

# Summary of Current Evidence

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## *Using Incentives and Enablers for Improved DOTS Performance*

Management Sciences for Health  
is a nonprofit organization  
strengthening health programs worldwide.



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*July 2006*

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## ACRONYMS

AIDS	acquired immunodeficiency syndrome
BRAC	Bangladesh Rural Advancement Committee
CB	community based
CDC	U.S. Centers for Disease Control and Prevention
CHW	community health worker
DOT	directly observed treatment
FIDELIS	Fund for Innovative DOTS Expansion through Local Initiatives to Stop TB
HIV	human immunodeficiency virus
I&E	incentives and enablers
IDA	International Dispensary Association
IEC	information, education, and communication
MOH	Ministry of Health
MSH	Management Sciences for Health
NGO	nongovernmental organization
NTP	national tuberculosis program
OR	operations research
PP	private provider/practitioner
RNTCP	Revised National Tuberculosis Control Programme
RPM Plus	Rational Pharmaceutical Management Plus Program
TB	tuberculosis
USAID	U.S. Agency for International Development
WFP	World Food Programme
WHO	World Health Organization



## BACKGROUND

Worldwide, a range of stakeholders participate in the implementation of the World Health Organization (WHO) recommended tuberculosis (TB) control strategy known as DOTS. At the country level, these stakeholders include patients, their families and communities, health service providers,<sup>1</sup> system managers, and policy makers, to name only a few. Effective DOTS demands much from each of these players, and the stakes are high—second to HIV/AIDS, TB is the infectious disease that kills most adults worldwide, and the TB epidemic continues to worsen, partly due to increasing HIV/AIDS infection.

### Some Top Challenges Faced by DOTS Programs in High TB Burden Settings

- Ensuring that patients are diagnosed and initiate tuberculosis treatment quickly
- Ensuring that patients are enabled and motivated to complete a full course of therapy
- Ensuring that providers are motivated and able to assist patients in this process while providing safe and appropriate care
- Ensuring that policy makers and managers mobilize the resources and create the policy environment to allow the implementation of DOTS, as well as other interventions that contribute to health improvement, especially for the poor

Many TB programs throughout the world are seeking to improve patient adherence to DOTS and, increasingly, case detection through a variety of incentives and enablers (I&E)<sup>2</sup> provided for TB patients and DOTS providers. Since 2001, a team of staff from the Management Sciences for Health (MSH) Rational Pharmaceutical Management (RPM) Plus Program, with support from the U.S. Agency for International Development (USAID); the Stop TB Partnership, and the World Bank have been documenting the use of these I&E schemes.<sup>3</sup> Specifically, the team has attempted to look at the design, feasibility, effectiveness, and impact of incentives and enablers.

The joint work program team has gathered evidence from a variety of sources—a literature review, an ongoing survey of global experiences, motivations mapping workshops conducted in three countries, technical assistance to the development of operations research (OR) studies of I&E, workshops on I&E held in global forums, and ongoing dialogue with country-level TB

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<sup>1</sup> The term “provider” refers to formal public or private health workers (doctors, nurses, community health workers) and other individuals (treatment supporters, managers), institutions (hospitals, clinics, nongovernmental organizations), or government bodies involved in TB control.

<sup>2</sup> For the purposes of this work, we adopted the following definitions:

**Enabler:** Makes something possible, practical, or easy; allows action based on existing motivations or to achieve performance standards or goals within existing systems frameworks.

**Incentive:** Incites someone to determination or action; introduces additional motivations to achieve existing performance objectives or to achieve higher performance standards.

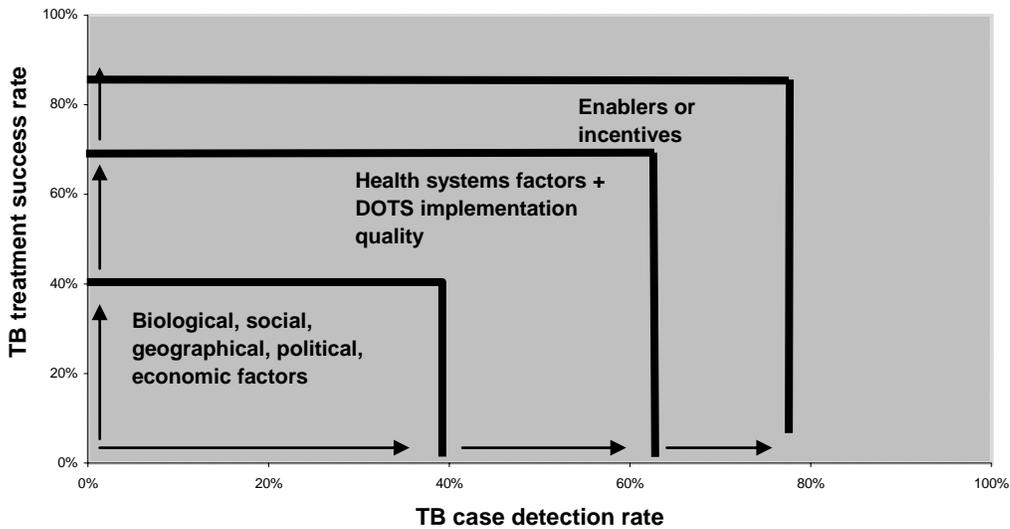
<sup>3</sup> For more information, see <http://www.msh.org/projects/rpmpplus/3.5.5.htm>.

control programs and projects. Based on these sources, the team developed underlying hypotheses and identified key findings related to the use of I&E for TB control.

### **Underlying Hypotheses for I&E**

- A range of variables affect the ability and motivation of stakeholders at all levels to engage in the DOTS approach. These variables include norms and knowledge, functional inputs, financial interests, social interests, and regulatory/management frameworks.
- Factors that disable or demotivate patients or providers may especially affect the poor and others who are also marginalized.
- Modification of the enabling and motivating environment can improve DOTS performance. The environment can be modified by improving the socioeconomic and political context, the health system capacity, and the core DOTS practice as well as through implementation of explicit incentives and enabler interventions.
- Incentives exist for all stakeholders, whether intended or unintended, and some may create motivations that may not fully support the objectives of TB control. Well-designed incentive and enabler schemes can potentially overcome motivational barriers that may interfere with individual stakeholders' contributions to TB control goals.
- No set of incentives and enablers is likely to be appropriate, feasible, or effective across all countries or programs. Those schemes adopted should depend on the underlying socioeconomic, health system, and DOTS expansion context.

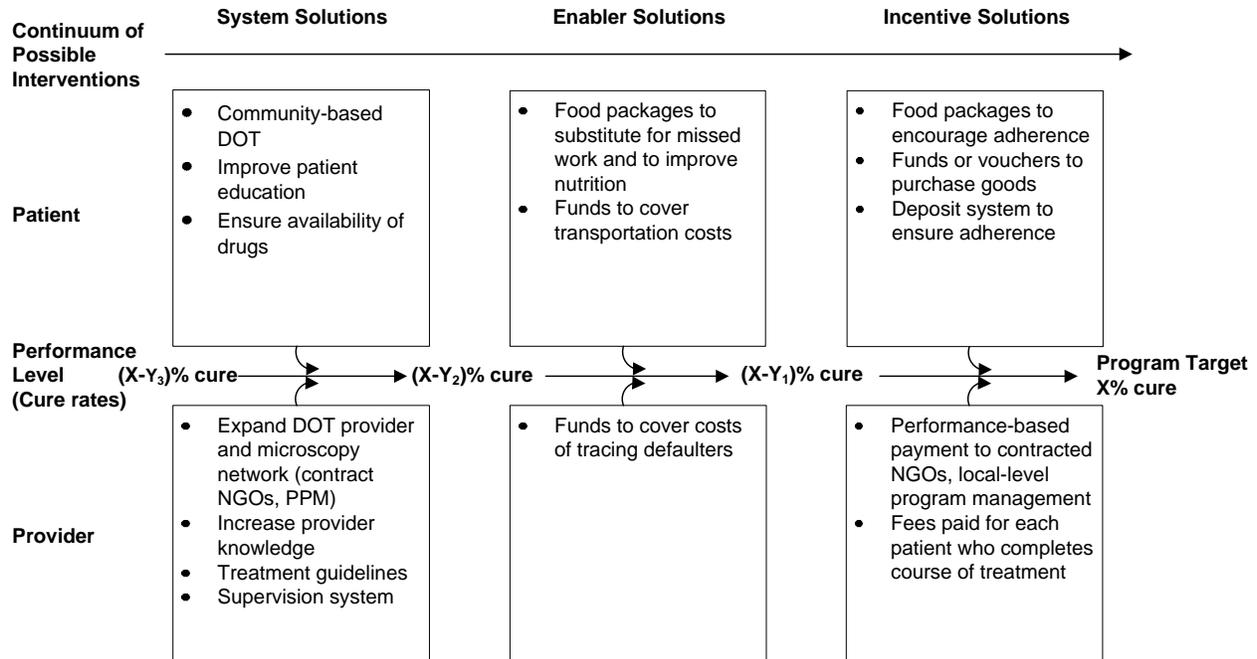
For implementing I&E in TB control, it is important that a well-functioning DOTS program is already in place (Figure 1), and that health systems strengthening interventions are not bypassed in favor of I&E. Ideally, I&E should build on strong DOTS and accompanying health systems, bringing additional gains to already solid achievements. This is the current situation with TB control in India, where the Revised National Tuberculosis Control Programme (RNTCP) has made impressive gains in TB control along with expansion of DOTS and is ready to consider more nuanced approaches to improving program performance and quality, such as incentives and enablers.



**Figure 1. Hypothetical Attribution of DOTS Results**

Source: Beith et al. 2001.

Figure 1 also implies that when an identified performance barrier or program problem is being addressed, ideally all underlying causes should be examined, beginning with social, geographical, political, and economic factors. Then DOTS and health systems issues should be addressed, and finally, the potential of incentives and enablers. For example, one identified problem may be that patients fail to come to TB units to take medicines. One underlying cause of this problem may be prohibitive transport costs (both direct and indirect in terms of time). There may be several ways to lower these costs to patients; for example, directly observed treatment (DOT) and microscopy networks could be expanded so that the costs of access are reduced, or direct and indirect costs could be subsidized or reimbursed with cash or vouchers. The first example can be considered both a DOTS expansion strategy and a patient enabler. However, additional incentives may be needed to induce more labs and DOT providers to join the network and to ensure that they meet DOTS quality standards. The second example can be considered both an enabler and an incentive. It enables patients to access care and if the subsidy or voucher is provided only at DOTS units, then it is also an incentive to seek care directly from quality-ensured centers. Figure 2 provides more examples of incentives and enablers.



Adapted from: Beith et al. 2001.

Note:  $Y_3 > Y_2 > Y_1$

**Figure 2. Conceptualization of continuum of system, enabler, and incentive solutions to increase cure rates in TB control programs**

To help TB control programs identify key performance challenges, underlying motivational causes, and the range of possible solutions, a tool was developed to use with TB program managers in a workshop setting by the joint work program of MSH/RPM Plus and Stop TB/WHO.<sup>4</sup> Conducting this workshop in three country settings (China, Uganda, and Tanzania) showed that many interventions to strengthen DOTS and health systems are often viewed as enablers by TB program managers and as incentives by TB program staff. The three pilots also demonstrated that mapping stakeholder motivations in TB control can make a difference in planning for the design, implementation, and evaluation of I&E.

<sup>4</sup> See [http://www.msh.org/rpmplus/pdf/TB/Workshops/Mapping\\_Motivations\\_for\\_TB\\_Control-Workshop\\_Tool.pdf](http://www.msh.org/rpmplus/pdf/TB/Workshops/Mapping_Motivations_for_TB_Control-Workshop_Tool.pdf) for the tool and <http://www.msh.org/rpmplus/3.5.5h.htm> for country-specific workshop information (from China, Tanzania, and Uganda).

## WHAT ARE THE I&E EXPERIENCES AND EVIDENCE?

Globally, a wide variety of I&E schemes are currently used. Most have been implemented with the objective of increasing treatment adherence; some were designed to target hard-to-reach populations. Increasingly, case detection is becoming the focus of I&E as treatment adherence levels reach the global target. I&E may target patients and providers, e.g., public or private health workers at all levels, DOT providers, lab technicians, and are sometimes performance-based. Importantly, a range of I&E schemes are being used, including incentives for providers; many of the schemes are non-monetary. Food support for patients is of great interest to many TB control programs, although experiences point to important programmatic pressures that must be considered before launching such support (see box below).

### Food Support to TB Patients in Cambodia

Food support was introduced alongside DOTS in 1994, with support from the World Food Programme (WFP), which already had a strong presence in Cambodia. Both DOTS and food support were rapidly scaled up to cover the entire country. Every TB patient receives a monthly supply of dry and tinned rations. WFP procures and distributes the food. The program is jointly managed by the Cambodian National Tuberculosis Program (NTP) and WFP. Food distribution emerged as an increasing challenge as the program decentralized and extended DOTS to the community level.

A case study conducted in 2002 by MSH and the World Bank identified several key question TB control programs should ask when considering food support to patients—

1. Is treatment adherence a major TB performance challenge?
2. Are there adequate TB program management resources?
3. Are food security and income poverty challenges for the target population?
4. Is there a pre-existing food procurement and distribution infrastructure (e.g., WFP presence)?
5. How much of a challenge will monitoring and leakage prevention be?

*Source: Mookherji, Weil, Eang, and Mory 2003.*

Available evidence suggests that performance-linked schemes may be better at improving program outcomes; however, there appears to be variability in reported impact. The source of financing for provider incentives may be important for the types of program performance gains desired (see box below). Overall, evaluation of ongoing schemes has been insufficient and therefore provides little hard evidence to explain the variations in impact. Additional evidence is awaited from operations research and well-executed evaluations on the feasibility, impact, and cost-effectiveness of different I&E schemes.

**Source of Financing Matters for CHW Incentives—the BRAC Experience**

The Bangladesh Rural Advancement Committee (BRAC) began DOTS in 1984 in one district of Bangladesh. Today, it covers 60 percent of the country's population. BRAC's DOTS services in these areas are tightly integrated with the committee's other social development programs, such as microcredit programs. Since its inception 20 years ago, BRAC has included a patient deposit scheme as part of DOTS provision. The deposit is divided between the community health worker (CHW) and the patient upon completion of treatment, thereby providing an incentive to patients to complete treatment and an incentive to CHWs to find and retain TB patients. Studies of the deposit scheme over the years have shown that patients bear lower costs than they do with the government program, despite the 200 Bangladeshi taka (BDT) deposit they pay; that an increasing proportion of patients are able to pay the deposit without borrowing; and that treatment delay is significantly less in BRAC program areas. These findings are in addition to a significantly better case detection and cure rate than the national average and an ensured sustainable incentive scheme.

In 2003, BRAC entered into partnership with the Bangladesh NTP to cover more districts where they did not have existing social development programs. Concerned about requiring patients to pay a deposit without the additional support of access to social development programs, BRAC received funds from the fund commonly referred to as FIDELIS (Fund for Innovative DOTS Expansion through Local Initiatives to Stop TB) to test whether returning the full amount of the deposit to the patient, and paying the CHW for each patient from program fund would be feasible in these areas, and what effects the change in financing might have.

A qualitative study of patients and CHWs done by BRAC in both areas revealed that CHWs were not motivating patients to pay the bond in areas where they received their incentive from program funds, thereby reducing the financial risk to patients who did not complete treatment. Patients were of course more satisfied to learn they would receive the entire deposit upon treatment completion, but the study was conducted too early to detect any impact. No effects on case detection have been found yet. Sustainability of this model of incentive scheme is of concern to BRAC.

*Adapted from: Narasimhan et al. 2004.*

Evidence related to the impact of using incentives or enablers is problematic for several reasons. First, most of the evidence available from high-burden countries is based on small-scale I&E schemes implemented in concentrated geographic areas or targeted to very specific populations. Therefore, it is difficult to generalize experiences and expected impact. Second, and more important, most I&E schemes were not designed, implemented, or evaluated in a systematic manner. Even those schemes with larger participation or coverage rarely included evaluation plans in their design or piloting stages. Third, and related to the second reason, it is difficult to attribute any observed improvements in DOTS program performance to I&E schemes because other interventions to strengthen DOTS or health systems may be ongoing simultaneously. Most of the evidence available is anecdotal or based on program data that measures performance improvements in I&E areas overall, without the capacity to separately measure incremental benefits of using I&E. As a response to this situation, several OR studies were initiated in 2003 and 2004 in a variety of settings, but results are not yet available.

Although drawing overall conclusions based on currently available evidence is difficult, there is sufficient evidence to suggest potential roles for incentives and enablers in improving various aspects of TB program performance, and to identify the relevance of I&E to particular DOTS

expansion strategies. Key findings related to I&E are presented below. Annex 1 provides tables that summarize specific experiences with using incentives and enablers for patients, DOT providers, and TB program performance, along with the evidence that those experiences generated.



## KEY FINDINGS

Documented experiences indicate that incentives and enablers that are directly linked to measurable performance improvements may be more effective than unlinked measures. Prominent examples of large-scale programs of this type include food support programs to enhance participation and patient adherence in Cambodia, Peru, Sudan, and other locations. These programs involve formal collaboration between health and food assistance agencies to serve TB patients and other target groups. Other long-term, large-scale models are the BRAC patient deposit scheme and China's village provider payment scheme (Annex 1). Both build on well-established infrastructure, standards of practice, and human resources that may not exist in other settings. While the incentive and enabler schemes are seen as important contributors to DOTS success, their incremental impact on case detection and case holding are not known. A case study of the Cambodia food support program suggests that it may be easier to establish a link between food support and treatment adherence than with case detection.

Improvements in core DOTS practice and health system functioning are themselves seen as critical enablers and motivators for both providers and patients. Motivation mapping workshops held in China, Uganda, and Tanzania highlighted that supportive supervision, training, and good logistics systems, e.g., drug supply and transport for patient outreach, are important motivators for DOTS providers. Improvements in provider payment, career ladders, and service cost reimbursement are important to individuals and institutions. Reducing the indirect costs of accessing and staying in treatment will likely improve patient involvement. Ongoing social stigma and lack of knowledge about TB and its control are likely important disincentives for participation in DOTS by all stakeholders, from patients to policy makers. Improvements in core DOTS practice and enhancements to DOTS, including financial or non-financial incentives and enablers, are both needed.

Data from 50 schemes in 25 countries were used to model the relationship between key I&E scheme and TB program characteristics and two outcome variables—improvements in treatment adherence and in case detection. Bivariate analyses show associations between patient I&E schemes and improved treatment adherence; between provider I&E schemes and increased case detection; and between DOTS-strengthening interventions and improvements in both outcomes. Patient schemes that combine incentives and enablers are more likely to be significantly associated with improved treatment adherence than those that use patient incentives alone. Provider incentive schemes are associated with the outcome variables only if they are linked to performance. These results support the anecdotal evidence that I&E are most effective when used in a strong DOTS program or along with interventions to strengthen DOTS, and when they are linked to performance.

### Patient I&E

- Published evidence from lower-burden countries suggests that incentives and enablers can contribute to improved patient adherence to treatment within well-funded and well-managed TB control programs. Experience in the United States suggests lessons for high-burden TB settings. Where core functions such as sufficient staffing, lab capacity, and dependable

supply of pharmaceuticals are covered in high-burden settings, the use of I&E could be beneficial to improving adherence. The provision of certain I&E such as transportation vouchers or food to take with medicine can be meaningful for patients. Successful use of non-monetary incentives for patients and providers in the United States is particularly relevant for resource-limited high-burden settings and has the potential to improve the quality of care.

- Food support for TB patients is of great interest to TB control programs in a variety of settings, based on anecdotal evidence that it improves treatment adherence, and because of perceived nutritional needs of TB patients. Programs in high-poverty contexts may consider food support to be of particular relevance. Experiences in Cambodia, Brazil, El Salvador, Haiti, Peru, and Russia, however, indicate that food support places a substantial management and administrative burden on the program, not least with regard to food procurement, storage, distribution, and monitoring to suppress leakage.
- Many financial and material incentives for patients are in use beyond food support and deposit schemes. However, most are not sufficiently documented to suggest why they work or don't work, or whether they can be scaled up as standard practice. Most of these schemes are focused on increasing adherence and are provided periodically at service sites.

### **Provider I&E**

- Most incentives and enablers for providers are aimed at increasing capacity and willingness to seek out and serve patients beyond traditional DOT clinics. These may be linked to explicit performance measures, such as such as number of smear-positive cases detected and cases successfully treated, as are used in China.
- Providing incentives for the community health worker is the most common type of provider-targeted scheme. Rewards may be based upon referrals, diagnosis of sputum-positive patients, or cured patient/treatment completion, depending on the function of the community worker.
- Public-private mix experiences demonstrate that non-monetary, non-material rewards can also serve as powerful incentives for private providers; networking, recognition, and accreditation can motivate private providers/practitioners (PPs) to provide or link with DOTS programs.
- Experience with giving performance-based rewards to TB control program managers is limited. But performance-based payment for providing primary health care services, for example, offers evidence that such systems can effect positive change. As with any other type of I&E, performance-based reward systems require substantial administration and management input to ensure success.

## **I&E Design and Implementation**

- The objective of the incentive or enabler must be clear to both patients and providers.
- The choice of beneficiaries can affect scheme success.
- There are significant management and administration requirements for I&E schemes, especially for food support.
- Needs-based assessments prior to implementation were shown to be useful for identifying both target groups and the most appropriate type of incentive or enabler.
- Cured patients and families of cured patients may be powerful promoters of case detection and referral, and can play a supportive role during the treatment process.
- Preventing and controlling for unintended perverse effects are critical. The public health community, including DOTS program managers, is justifiably cautious concerning the unintended or “perverse” effects associated with the use of incentives, particularly for providers. This caution is partly due to the generally narrow view of incentives, with a focus on financial incentives and their risks. However, there is also evidence that both monetary and material incentives can be misused, diverted, and perhaps lead to demand for ever-increasing levels of financial support. Experiences in Cambodia (patient food support) and in Bangladesh (patient deposits and CHW financial incentives) suggest that perverse effects can be contained with strong management and monitoring.

## **I&E Impact Evaluation**

- Incentives were perceived to contribute to improved performance by nearly all programs implementing incentive and enabler schemes, either monetary or non-monetary. However, few concrete conclusions can be drawn due to the lack of clarity on indicators used in assessing impact and, in many cases, due to the small-scale nature of interventions.
- The key challenges to evaluating the impact of I&E schemes are attributing the impact of I&E among a host of concurrent interventions; identifying and using comparison groups; and overcoming potential ethical problems when using a comparison group.
- Little is known about the relative effectiveness of patient versus provider I&E schemes, or about any synergies and interactions between them.



## ANNEX 1. SUMMARY OF KEY I&E EXPERIENCES AND EVIDENCE\*

**Table A-1. Incentives and Enablers for TB Patients**

EXPERIENCE					EVIDENCE		
Location	Type	Coverage/ Participation	Management	Performance Links	Evaluation	Impact	Equity/ Targeting
Bangladesh (BRAC)	Return of patient deposit**	60% of country	BRAC	Patient must complete treatment	Cost- effectiveness and treatment- seeking behavior study (1998); cost study (1994)  Natural experiment, as BRAC coverage is expanded	Significantly better treatment adherence and case detection, compared to national average  Decreased treatment delay in incentive areas  Decreased patient costs  High willingness to pay BDT 200 or more for this type of community- based DOTS	Poorer patients may delay treatment seeking, despite overall decreased treatment delay in incentive areas
Brazil	Food and transport vouchers	Rio de Janeiro	TB Control Program, city health department	Patient receives each time attends clinic for DOT	DOTS success evaluated, but not incentive scheme	Reported improved treatment adherence	

\* All tables in Annex 1 adapted from Mookherji, Weil, and Beith 2003.

\*\* Patient and provider schemes are used together.

EXPERIENCE					EVIDENCE		
Location	Type	Coverage/ Participation	Management	Performance Links	Evaluation	Impact	Equity/ Targeting
Brazil	Food baskets to poor patients	Rio de Janeiro (also non-DOTS facilities)	Social Development Municipal Secretary and TB Control Program	Patient must meet medical appointment and attend health education lectures	None	None reported	Poor patients; criteria is patient income
Cambodia	Food support	All patients in country	Joint between NTP and WFP	Patient must continue treatment	No formal plan; case study conducted end 2002	Improvement in treatment adherence (qualitative; no data)	All TB patients receive food; some higher-income patients refuse
Czech Republic	Vouchers for purchasing goods given after diagnosis	Homeless people	TB Surveillance Unit, Ministry of Health (MoH) partners with 10 NGOs	Suspect must undergo diagnostic tests	Monitoring of case finding, compared to baseline data	Tripled case detection among homeless population	Hard-to-reach population (homeless)
El Salvador	Monthly food baskets	9 out of 14 administrative departments	Departments with Centers for Disease Control (CDC) support	Patient must adhere to treatment	Post-test evaluation; random selection of departments (2001)	No positive impact on adherence; negative impact found due to selection bias of patients receiving incentive, inadequate sample size, and irregular implementation of the incentive scheme	Poor patients

*Annex 1. Summary of Key I&E Experiences and Evidence*

EXPERIENCE					EVIDENCE		
Location	Type	Coverage/ Participation	Management	Performance Links	Evaluation	Impact	Equity/ Targeting
Haiti (ICC-CAT)	Monthly food baskets*	All sputum- positive patients at 27 TB units	ICC-CAT (local NGO), supported by NTP	Patient must attend clinic for treatment	Three-year pilot with control area; results presented 2003	Cure rates and default rates improved in both incentive and comparison areas; improved slightly more in incentive areas	Poor patients; it was found that providers were just as poor, so food was given to them to prevent pilferage
India (Cochin city)	Monetary support to enable travel, purchase food, and motivate behavior	Cochin municipality	Urban poverty alleviation department of Cochin municipal corporation	Patient must attend clinic for treatment	Pilot test (only 16 TB cases found); redesigned to overcome stigma	Increased number of sputum-positive patients identified and brought into DOTS	Urban poor; the scheme is considered to increase access for marginalized and poor populations, rather than just serve to support active case finding
Peru	Monthly food baskets	All patients  Entire country	MoH	Patient must attend clinic for treatment	1998 (program then closed down)	None documented	Not applicable

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EXPERIENCE					EVIDENCE		
Location	Type	Coverage/ Participation	Management	Performance Links	Evaluation	Impact	Equity/ Targeting
Peru (PiH)	Social support (work referrals and health care for family), food, transport costs	Lima city (1,400 patients)	NTP, with assistance from PiH (international NGO)	Patient must continue treatment	Piloted in one area of Lima before expansion	80% cure of patients with multidrug-resistant TB	Patients living in poverty
Romania	Travel support for ambulatory patients	Only DOTS areas	NTP; DOT nurses	Patient must attend clinic	Natural experiment; scheme ended due to lack of funds	Compliance increased to 95%; when the scheme ended, compliance fell to 80%	Offset of patient costs increases access for poorer patients
Russian Federation	Food, travel costs, and other material support*	Three oblasts (Novgorod, Ivanovo, Orel)	Oblasts, along with support from IFRC, KNCV, Centers for Disease Control	Patient must attend clinic for treatment	Pilot tests before regional introduction	Reported decrease in treatment interruptions and defaulters, and accompanying increase in treatment completion; increasing cure rates in Ivanovo Oblast after a period of falling rates	Offset of patient costs increases access for poorer patients

Table A-2. Incentives and Enablers for DOT Providers

EXPERIENCE					EVIDENCE		
Location	Type	Coverage/ Participation	Management	Performance Links	Evaluation	Impact	Equity/ Targeting
Bangladesh (BRAC)	Partial retention of patient deposit upon treatment completion*	60% of country	BRAC	DOT provider (CHW) must ensure treatment completion	Qualitative study (2004)	Significantly better treatment adherence and case detection than national average	Providers who are women and usually poor are empowered as beneficiaries
Bangladesh (Damien Foundation)	Travel expenses, food, doctor's bag for village doctors		Damien Foundation	Village doctor must attend DOTS training, provide DOTS to at least four patients, and regularly refer suspects	Suspects referrals reviewed (2002)	Village doctors referred 3% of all sputum-positive patients (as many as NGOs and other doctors); assessed as a cost-effective approach for case finding and holding	Likely reaching more suspects and reaching them earlier
Bolivia	Cash paid to TB nurses for CB-DOTS in municipalities	200 nurses working in municipalities prioritized for TB control	NTP at central and regional levels	Nurses who complete 10 extra days of work visiting TB patients during non-working hours receive	Not able to distinguish incentive impact from impact of CB-DOTS	Patient coverage increased to 97%  Reduction in default from 8% in 2001 to 4.3% in 2003  Quality of diagnosis improved	Active seeking of patients who abandoned treatment

\* Patient and provider schemes are used together.

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EXPERIENCE					EVIDENCE		
Location	Type	Coverage/ Participation	Management	Performance Links	Evaluation	Impact	Equity/ Targeting
China	Village doctors referring sputum-positive patients to TB center receive payment  Health care workers responsible for cure of sputum-positive patients receive payment upon treatment completion	Half of all provinces (those with DOTS in World Bank project areas)	MoH, through local government	Providers must refer suspects  DOT provider must ensure treatment completion and cure verification	None planned	None reported yet	To improve access by including village doctors in DOTS network
India (Pune)	Payment to private providers upon patient cure; referred patients receive priority treatment at microscopy centers	Pune (population 1 million)  Private providers who provide DOT and are associated with registered NGOs	Local RNTCP staff; Pimpri Chinchwad Municipal Corporation	PPs who provide DOT must ensure treatment completion	Regular monitoring of default and case detection	Reported default rate of zero; increases in referrals and number receiving treatment from private providers	
Peru (PiH)	Transport and monthly food baskets to DOT providers of patients with multidrug-resistant TB	Lima city	NTP, with assistance from PiH (international NGO)	Health worker must visit patients with multidrug-resistant TB	Piloted in one area of Lima before expansion	High cure rates and low default rates are attributed to scheme, although evaluation methods not clear	Sickest and poorest patients

EXPERIENCE					EVIDENCE		
Location	Type	Coverage/ Participation	Management	Performance Links	Evaluation	Impact	Equity/ Targeting
Russian Federation	Fuel for hospital cars to perform home DOTS and trace defaulters*	Three oblasts (Novgorod, Ivanovo, Orel)	Oblasts, along with support from IFRC, KNCV, CDC	Provider must provide home DOTS and trace defaulters	Pilot tests before regional introduction	A decrease in default rates attributed to scheme	Increases access to hard-to-reach patients, who are more likely to default

Table A-3. Incentives and Enablers for TB Program Management

EXPERIENCE					EVIDENCE		
Location	Type	Coverage/ Participation	Management	Performance Links	Evaluation	Impact	Equity/ Targeting
Brazil	Municipalities are paid for each cured TB patient; two levels of fees: higher for supervised patients than for self-administered	All municipalities  Average of 950 patients per year	MOH	Verified patient cures  DOT is rewarded with higher fees	None planned	Average annual cost to MoH: approximately 55,000 U.S. dollars	Not applicable



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