking on a program of food support to TB patients—

- Is treatment adherence a major TB performance challenge?
- Are strong TB program management and adequate integration into primary health care in place?
- Are food security and income/poverty challenges for the target population?
- Is there a preexisting food procurement and distribution infrastructure (e.g., WFP presence)?
- How much of a challenge will monitoring and leakage prevention present?

INTRODUCTION

Tuberculosis (TB) is second only to HIV/AIDS as an infectious killer of youth and adults in the developing world and especially affects the poor and malnourished. TB is the top cause of death among persons infected with HIV. The TB situation is worsening in some regions worldwide, and significant progress still needs to be made toward the 2005 global targets for TB control: to reach 70 percent of infectious TB patients with effective TB control (using the recommended strategy known as Directly Observed Treatment, Short-course [DOTS]) and to successfully treat 85 percent of those patients served. Accessing and successfully pursuing TB care is not easy, as it involves diagnosis and treatment over an extended period (at least six or eight months in Cambodia). In addition, TB especially affects the poor, for whom barriers to accessing and continuing care are particularly great.

To reverse the epidemic and move rapidly toward the targets, successful strategies to improve TB case detection and treatment need to be identified, replicated, or adapted in high-TB-burden countries. Prominent approaches include improving the quality of primary care services, increasing community-based care, involving private providers, and increasing engagement of all public institutions and special efforts to target the most vulnerable. As an element of each of these approaches, enablers and/or incentives are viewed as potentially effective means to improve both patient and provider performance. Enablers include interventions such as financial or material goods used to overcome barriers to care-seeking or effective service provision. Incentives provide a further stimulus to beneficiaries to produce a desired outcome.

Among frequently proposed enablers and incentives is food assistance to TB patients. This assistance is seen as a potentially powerful targeted approach to reduce the personal costs of seeking and staying in treatment to cure and thus to stimulate full adherence to treatment and to improve the nutritional status of patients, as TB is associated with underlying nutritional deficiencies and weight loss. The hypothesis is that these interventions will have a positive impact on early case detection and successful treatment, both of which are needed to reduce disease transmission. A number of national TB programs worldwide are collaborating with partners to provide food support to TB patients in Cambodia, Peru, Sudan, and Afghanistan, and pilot programs have been launched in various countries in the former Soviet Union.

Cambodia is one of the few countries where all patients notified by NTP and enrolled under DOTS are provided with food support. This support program is a collaboration between WFP and NTP (Centre Nationale Anti-Tuberculeux [CENAT]) of the Ministry of Health (MOH), and was initiated in 1994. Cambodia's long experience provides an important opportunity to document one model of food support to TB patients.

Objectives of the Case Study

The team produced a written case study of the food assistance program that is an element of the DOTS package in Cambodia and is operated through collaboration with WFP and NTP. The purpose of this case study is to inform other programs and partners involved in controlling

tuberculosis in high-burden countries as well as other public health counterparts and food assistance programs seeking to serve persons at high risk of malnutrition and of suffering from illnesses that are major public health threats, worldwide.

The specific objectives were to document, describe, and examine the following—

1. The design, development, and evolution of the food support program alongside developments in NTP
2. The results ascribed to the food support program to date
3. The management of the food distribution system
4. The coordination between NTP, WFP, and other partners at national and subnational levels
5. The means of monitoring the food support program
6. The perspectives of patients, providers, and program administrators
7. Problem-solving and challenges facing the program, including sustainability
8. The relevance and the feasibility of the approach for other settings

Participation and Methods

The mission team (Diana Weil, Stop TB/World Health Organization [WHO]/World Bank; Sangeeta Mookherji, Management Sciences for Health/Rational Pharmaceutical Management Plus [MSH/RPM Plus]) traveled to Cambodia December 8–17, 2002, to develop the case study on the WFP collaborative program with NTP, MOH, Royal Government of Cambodia (RGOC) to provide food assistance to tuberculosis patients during their treatment. The mission was hosted by WFP, with assistance from WHO, the U.S. Agency for International Development (USAID), and MOH/CENAT/RGOC. Travel and salary expenses of the mission team members were financed by the Stop TB Partnership/WHO and USAID/RPM Plus, and the majority of local logistics expenses were provided by WFP and MOH/CENAT.

The mission team members reviewed background documents and held briefings with key partners (USAID, WHO, WFP, CENAT) and administrative offices (WFP, RGOC/CENAT). The principal source of information was in-depth interviews held with providers and managers of TB services at the national, referral, provincial, operational district, and health center (HC) levels, and with patients and their family members at the 10 DOTS facilities visited (see Annex 3 for a complete list of persons met).

Limitations of the Case Study

For a variety of reasons to be described later in this report, this case study was not able to quantify the incremental impact of food support on either TB program performance or the financial burden of TB patients and their families. However, the qualitative evidence presented by both providers and patients contributes to understanding the areas and directions of possible impact and possibly developing hypotheses for further testing.

Because of logistical reasons and to ensure that patients were not kept waiting only to speak with the mission team, we interviewed fewer continuation-phase outpatients than we would have liked. In addition, because many health centers have very recently begun providing directly observed treatment on an ambulatory basis to intensive-phase patients, the team was able to visit only one such facility and interview five patients there who were receiving fully ambulatory treatment. However, the team agrees with the national program that it is too early to assess the impact of decentralization on TB program performance; the national program planned to do this assessment after more primary health care centers were implementing DOTS, sometime in 2003 or 2004. This report presents some hypotheses on the potential role and impact of food support as program decentralization evolves.

BACKGROUND

TB Situation

Cambodia is a low-income country that has suffered from a long social, political, and economic crisis within the past half century. Only in the past 20 years has the country begun to recover and rebuild its public service infrastructure and capacity. Its population of 13.4 million is among the poorest worldwide. More than 84 percent of the population lives in rural areas, and nationwide an estimated 36 percent lives below the official poverty line. An estimated 2 million people are in chronic food deficit, with an additional 50,000–100,000 people suffering from regular, periodic food deficits.

In 2002, Cambodia was estimated to be number 18 of the 22 countries worldwide that collectively carry 80 percent of the global TB burden and also have the greatest absolute numbers of new TB cases. The estimated case burden of all forms of TB in Cambodia is 585/100,000. Furthermore, an estimated 20 percent of the adult population is HIV-positive, which may drive an increase in new TB cases. Studies are underway in Cambodia to document the level of infection among notified TB patients. A national disease prevalence survey conducted in 2002 provides greater evidence on the severity and distribution of the disease.

Organization of TB Control Activities

CENAT serves as the central unit of NTP and also oversees the national tuberculosis referral hospital in the capital, Phnom Penh. It is one of several central institutes of MOH, with approximately 20 staff. The NTP manager reports to the director general of health services. NTP is integrated into the general health system through its network of former provincial referral hospitals and an expanding network of primary HCs. At the provincial health directorate level, there are dedicated tuberculosis supervisors, but at lower levels of the health system, TB control functions are integrated into the activities of general medical, nursing, and auxiliary staff.

NTP is guided by a Health Sector Strategic Plan as well as a TB-specific plan embedded within it, from 2001 to 2005. In 2002, MOH initiated a system-wide management reform process (known as SWIM) to increase coverage, quality, and financial sustainability of the health service system. Although the overall health system is still relatively weak, it has improved substantially over the past 10 years after the nearly full destruction of primary care infrastructure during the crises of the 1980s to early 1990s.

In 2002 and 2003, the DOTS strategy was applied in 75 of the national referral hospitals nationwide and expanded through the increasing network of primary HCs that have become operational within the past five years. Prior to the mid-1990s, most cases were managed at provincial and central levels, but by 1996, 70 percent of cases were managed at the district level.¹ The program aims to offer TB services in all 942 peripheral HCs by 2005; by the end of

¹ Norval, P. Y, K. K. San, T. Bakhim, et al. 1998. DOTS in Cambodia: Directly Observed Treatment with Short-Course Chemotherapy. *International Journal of Tuberculosis and Lung Disease* 2(1):44-51.

2003, a projected 70 percent of HCs will offer DOTS services. The program also has begun to work with private providers. Although private practitioners overall deliver twice as many services as do public providers, the services often are not of good quality and do not meet DOTS standards.

In addition, NTP has undertaken a series of program innovations, including decentralized ambulatory DOT; community-based DOT; TB-HIV integrated services; intensified capacity building and motivation of staff; information, education, and communication (IEC) planning; and strengthening the CENAT-WFP partnership and management.

Political Commitment and Partner Coordination

Tuberculosis control is among the highest priorities of the Ministry of Health of Cambodia. The engagement of the Prime Minister as chairman of the National Committee to Control TB is a sign of this. The leadership of NTP is among the strongest worldwide in its integration and coordination with larger MOH planning bodies and with health services management teams. TB control is addressed within the RGOC's Poverty Reduction Strategy Paper, developed in partnership with the World Bank, and the public investment program and annual operational plans and budgets support NTP.

MOH has initiated monitoring of the United Nations (UN) General Assembly–approved Millennium Development Goals, which include explicit interim and 2015 targets for TB control under Goal #6 on the control and reversal of HIV/AIDS, malaria, and other major communicable diseases. TB was among the priorities for public health supported under World Bank International Development Association grant financing within the new joint Department for International Development/Asian Development Bank/World Bank (DFID/ADB/WB)–financed Health Sector Support Project. All these elements suggest that NTP is well situated for sustained operation and growth within the larger framework of health system strengthening in Cambodia. The government contribution of overall financial support for NTP activities was reported as 46 percent in 2002.

NTP is supported by a range of financial and technical partners as well as the Government of Cambodia. Core financing comes from the Japan International Cooperation Agency (JICA), WHO, Canadian International Development Agency (CIDA), and the joint DFID/ADB/WB Health Sector Support Project. In addition, Cambodia is expected to receive support for DOTS implementation from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) during its second round of financing in early 2003. The GFATM support will substantially reduce the gap in financed operations in subsequent years.

WHO, RIT, and Médecins sans Frontières provide staff in Cambodia who are technically assisting CENAT in DOTS implementation, surveillance, and operational research activities. The National Committee against TB is chaired by the Prime Minister with participation by the governors of each province.

Program Results

Despite the poverty and development challenges facing Cambodia, NTP and its partners can boast a strong and successful DOTS program. As reported in the WHO TB Control Report 2003, NTP successfully treated 92 percent of the 14,277 new sputum-positive cases detected and registered for treatment in 2001. These treatment results are among the best reported at a national level globally. Only 3 percent defaulted and less than 0.5 percent failed in treatment. The major challenge has been increasing case detection. The DOTS detection rate varied somewhat over the past few years, dropping from an estimated 51 percent of estimated new smear-positive case burden in 1999 to 44 percent in 2001 but then rebounding in 2002 to 52 percent. This decrease is believed to be associated with the expansion of DOTS services within the primary care network. NTP is moving urgently to improve access and use by extending TB detection and treatment services to HCs, by increasing IEC efforts, and by using community-based DOTS. Therefore, CENAT expects dramatic increases in case detection during 2003 and 2004 as the DOTS services network expands further to the periphery.

Some of the overall constraints faced by NTP include the following—

- Limited knowledge, low motivation, and poor salary among health professionals. *Planned responses:* refresher courses for TB staff, a human resources development plan to strengthen staffing, and increases in salaries
- Poor awareness of TB in the general population. *Planned response:* strengthen IEC
- Low access to health services, including DOTS, in some areas. *Planned response:* expand use of community-based DOTS in rural areas
- The TB/HIV epidemic threatens the success of the DOTS strategy. *Planned response:* screen for TB among persons infected with HIV and strengthen collaboration between TB and HIV programs
- Funding gap. *Planned response:* further resource mobilization, including GFATM

Overview of WFP Activities in Cambodia

WFP initiated its program of work in Cambodia in 1979 and its strategy has been to move from “emergency to relief and recovery toward development.”

Description of Protracted Relief and Recovery Program

The food support to TB patients activity falls under WFP’s Protracted Relief and Recovery Program (PRRO), begun in 1999 to support social sector activities, including health, education, and other social services. The goal of PRRO is “to sustain food security for the hungry poor through targeted interventions.” There are three major target groups: chronically food-insecure populations and those emerging from long-term conflict and isolation; vulnerable households and individuals, including widows, street children, orphans, and the disabled; and victims of

natural disasters. TB patients fall under the second grouping. In 2002, 85 percent of WFP resources were allocated to PRRO activities. In 2002, WFP received 55 percent of its donor contributions from the United States and 36 percent from Japan, including in-kind food donations. WFP works with 122 partners in the social sector: 16 RGOC entities, 24 international organizations, 79 national nongovernmental organizations (NGOs), and 3 UN agencies (WHO, United Nations Children's Fund [UNICEF], and United Nations Population Fund [UNFPA]). NTP/CENAT also receives significant support, both financial and technical, from Japan.

Within PRRO activities, 25 percent of resources, including food support to TB and leprosy patients, are allocated to the health sector. TB and leprosy patients comprise the second-largest group of WFP's social sector beneficiaries; however, the absolute number of beneficiaries is much fewer than the first group of beneficiaries of the school feeding program (approx. 400,000, vs. approx. 20,000 TB patients). During the period of this case study, WFP was discussing food support for HIV/AIDS patients as part of its bilateral to support Cambodia, as well as part of its global strategy to meet hunger needs.

The program of work in Cambodia is shifting from generalized support across a majority of the country to a mixed geographic sectoral approach, which focuses on high-poverty areas, defined through in-depth poverty mapping that was nearing conclusion at the end of 2002.

OVERVIEW OF FOOD SUPPORT TO TB PATIENTS PROGRAM

The WFP/NTP food support to TB patients program was initiated in 1994 along with the launch of the national DOTS program. Both were rapidly scaled up to national coverage. In 2002, there were close to 18,000 beneficiaries of the food support to TB patients program, up from approximately 5,400 beneficiaries in 1995.

The food support package, consisting of tinned fish (0.9 kg), vegetable oil (0.9 kg), and rice (15 kg), is provided to all TB patients every month during the eight-month treatment period. Inpatients in the intensive treatment phase are provided with only two meals per day, according to national hospital policy; breakfast is usually cooked using the WFP ration. Neither WFP nor NTP policy requires that the food be consumed only by the TB patient; family members who accompany inpatients to the hospital often share the food package with the TB patients during the intensive phase, and continue to do so in the continuation phase until treatment is completed.

The food support to TB patients program is collaborative: WFP handles the food procurement and does most of the bulk distribution, with MOH/NTP extending to the periphery. The MOH/TB program handles food package distribution to patients. Monitoring and food inventory are done by WFP and MOH/NTP in partnership.

Evolution of Program Design and Implementation

The WFP program of food assistance to TB patients is well developed and has evolved substantially from its initiation in 1994. The program is seen as an essential element of the national strategy to control tuberculosis and DOTS service delivery. It is well placed within the social sector program of WFP, with TB patients representing a highly vulnerable group for food insecurity and poor nutrition.

Between 1995 and 1997, DOTS expanded at a faster rate faster than that of the food support program, which offered an opportunity to compare the outcomes of DOTS provided with food support and without. One study found no difference in treatment success rates, but case detection in areas with food support was about 50 sputum-positive cases per 100,000 higher than in areas without food support. However, NTP staff noted that during a “natural experiment,” when food support had to be halted in one region because of logistical difficulties, default rates increased dramatically but decreased once food support was able to get through. This hypothesis is supported by trends observed at the national hospital in Phnom Penh, which started providing food support late (in 2001) and noted that the default rate decreased after food support was initiated. Because of the simultaneous implementation of DOTS with food support and the near-simultaneous expansion of both programs, it is difficult to obtain data that allow valid comparison of outcomes with and without food.

ACHIEVEMENTS AND CHALLENGES

Planning, Management, and Coordination

Decentralization and expansion of DOTS, as part of the overall strengthening of the primary care infrastructure in Cambodia, is proceeding rapidly, with approximately 50 percent of existing HCs currently providing DOTS. The restructuring of the health system to rationalize the distribution of health facilities means that some aspects of the established DOTS program are changing significantly. For example, intensive-phase TB patients can be treated on either an inpatient or an outpatient (ambulatory) basis, and in some areas DOTS is provided in the home through community-based DOTS initiatives. These adjustments also mean that TB staff and health service managers must decide how and when to distribute food to TB patients under these different service-provision models.

For example, a few former district hospitals (FDHs) were recently downgraded to HCs. However, because the structure of the facility stays the same, most of these facilities still had inpatient TB wards. As HCs, they are encouraged to provide intensive-phase TB patients with medicines on an ambulatory basis. This means that some patients and service providers have a choice between two months of hospitalization and coming to the facility every day for medicines during the intensive phase of treatment. The providers tend to recommend hospitalization to patients who live far away; however, in a few cases, patients who lived very nearby asked to be admitted because they feared infecting their family members. Other aspects of the patient's ability to continue treatment are sometimes assessed by the TB staff, and inpatient care is recommended to those who are considered to be at high risk for default. It is not clear whether the food support plays a direct role in influencing patient preferences in for ambulatory or inpatient care; however, TB staff felt that food support was important for ensuring continued treatment for patients receiving treatment on an ambulatory basis, during either the intensive or continuation phase.

For FDHs that have been downgraded to HC status, it may be difficult to continue offering inpatient services to TB patients. HC operating budgets do not include kitchen expenses, even though the budget for procuring food (1,000 Cambodian riels [KHR] per patient per day) may still be allocated. In this situation, TB patients still receive the dry ration from WFP and may cook this themselves, but the other one or two meals per day usually provided by the government are not provided because of the lack of cooking facilities. In one such case, the FDH/HC sought support from an NGO working in the area to build and operate a kitchen. The WFP food was an important supplement for TB inpatients, as the FDH/HC was able to provide only instant-noodle packets using the government food-procurement funds.

The central issues relating to planning and management for food support to TB patients in the context of decentralization are (a) the timely and efficient distribution of food to the HCs and (b) the supervision by WFP of a far greater, and more dispersed, number of food distribution points. These issues are addressed in subsequent sections of this report.

Coordination among WFP, NTP/CENAT, and NGOs

Cooperation among all partners has been critical to the success of the food support program. Through workshops, revision of reporting forms and processes, and coordination in distribution, WFP, CENAT, JICA, and all local partners have achieved good communication and common resolution of challenges in providing food support.

Coordination between WFP and MOH/CENAT takes place most frequently at the field level. WFP field staff closely support the health staff in completing reporting requirements and food requests on a quarterly and sometimes monthly basis. This effort is sometimes above and beyond the standard monthly field supervision that WFP provides. In some areas, WFP field staff attend regular Outpatient Department (OD) monthly meetings and interact closely with the TB staff. Overall, this form of coordination seems to function well. TB staff greatly appreciate the input and support from WFP in completing reporting requirements and in problem-solving.

In addition, at the national level, coordination workshops were held with WFP and CENAT staff in Phnom Penh in 2000 and 2001, with plans for another such meeting soon after. During these workshops, operational and management issues related to the collaboration were addressed and solutions identified. During the first workshop, 17 problem areas were identified; in the second, only 6 problems were raised. Workshop documentation shows open discussions taking place and a partnership approach in identifying and allocating responsibility for solutions.

Clearly, both WFP and CENAT feel that the collaboration to provide food support to TB patients is important, evidenced by the fact that problem-solving in implementation has been greatly facilitated by close coordination between these two well-managed institutions.

Financing

The collaborative activity uses a mix of government and WFP resources at different levels, for different aspects of the activity. In the discussion of financing, internal financing refers to arrangements within Cambodia and linked with NTP for delivery of food to patients; external financing refers primarily to WFP funds that are allocated for food procurement, distribution, and monitoring.

Internal Financing

The team observed several models for financing of food distribution to peripheral facilities that delivered food to TB patients. In the provinces where WFP maintains warehouses and delivers food directly to ODs, RHs, and FDHs, there were no cases of HCs using their user-fee budget to support the transport of food from the store location to the peripheral facilities (usually HCs). Instead, food was delivered to patients from the points to which WFP delivered the food, which often were different from the facility at which they received their TB medicines.

In the provinces not covered by a provincial WFP warehouse, food is delivered by WFP only to the OD level. Here, peripheral facilities have mobilized resources to transport food to DOTS delivery points by allocating part of the operating costs budget obtained through user fees. The

co-financing management committee at the HCs and FDHs in these ODs includes food transport among its priorities for operating costs and allocates funds to this activity. In Kampong Speu Province, where this model operates, the OD was proactive in ensuring that peripheral health facility operating budgets were used to support transport costs of food for TB patients registered at RHs, FDHs, and HCs. Often the costs associated with food transport were marginally extra, as the food distribution was planned to coincide with the regular monthly meetings at the OD.

The health service user-fee system, which was a principal element of the countrywide health sector financing strategy introduced in 1997, requires 50 percent of the fees collected to be allocated to operating costs of the facility (49 percent is used for staff payments, and the remaining 1 percent is remitted to the central MOH). The allocation of the operating budget to different activities is determined by the co-management and co-financing committees. Several health facility directors in provinces where food was not yet distributed to peripheral facilities voiced support for encouraging TB staff and other HC staff to propose the inclusion of food transport costs to their co-management and co-financing committees. There also may be a supporting advocacy and local sensitization role for MOH/CENAT to play.

As DOTS is decentralized, distribution of food to all the points at which TB patients receive medicines becomes a more complex and costly endeavor. Many of the economies of scale are reduced when delivering food to HCs, which are located far apart and treat only 5–15 patients at any given time. WFP cannot cover most distribution beyond hospital level. MOH/CENAT may want to consider the Kampong Speu model for other ODs as a future strategy for food-distribution financing.

Logistics

Procurement of food and its distribution are the biggest challenges facing both WFP and NTP. Both programs are evolving and pursuing new strategies for improved impact and performance. The team did not address the issue of foodstuff procurement but concentrated on the food distribution aspect of logistics when discussing challenges with WFP and MOH/CENAT staff.

Distribution to Facilities

Prior to 1999, WFP contracted with the Cambodian Red Cross (CRC) for food transport to TB facilities. Since then, as the country stabilized politically and CRC phased out its emergency interventions, WFP began contracting with a local transport company (Khmer Express Transport [KET]) for food transport services.

Currently, the country office holds a contract with KET for delivery of food from its central warehouse at the port in Phnom Penh to either of two WFP provincial warehouses. For ODs located within the geographical coverage of these provincial warehouses, WFP delivers food to the OD, RH, and FDHs. In some cases, if an HC is located en route, WFP will also deliver food directly to that HC. The WFP suboffices that oversee the provincial warehouses hold contracts with KET for delivery from the provincial warehouses to the ODs, RHs, and FDHs.

Where there is no provincial warehouse maintained by WFP, WFP delivers the food directly from the national warehouse to the OD, which then organizes delivery to the more peripheral facilities. The contract for transport to the OD is maintained by the WFP country office.

Delivery to Patients

The team observed several different models of food delivery to patients. The list reflects the different treatment phase of the patients (continuation or intensive) as well as the mode of treatment delivery (ambulatory or inpatient).

1. Food delivered to continuation-phase outpatients on the same day as their medicines, once a month.
2. Food delivered once a month to continuation-phase outpatients on a fixed day, different from the patient's medicine day. Adjustments to the medicine schedule were made at some facilities if the patient's medicine day closely followed the food distribution day. Concerns were expressed about patients who may delay getting their medicines because their medicine day fell substantially prior to the set food distribution day, but TB staff seemed to feel that they had addressed this problem.
3. Weekly distribution of food to intensive-phase inpatients. It was felt that this was easier in terms of patients' storing of food in the facility.
4. Once-a-month distribution to both outpatients and inpatients on the same day.
5. Once-a-month distribution to outpatients and inpatients, but with one day between the two. This was felt to ease the burden on TB staff in terms of making the individual food packages.
6. Distribution every two weeks to ambulatory intensive-phase patients. This was felt to make it easier for them to transport it back to their homes.
7. Once-a-month distribution to ambulatory intensive-phase patients, along with continuation-phase outpatients.

At some facilities, TB and HC staff measure and make the individual food packets for patients. At others, particularly where outpatients come once a month on a set day, staff make several aggregated piles of food, divide the patients into groups, and then let the patients distribute the food among themselves according to the ration amounts. When there are fixed days for food distribution, patients typically spend 2–3 hours at the health facility.

Not only did the timing of food and medicine delivery to TB patients vary, but the location varied as well. In several provinces, food was delivered to patients at places other than where they received their medicines. For example, HC patients received medicines from the HC location but picked up their food ration from the store location (RH or FDH), which was always farther away. Food was distributed under this model usually only once per month, so it is not clear how great an inconvenience having two service-delivery points is for patients. It may be a

greater inconvenience to continuation-phase patients, who must visit two different health facilities, twice a month, instead of visiting one facility once a month. NTP may want to consider the impact of this potential inconvenience, which is likely to increase as the TB program decentralizes further, and consider mechanisms to ensure that food can be distributed to all DOTS delivery points.

In general, the flexibility observed in food delivery to patients is a positive sign that providers adapt to their local circumstances. Periodic assessment of food delivery strategies and consideration of alternative models may be beneficial as the program changes with decentralization.

Monitoring and Supervision

WFP field monitors make monthly visits to designated TB units to check food distribution and stocks. At minimum, the TB register is used to verify new patient lists and the stock balance sheet is reviewed. In addition, field monitors make random checks on facilities during food distribution. At this time, food ration cards are checked against the TB register to prevent false patients from receiving the food supplements.

The field supervision and monitoring is done collaboratively, with TB staff and WFP field staff often working together to identify problems and solutions. In Kampong Speu Province, where food is now being distributed at HCs and which has added 25 sites for field visits, the field monitors attend monthly health staff meetings at the OD and confer with HC staff regularly through this mechanism. If necessary, the field monitor makes a follow-up visit to the HC.

Both WFP and CENAT need to give some thought to how to continue the smoothly functioning support supervision and program monitoring in the context of the decentralization and expansion of DOTS. With food distribution occurring at HCs, the burden of field monitoring increases significantly for WFP. The increased workload may need to be addressed by making regular supervision more indirect. Consideration should be given to how to include the greater number of food distribution points in the schedule for random checks.

Reporting

Reporting systems for the food support to TB patients follow most closely the requirements of WFP to keep track of leakage and numbers of beneficiaries. The systems do draw on certain aspects of the TB program's reporting system, such as the TB register and calculation formulas for TB drug requirements. However, most reporting forms that the TB staff fill out (sometimes with assistance from WFP field staff) are in addition to the regular requirements for DOTS reporting.

From the perspective of the staff providing DOTS, 11 reporting forms are required for the food support aspect of the program (Annex 5). Five of these are completed on a quarterly basis; two more are required by WFP on a quarterly basis, but TB staff find it easier to complete these on a monthly basis. Stock reports are completed on a monthly basis. The food ration card is checked

and completed at the time of each distribution, depending on the model the facility uses. One form is required twice a year, and another annually. From the perspective of WFP, there are usually three to five reporting requirements each quarter; some of these requirements include several different forms. The team's observation of reporting requirements and WFP's file checklist for social sector documents (Annex 6) correspond exactly.

Despite the difficulty in satisfying the needs of two large organizations, there is room for further simplification of reporting formats and processes. Numerous providers interviewed expressed a desire for streamlined reporting.

Program Quality

Incentives and enablers can have potential perverse effects in any setting. In Cambodia, the food assistance program confronted a problem of "ghost" patients in the late 1990s. To address this issue, WFP began requesting lists of beneficiaries from the TB program, copied from the TB registers and including names and addresses of individual patients. WFP field monitors then used this information to check food ration cards at the time of distribution. This process, along with training and supervision enhancements, was quite effective in reducing the problem of ghost patients. The program may now want to consider requiring lists of patients' names and addresses on a more periodic basis, to reduce the reporting burden while still maintaining a proven mechanism for preventing false patients from receiving food rations.

The team observed that not all distribution points use the food ration card regularly. The program may want to reinforce at this time that food ration cards must be issued to TB patients and are required before food can be distributed to individuals.

Impact

Patient Perspectives

Food support is important to patients as remuneration for the cost of seeking and staying in treatment and as a psychological/nutritional boost for recovery. Patients almost uniformly confirmed that without food assistance they would be less able to stay in care and that food assistance reduces the impoverishing effects of TB and facilitates their cure (Annex 4). However, the degree of the impact of food assistance as a contributor to high treatment-completion rates remains unclear, given that the DOTS program has other strong elements, including regular medicine supply, adherence to standard case management practices, and regular support supervision.

Some patients said that prior knowledge about food support to TB patients made it easier for them to seek care. A few indicated that they sought treatment before they were too ill to work, because they knew that they would be receiving food assistance (Annex 4). However, the national program does not regularly communicate information about food support to the general public, so the primary source of information is cured patients, who prove to be powerful communicators in their communities for encouraging others to seek treatment. The impact of

food assistance on case detection is, therefore, even more difficult to ascertain because of this general lack of prior knowledge on the part of patients and the numerous other factors that can inhibit early treatment-seeking by the poor.

Program and Provider Perspectives

Food assistance is also viewed by providers as a contributor to high treatment-completion rates, as it motivates patients to continue in treatment to cure. Providers worried that because of the travel costs, ambulatory patients would not come if food support were not provided. Now that NTP is moving more toward outpatient delivery of DOTS, some providers felt that food assistance may become even more necessary for optimal program performance.

Some TB supervisors noted the effectiveness of using cured patients to increase case detection. Several mentioned that the food program improved the rapport between the TB staff and the patients by keeping the patients happy and ensuring a good treatment experience. Cured patients were therefore more willing to refer others and be advocates for the program; without the food, providers were not so sure that cured patients would be as satisfied.

Some TB staff felt that food support was important to getting patients in earlier because it reduced the financial impact on the patient and family. Several patients corroborated this statement, saying that they didn't wait to get treatment until they were so ill that they couldn't work, because they knew that they would get food rations and the income loss wouldn't be so hard to bear. However, the impact of this effect is limited because there is no regular communication about food assistance for TB patients to the general public.

Providers expressed particular concerns about the poorest TB patients, stating that the pull to return to work when they feel better, before full treatment, would be too strong to keep them in treatment if there were no food assistance. Providers stated that the food gives the poor patients a few days of ration so they feel it's still worth coming for treatment. Providers felt that not offering food would be a big problem during the continuation phase, especially for the poor patients who rely on daily wages. Providers also felt that there would be more defaulters, and it would be more work and time for the staff to track them down.

Poverty Alleviation

Both patients and providers expressed their opinion and experience that food assistance to TB patients reduced the financial impact of seeking and staying in treatment. For patients, food support functions as a replacement for the cost of seeking and staying in treatment and as a psychological/nutritional boost for recovery. Patients almost uniformly confirmed that without food assistance they would be less able to stay in treatment and that food assistance reduces the impoverishing effects of TB and facilitates their cure.

Analysis of the patient interviews shows that the vast majority of TB patients report being income earners (Annex 4). This finding reflects not only the epidemiology of TB, which by and large affects adults in their economically productive years, but also the poverty of the country,

where multiple sources of income are needed to support basic household needs and where few gender restrictions exist to prevent women from being income earners.

Patients reported that the food ration lasted between two and nine days, depending on the size of the household and its income status. Rough estimates of the market value of the individual monthly food rations range between 8,000 and 12,000 KHR (according to geographic region). Average monthly household expenditure on food for the country as a whole is estimated at 222,757 KHR, which constitutes 60–70 percent of monthly household consumption outside Phnom Penh. Clearly, WFP food assistance cannot significantly alter a household's consumption patterns, except perhaps for the very poor. Food assistance apparently has a poverty alleviation effect as an income transfer for the opportunity cost of seeking treatment for TB.

An analysis of reported transport costs shows that average costs decline as the level of service provision gets closer to the community and if the facility is located in an urban area (Annex 4). This implies that out-of-pocket transport costs may be reduced further as DOTS is decentralized to HCs all over the country. The counterbalance to this is that ambulatory patients will use transport more frequently (every day in the intensive phase). Changes in opportunity time costs will also occur, as previously intensive-phase patients were hospitalized, which effectively removed them from household and income-earning activities. This situation may have meant that many patients would wait to seek treatment until completely physically debilitated to avoid further income loss. If patients seek care earlier because treatment is offered closer to home and does not require hospitalization, the opportunity costs of ambulatory TB care are likely to be less, thus reducing the poverty impact of seeking TB treatment.

FUTURE DIRECTIONS FOR THE CAMBODIA PROGRAM

HIV/AIDS and the Food Program

NTP in Cambodia is rapidly developing its technical and coordination strategies to confront rising rates of HIV-associated TB. At the same time, WFP is developing a global policy to support people living with HIV/AIDS (PLWHA) as a strategy for addressing food security at the population level, which has emerged because of the socioeconomic impact of AIDS. WFP has already established an HIV/AIDS program in some parts of Cambodia.

In Phnom Penh and elsewhere, testing for HIV infection among TB patients has begun but is not yet fully systematic, and referral of HIV-infected persons with symptoms of TB has been initiated. NTP notes that this will be an increasingly important area of work in linking programmatic operations with AIDS programs as well as more NGOs working in provision of care and support to PLWHA. WFP also recognizes that there must be a strong linkage across its two active disease-control-related programs in Cambodia. Seminars have been held to ensure communication across programs and, where applicable, joint support.

The food support for TB patients could provide one means of reaching HIV-infected persons as a complement to WFP-supported community-based care activities. The successful scale-up of TB food support should provide reassuring evidence for those involved in HIV/AIDS prevention and control.

Addressing Sustainability

There is justification for continuing the food support program and interest in doing so on the part of all major partners. This is a time of change both for MOH, as it pursues its health reform agenda, and for WFP, as it carries out strategic planning for its long-term program in Cambodia. Both institutions recognize that this program fits well within the objectives of the poverty reduction strategy process and within the agenda to reach the Millennium Development Goals. WFP and CENAT likely can both benefit in securing resources for their overall programs by promoting their collaboration and by demonstrating its sustainability and impact to date. In advocating for sustained financing of this collaborative program, the institutions will depend on their actions in the following areas in the short term—

- Adapting the TB food support program to the planned adjustments in geographic and program coverage of WFP, in line with WFP poverty mapping
- Exploring ways to mobilize resources, including health facility operating budgets, to finance complementary support for food distribution in any areas losing WFP direct engagement or the means to finance WFP distribution just for TB patients in these areas
- Further aligning TB food support program strategies with the HIV/AIDS care policies of WFP

- Encouraging further communication between Stop TB partners and WFP and its donors at the global level, using the ongoing success of intersectoral collaboration in Cambodia

Lessons for Other Countries

Among the main objectives of this study was to examine the relevance, feasibility, and adaptability of the Cambodia food support model to other high-TB burden settings. In addition, the study suggests a number of prerequisites that may be considered necessary before pursuing a food support program with TB patients as target beneficiaries.

Relevance

There are ongoing deficiencies in the quality of DOTS programs and overall health system access in many resource-poor settings, affecting both treatment success and case detection. In many settings, as in Cambodia, the joint epidemics of TB and HIV are destabilizing communities and worsening the already apparent cycles of disease and poverty. Under these conditions, social support is urgently needed to enable engagement and sustained interaction with health services as well as support to highly vulnerable families. Furthermore, given the potential for emergence of drug-resistant disease, interventions that increase treatment adherence and full completion of multidrug treatment are essential for public health and safety.

Although the study methodology prevented clear conclusions on whether food support can increase case detection, the study has demonstrated the importance of support in enabling adherence and treatment completion among highly vulnerable populations. The study has also suggested that food support is seen by patients, their families, and providers as an important asset and that this message is communicated informally in the community, but has not been formally communicated to a wider public by NTP or WFP. In expanding DOTS in high-burden countries around the world, the trade-offs among rapid expansion, quality management, and resource absorption capacity are serious and have been frequently noted in reviews on national performance. Therefore, the concerns regarding the management complexity and organizational capacity of both the food provision agency and ministries of health, identified by this case study, are significant. In light of all the points noted above, the conclusions of this study are highly relevant for TB control programs and WFP, as well as other food or social support agencies, in multiple settings.

Feasibility

The Cambodian experience has demonstrated that a food support system that includes TB patients among its beneficiaries can be financed, implemented, modified, and sustained over a long period. It is feasible to serve a large cohort of patients and to derive important public health and individual benefits from the program. The study shows that a large array of actors are involved in this endeavor: the two programs engaged in this system, their financing partners, and the patients themselves. Feasibility and success depend heavily on transparent management systems, communications and problem-solving, and adaptability across these stakeholders. As noted, the study cannot, by design, demonstrate that the approach will not be feasible in settings

with a weak TB control program or with no food management program. However, the findings suggest that it likely would be extremely difficult to establish, formalize, and manage a program where either of the two major partners—a well-organized and staffed NTP and WFP—were absent. This is especially true if the population to be served is all TB patients rather than a narrower target group of patients, defined by service area, for example. The underlying conditions of economic and social stability and governance are also highly relevant to the feasibility of such a complex system operating in the absence of strong agencies to counteract other social or political pressures.

Adaptability

The particular configuration of sources of financing, food-procurement responsibilities, and food-stores maintenance in Cambodia is easily adapted to other contexts. Any particular configuration of these program elements will depend on larger systems structures and functionings in a given country. However, the models for how food is delivered to patients may be easily adapted to other contexts. The reporting systems that have been developed as part of the Cambodia program can be usefully adapted to local settings, but they need to be consistent with the host agencies' systems. Above all, the food support program should not create parallel reporting systems. The choice of beneficiaries can be adapted or modified, given the needs of vulnerable populations in different contexts, but care must be taken if specific groups are selected that require identification and confirmation of disease status that could jeopardize their anonymity and expose them to prejudice and stigma.

Criteria for Consideration

The authors suggest that the following questions be considered as part of the planning process for a food support system for TB patients, prior to piloting or implementation. Consideration of these criteria should also take into account the underlying socioeconomic, health system, and DOTS context in which food support would be provided.

- Is treatment adherence a major TB performance challenge?
- Are strong TB program management and adequate integration into primary health care in place?
- Are food security and poverty challenges for the target population?
- Is there a preexisting food procurement and distribution infrastructure (e.g., WFP presence)?
- How much of a challenge will monitoring and leakage prevention be?

CONCLUSIONS

Food assistance has contributed to the success of the DOTS program in Cambodia and should continue to add value under a new ambulatory DOT model. Cooperation among all partners has been critical to success. WFP, CENAT, JICA, and all local partners have achieved good communication and common resolution of challenges in providing food support, through workshops, revision of reporting forms and processes, and coordination in distribution.

It would likely be impossible to pursue TB-specific food support in the absence of the well-established WFP infrastructure, which includes human resources, facilities, resource mobilization, ration selection and procurement standardization, distribution contracting, and linkages with technical and service partners.

There is justification for continuing the food support program and interest in doing so on the part of all major partners. It is recognized that this is a time of change for MOH, as it pursues its health reform agenda, and for WFP, as it undergoes strategic planning for its long-term program in Cambodia. Both institutions recognize that this program fits well within the objectives of the poverty reduction strategy process and within the Millennium Development Goals. WFP and CENAT may need to plan collectively to take advantage of current opportunities to secure resources and to promote this intersectoral collaboration as a model.

Recommendations

For NTP in Cambodia

To consider promoting innovation in using facility operating budgets to ensure the timely and efficient delivery of food to patients in ambulatory care at the HC level. As decentralization raises a new challenge of extending the food distribution network, the primary problem is financing and responsibility for transport. Innovation in using facility operating budget resources according to PAP guidelines appears to be taking place in some areas, but most ODs and other levels appear to need more assistance or guidance in how to best allocate their resources.

For WFP in Cambodia

To consider if the new geographic poverty focus for the PRRO can still allow continued food support to all TB patients in Cambodia.

Although satisfying the needs of two large organizations is difficult, there is room for further simplification of reporting formats and processes. A desire for streamlined reporting was expressed by numerous providers interviewed.

For WFP Globally

To consider how a global focus on food support to HIV-positive patients and families can include food support to TB patients, as more and more TB and HIV programs forge linkages and work together to address the dual epidemics.

ANNEX 1. TERMS OF REFERENCE

CASE STUDY: WORLD FOOD PROGRAMME ASSISTANCE TO TUBERCULOSIS PATIENTS IN CAMBODIA

Study Team:

Diana Weil, Sr. Public Health Specialist, Health, Nutrition and Population Team, World Bank on secondment from the World Health Organization

Sangeeta Mookherji, Senior Program Associate, Management Sciences for Health (along with staff from WFP and the Ministry of Health of Cambodia, who may wish to be part of the formal team or support the team)

Period in Cambodia: December 8–17, 2002

Financing:

Stop TB Secretariat/World Health Organization

Management Sciences for Health, Rational Pharmaceutical Management Plus Project, financed by USAID

Local logistical support provided by WFP

Clearance: WFP, MOH/Government of Cambodia, World Health Organization, USAID

Objective:

To produce a written case study of the use of food assistance, provided by WFP, as an enabler for TB patients to seek and complete tuberculosis treatment within the public health system in Cambodia. The case study would describe and examine (a) the history of the design, development, and evolution of the program of assistance; (b) results ascribed to the program to date; (c) the management of the food delivery system; (d) linkages between the National TB Control Program and the World Food Program at national and subnational levels; (e) means of monitoring the program; (f) the perspectives of patients and providers; (g) evolution of the program with the shift from largely hospital-based TB care to ambulatory and community-based care with the development of the primary health system; and (h) significant issues/concerns/sustainability.

This case study should inform other programs and partners involved in controlling tuberculosis in high-burden countries worldwide as well as other public health programs and food assistance programs that seek to serve persons who lack basic nutrition and suffer from illnesses that are major public health threats worldwide.

Background:

Tuberculosis is second only to HIV/AIDS as an infectious killer of youth and adults in the developing world and especially affects the poor and malnourished. TB is the top cause of death among persons infected with HIV. The TB situation is worsening in some regions worldwide, and significant progress is still to be made toward the 2005 global targets for TB control: to reach 70 percent of infectious TB patients with effective TB control (using the recommended strategy known as DOTS) and to successfully treat 85 percent of those patients served.

To reverse the epidemic and move urgently toward the targets, successful strategies to improve TB case detection and treatment need to be identified, replicated, or adapted in high TB burden countries. Among the strategies seen as promising are enablers or incentives to improve both patient and provider performance in pursuing the DOTS approach. Accessing and successfully pursuing TB care is not easy as it involves diagnosis and treatment over an extended period (at least six months or eight months in Cambodia) and TB especially affects the poor for whom barriers are particularly great.

Food assistance to tuberculosis patients is seen as a potentially powerful targeted approach to improving the nutritional status of persons suffering from a life-threatening infectious disease and reducing the personal costs of seeking and staying in treatment to cure. It also is seen as a potential means of improving the performance of tuberculosis control programs by increasing early case detection and successful treatment, both needed to reduce disease transmission. However, there is little documentation of how this strategy has been applied to date, its results, and how it might be replicated.

Methods:

1. Document review
2. Interviews and focus groups with key stakeholders
3. Field service visits

Interviews to be requested (to be revised):

- 1) Briefings with National TB Programme staff: central institute and regional and district staff
- 2) Briefings with World Food Programme, Cambodia office and operational staff
- 3) Briefings with World Health Organization staff and other partners in TB control (such as JICA etc.)
- 4) Focus groups and interviews with hospital and health clinic providers
- 5) Focus groups and interviews with patients in hospital, ambulatory and community-based settings
- 6) Briefings with programs serving other WFP food support target groups (depends on further information provided by WFP)

Background materials required (to be further developed):

- 1) Documentation on WFP operations in Cambodia
- 2) Documentation on WFP system for TB patient food provision in Cambodia
- 3) Documentation on organization and results of NTP from 1992 to 2002, and DOTS expansion plans and other relevant MOH planning documents
- 4) Existing reports and/or evaluations on effectiveness of food assistance in TB control
- 5) Presentation given by P. Y. Norval at Stop TB symposium on TB and poverty (Montreal, Canada, October 2002) on food support and association with case detection and treatment results in NTP during the mid-1990s
- 6) Documentation on WFP policies or programs in collaboration with other public health programs or public health priorities worldwide, and in Cambodia specifically
- 7) Other materials recommended by collaborators

Proposed Product:

A written case study that documents the experience with food assistance for TB patients in Cambodia and includes lessons learned for other countries and partners to consider, and that may inform design and operation of programs in other settings, or in Cambodia.

An executive summary of findings would be developed by the study team for discussion with collaborators in Cambodia prior to departure.

A complete draft product would be expected to be ready for review by collaborators at the end of January 2003.

ANNEX 2. SCHEDULE

Itinerary for the Study Team
Diana Weil and Sangeeta Mookherji
December 8–17, 2002

Schedule	Activities	Place	Responsible Persons and Participants
DAY 1: Sunday, December 8, 2002 – Phnom Penh City			
8:10	Arrival of Ms. Sangeeta M. in Phnom Penh (flight Thai Air 696 from BKK) and hotel check-in at Sunway Hotel	Pochentong Airport	Heng Mory, Yean Seang / Chanthy
11:40	Arrival of Ms. Diana W. in Phnom Penh (flight VN 0840 from Ho Chi Minh) and hotel check-in at Sunway Hotel	Pochentong Airport	Heng Mory, Yean Seang / Chanthy
DAY 2: Monday, December 9, 2002 – Phnom Penh City			
08:00–10:00	Briefing information with Mr. Praveen Agrawal, WFP Deputy Country Director	WFP Country Office	Praveen Agrawal, PSU
10:00–10:45	Finalize tentative agenda and other related items	WFP Country Office	Heng Mory
11:00–12:00	Meeting with WHO representative and WHO Stop TB consultant	WHO Office	Jim Tulloch Dr. Jayavanth
14:00–16:00	Meeting with JICA chief advisor	JICA/CENAT Office	Dr. Ikushi Onozaki
DAY 3: Tuesday, December 10, 2002 – Kampong Speu Province			
7:00–8:30	Travel to Kampong Speu Province	Phnom Penh – Kampong Speu	Heng Mory, Hem Chan Thou
8:30–12:00	Meeting with Provincial Hospital and OD	Provincial town	Mr. Khe Phalla, Provincial TB Supervisor
14:00–15:30	Meeting with Kong Pisey Hospital and OD	Kong Pisey District	Ms. Kim Sao Yuth, OD TB Supervisor
15:30–17:30	Travel back to Phnom Penh	Kampong Speu – Phnom Penh	

Schedule	Activities	Place	Responsible Persons and Participants
DAY 4: Wednesday, December 11, 2002 - Phnom Penh			
7:00–8:30	Meeting with CENAT Director	CENAT Office	Dr. Mao Tan Eang
8:30–12:00	Meeting with TB supervisors and TB patients at CENAT – TB Hospital	CENAT Office	CENAT-TB Focal Points
14:30–16:30	Meeting with Samdech Ov hospital (OD Russey Keo)	Russey Keo District	Dr. Mom Ky, Municipality Health Section Chief
DAY 5: Thursday, December 12, 2002 – Pursat Province			
7:00–9:30	Travel to Krakor District	Phnom Penh – Pursat	Heng Mory, Sa Keng Khuon
9:30–12:00	Meeting with Krakor Hospital	Krakor District	Dr. Narith Ratha, Provincial TB Supervisor
14:00–17:00	Meeting with Provincial Hospital	Provincial town	Dr. Narith Ratha, Provincial TB Supervisor
17:00–19:00	Meeting with WFP staff	WFP Pursat office	Heng Mory, Chhong Chheuth, Rima
DAY 6: Friday, December 13, 2002 – Pursat Province – Phnom Penh – Siem Reap Province			
7:30–9:00	Visit Snamh Pre Health Center	Pursat District	Heng Mory, Dr. Eam, Sin Sop Khat
9:00–10:30	Travel from Pursat to Phnom Penh	Pursat – Phnom Penh	Heng Mory
14:00–15:00	Meeting with Missionaries of Charity Representative	Missionaries of Charity Office	Heng Mory, Youra Novak, Sister Lumina
15:00–16:30	Meeting with in/out TB patients		Sister Lumina
17:30–19:00	Travel to Siem Reap Province and check in at hotel	Flight to Siem Reap	Heng Mory, Top Sithara, Ly Solim
DAY 7: Saturday, December 14, 2002 – Siem Reap Province			
8:00–9:30	Travel to Chikreng District	Chikreng District	Heng Mory, Ly Solim
9:30–12:00	Meeting with provincial TB Supervisor, Chi Kreng Hospital	Chikreng District	Mr. Kheang Sok Try, Provincial TB Supervisor; Mr. Yon Siphon, OD TB Supervisor
13:00–14:30	Meeting with Health Center	Chikreng District	
14:30–16:30	Travel back to Siem Reap town	Chikreng – Siem Reap	
DAY 8: Sunday, December 15, 2002			
AM – PM	Visit Angkor Wat Temple	Siem Reap town	Ly Solim
16:30–17:10	Departure from Siem Reap to Phnom Penh	Flight to Phnom Penh	Ly Solim

Annex 2. Schedule

Schedule	Activities	Place	Responsible Persons and Participants
DAY 9: Monday December 16, 2002			
7:30–8:30	Debriefing with CENAT director	CENAT	Honorable Minister, Dr. Eang
9:15–10:30	Meeting with WFP HIV/AIDS advisor	WFP office	Hege Nome
11:00–12:00	Debriefing with USAID	USAID office	David Hausner, Ngudup Pajor, Chanta Chak, Olya Duzey, Marni Sommer
14:00–16:30	Visit Preah Bath Norodom Sihanouk Hospital Director, TB supervisor, and in/out TB patients	Preah Bath Norodom Sihanouk Hospital	Honorable Minister, Dr. Eam
DAY 10: Tuesday December 17, 2002			
8:00–9:30	Debriefing WFP	WFP office	Rebecca Hansen, Maha, Honorable Minister
15:30–16:30	Debriefing WHO and JICA chief advisor	WHO office	Dr. Jayavanth, Dr. Onozaki
18:30	Departure from Phnom Penh		

ANNEX 3. LIST OF PERSONS MET

National Center for TB and Leprosy Control (CENAT), Phnom Penh

Dr. Mao Tan Eang	Director
Dr. Ikushi Onozaki	Chief Adviser to CENAT, Japanese International Cooperation Agency
Dr. Khun Kim Eam	Deputy Chief of Planning & Statistics
Mr. Oung Mardy	CENAT Officer

WFP Cambodia

Ms. Rebecca Hansen	Representative/Country Director
Ms. Maya Ahmed	Head, Programm Support Unit
Mr. Praveen Agrawal	Deputy Country Director
Ms. Hege Nome	Junior Professional Officer, HIV/AIDS
Ms. Heng Mory	National Programme Officer, WFP
Mr. Hem Chan Thou	National Programme Officer, Head, Sub-office, WFP Kampong Speu
Mr. Var Sovanna	Field Monitor, WFP Kampong Speu
Ms. Youra Novak	Field Monitor, WFP
Mr. Sakeng Khuon	Provincial Field Manager, WFP Pursat Province
Mr. Chhong Chheuth	Sr. Field Monitor, WFP Pursat Province
Mr. Ly SoLim	National Professional Officer, Head, Sub-office, WFP Siam Reap
Mr. Hor Hoeung	Provincial Field Manager, WFP Siam Reap
Mr. Kong Leum	Field Monitor, WFP

MOH/CENAT Field Staff

Dr. E. Sarun	Deputy Director - Provincial Health Department, Kampong Speu
Mr. Kim Aun	Provincial Field Manager, WFP Kampong Speu
Mr. Khe Phalla	Provincial TB Supervisor, Kampong Speu
Mr. Mam Sreang	OD TB Supervisor, Kampong Speu
Mr. Peng Chanthorn	TB Ward Chief, Kampong Speu
Mr. Chak Thay	TB Ward Deputy Chief, Kampong Speu
Mr. Ven Sokhorn	TB Ward Deputy Chief, Kampong Speu
Mr. Sang Veasna	Lab Technician, Kampong Speu
Dr. Phat Yok	OD TB Treatment, Kong Pisey
Mr. Ork Horn	OD Deputy Chief, Kong Pisey
Ms. Kim Sao Yuth	OD TB and Leprosy Supervisor, Kong Pisey
Mr. Oung Sophal	Lab Technician, Kong Pisey
Ms. Sin Thavy	TB staff, Kong Pisey
Dr. Mom Ky	Municipal Health Department, Samdech Ov Hospital
Dr. Lim Kim	OD Director, Samdech Ov Hospital
Dr. ChhumChhey Kong	TB Ward Chief, Samdech Ov Hospital
Mr. Cov Sokun	Provincial TB Supervisor, Krakor FDH/HC Pursat Province
Dr. Khy Chinna	HC Chief, Krakor FDH/HC Pursat Province
Mr. Uk Borith	TB Ward Chief, Krakor FDH/HC Pursat Province
Mr. Bin Sinarin	TB Lab Technician, Krakor FDH/HC Pursat Province
Ms. Kroch Rapho	OD TB Supervisor, Sampov Meas OD/RH

Mr. Ngov Bunthan	TB Staff, Sampov Meas OD/RH
Ms. Prak Siphath	TB staff, Sampov Meas OD/RH
Ms. Sok Suhieng	TB staff, Sampov Meas OD/RH
Dr. Kheang Sok Try	Provincial TB Supervisor, Chikreng FDH/HC
Dr. Ho Vicheth	Soth Nikum OD TB Supervisor, Siam Reap Province
Dr. Lim Sopheap	Kampong Kdey FDH Director
Dr. Yun Sophorn	Kampong Kdey FDH TB Supervisor
Dr. Yean Seang	Director, Preah Bath Norodom Sihanouk Hospital
Dr. Kaing Sor	Pulmonary Medicine/TB Section Director, Preah Bath Norodom Sihanouk Hospital
Dr. Pronh Somith	TB Ward Chief, Preah Bath Norodom Sihanouk Hospital
Mr. Mam Y. San	TB staff, Preah Bath Norodom Sihanouk Hospital

Mission of Charity

Sister Vita	Manager in charge
Sister Lumina	Program Manager

WHO Cambodia

Dr. Jim Tulloch	WHO Representative
Dr. Pratap Jayanath	TB Medical Officer
Dr. Aye Aye Thwin	Health economist

USAID

Dr. David Hausner	Senior Technical Adviser, HIV/AIDS and Infectious Diseases
Mr. Ngudup Paljor	Maternal and Child Health Adviser, Office of Public Health
Dr. Chantha Chak	Development Assistance Specialist for HIV/AIDS/Infectious Disease
Ms. Marni Sommer	Pharmaceutical Management Adviser, USAID/Washington

ANNEX 4. SAMPLE PROFILES OF INTERVIEWED PATIENTS

Table 1. Gender Breakdown of Interviewed Patients

Treatment Mode/Pase	Male	Female	Total
Inpatient/intensive	13	12	25
Outpatient/ambulatory/intensive	2	3	5
Outpatient/continuation	12	13	25
Waiting for diagnosis	1	3	4
TOTAL	28	31	59

Table 2. Household Income-Earning Status of Interviewed Patients*

Treatment Mode/Phase	Income Earner	Dependent	Total
Inpatient/intensive	12	4	16
Outpatient/ambulatory/intensive	4	1	5
Outpatient/continuation	10	2	12
Waiting for diagnosis	2	2	4
TOTAL	28	9	37

* Some did not respond.

The vast majority (78 percent) of patients report being income earners; this figure reflects not only the epidemiology of TB (hitting adults in productive years) but also the poverty of the country, where various sources of income are needed to support basic household needs and few gender-related restrictions prevent women from being income earners

Table 3. Average Transport Costs for One Visit (KHR)

Area/Facility	Average	Range
Kampong Speu RH/OD	6,700	3,000–15,000
CENAT, Phnom Penh	5,000	4,000–8,000
Samdech Ov FDH, Russey Keo (urban)	215	0–400
Pursat Province RH	1,800	0–5,000
Snamh Pre HC	40	0–100

Average transport costs decline as the level of service provision gets closer to the community and if the facility is located in an urban area. Out-of-pocket transport costs may thus be reduced further as DOTS is decentralized to health centers all over the country. The counterbalance to this is that ambulatory patients will need to use transport more frequently (every day in the intensive phase). Changes in opportunity time costs also occur, as previously intensive-phase patients are hospitalized, effectively removing them from household and income-earning activities. This means that many patients would wait to seek treatment until completely physically debilitated to avoid “extra” income loss. If patients seek care earlier, because treatment is offered closer to home and does not require hospitalization, the opportunity costs of ambulatory TB care are likely to be less, because they are still able to work while they begin treatment, in terms of both time and physical strength available.

Illustrative Quotes from Patients

Incentive/enabler

“A person has two choices: If there is no food support, you decide to wait until you cannot work at all before coming to the hospital. If there is food support, then you can decide to come right away.”

—Female inpatient, Pursat Province, 39-year-old farmer

“When I tell people in my village to come for treatment, I tell them about the food. Otherwise, they worry about being in the hospital and not being able to work for so long, so they wait and wait until they are so sick they cannot work anymore, and then they come because they have no choice.”

—Male outpatient, Kampong Speu Province, 50-year-old rice farmer

“I cannot manage without the food support if I have TB and have to be hospitalized.”

—45-year-old widow with four school-age children, waiting for diagnosis at CENAT

“We absolutely need the food—otherwise, losing income because of time spent coming to clinic and weakness keeping us from working hard—we would have nothing to eat.”

—Outpatient group, Samdech Ov FDH in Russey Keo District

“If there isn't any food, I would come anyway—a person has to be cured—but the important thing is that there is both medicine and food. [Because] there isn't enough food anyway, even working all day, and if you lose part of the day to come and take the medicine, then there is less food. Also, when you take the strong medicines, you need food to make it easy on the body.”

—Female inpatient, Pursat Province, 39-year-old farmer

Poverty alleviation

“My family members used to bring rice for porridge breakfast; now I am getting the ration, so I will use that to make porridge—it is not so hard on my family.”

—Male inpatient, Pursat Province, 38-year-old farmer

“It is very helpful to get the food, because they have had to hire labor to replace me on the farm; I would have come anyway, however, because I cannot work, and I need to get cured to be able to work again.”

—Female ambulatory intensive-phase patient, Pursat District HC, 52-year-old farmer

Psychological/physical benefit of food support

“If there was no food, I would be too worried about my family; the food sets my mind at ease, which allows me to get better quickly.”

—Male inpatient, Pursat Province, 39-year-old policeman and taxi driver

“The food strengthens the body, and is motivating/encouraging—it makes me feel more able to stay here.”

—Female inpatient, Pursat Province, 32-year-old cake seller

“Cooked hospital food twice a day was enough until I started to feel better; now I am hungrier and need to eat more.”

—Male inpatient, Pursat Province, 68-year-old retiree

“The food is very important because there is not enough food at the hospital—only two meals a day, and no breakfast, which is when we take the medicines, and the medicines make you feel sick—it is important to have breakfast.”

—Outpatient group, Kampong Speu Province RH/OD

“The normal situation at home is not to have enough food, so the food is also important after leaving the hospital because food at home is not enough to get healthy.”

—Outpatient group, Kampong Speu Province RH/OD

Patient Story

Ma Chun is a 64-year-old man with a frail frame who was born in a rural province in a family of farmers. He has been hospitalized in Phnom Penh for one and one half months. His wife and four of his children have lived in the United States since 1980 and are spread out from the states of Washington to California and Texas. He feels uneasy and sad that his family has not tried to be in touch with him since their departure. Two years ago he came to Phnom Penh but didn't have family or know anyone to stay with, so he went to the monks in a pagoda and stayed there. He would do small jobs for the monks and was the cook, so he had food to eat. But, over a year ago, he began to feel very ill, and later had to stop work and lost his appetite. Someone told him to come to the national TB center where he was diagnosed with smear-positive TB. When he came, he weighed only 46 kg, but now is at 53 kg. He feels stronger now. He has not been asked to pay anything at the hospital and says he could not if they asked. He has no money or possessions. He does not have any food in the morning, as the hospital provides the food support from WFP only for lunch and dinner, but others in the ward and their families sometimes share their food.

ANNEX 5. WFP REPORTING REQUIREMENTS

No	Form name	Objective	Who requires info	Who fills	Submitted to whom	Frequency	Use of information
1	List of social sector proposed beneficiaries	To predict food needs	WFP	TB staff	Kept at HC	Monthly	As check against actual from item 2
2	List of beneficiaries received food assistance from social sector program	Used to determine needs and as check at patient food distribution time	WFP	TB staff	OD/FDH WFP field office	Monthly	Number of beneficiaries; address; sex
3	Quarterly TB-Leprosy Patient List	To check continuity of food receipt	WFP	TB staff	OD/FDH WFP field office	Quarterly	Not clear
4	Quarterly report of beneficiary – TB or Leprosy	To check verity of reported/estimated beneficiaries	WFP	TB staff	OD/FDH WFP field office	Quarterly	To check for ghost patients
5	Quarterly food request	To predict food needs	WFP	TB staff	OD/FDH	Quarterly	
6	UN-WFP social sector quarterly report	To track beneficiaries and stock	WFP	TB staff	WFP field office	Quarterly	Not clear
7	UN-WFP social sector six-month cumulative report	To aggregate the first two quarters' info from item 6	WFP	TB staff WFP field staff	WFP field office	Twice a year	Not clear
8	UN-WFP social sector yearly cumulative report	To aggregate from items 6 and 7	WFP	TB staff WFP field staff	WFP field office	Annual	Not clear
9	WFP social sector project proposal	Contract with WFP	WFP	TB staff WFP field staff	WFP field office	Quarterly	Contract
10	Food ration card	To track patients	WFP	TB staff	NA	Every distribution	Previous date
11	Stock report	To keep track of food stock	HC WFP	TB staff	WFP field office	Monthly, after distribution	Balances

ANNEX 6. FOOD DISTRIBUTION CHART



