



OW3/1218	Fighting Tuberculosis Through Community Based Counselors in Northern Indian slums: A Randomized Evaluation of Performance Based Incentives	EOI Num: 563
----------	--	--------------

**BASIC PROJECT INFO**

**Application Type (Please tick one or more boxes)**

New application (submitting for the first time)\*  Yes  No

Application funded by 3ie's Proposal Preparation Grant\*  Yes  No

If yes, then please provide application number/code or title, if known\*

**Title of Proposed Impact Evaluation Study \***

Fighting Tuberculosis Through Community Based Counselors in Northern Indian slums: A Randomized Evaluation of Performance Based Incentives

**Proposed Start and End Date of Project**

Proposed start date (CCYY/MM e.g. 2010/01)\*  /  Proposed end date (CCYY/MM e.g. 2010/01)\*  /

Duration of the grant (months)

**Project/Intervention being Evaluated**

Name of project\*

Implementing agency\*

Project or agency web address

Country(ies) of implementation

(If project spans more than one region, first select the main region and countries, and then enter additional regions and countries in free format below)

Please select the region and then tick the relevant countries

Region\*

- Afghanistan  Bangladesh  Bhutan  India  Maldives  Nepal  Pakistan  Sri Lanka

Additional regions and countries (free format)

Primary Sector\*

Second Sector

Third Sector

Fourth Sector

If the implementing agency is not the one making the grant application, a written statement from the agency of their support for the study and how they intend to make use of the findings must be provided. This can be

uploaded on the Uploads tab.

**Organisation Where the Grant Would be Held**

Name*	Institute for Financial Management and Research (IFMR)	
Type of organisation*	Univer	If other, please specify:
Division or Department*	Abdul Latif Jameel Poverty Action Lab (J-PAL) South Asia	
Country*	India	
Website	http://www.povertyactionlab.org/about-j-	
What is the organization's legal status (e.g. nationally registered NGO)?*	Private	If other, please specify:
Is the organization legally eligible to receive overseas grants?*	<input checked="" type="radio"/> Yes <input type="radio"/> No	

**PEOPLE**

**Principal Investigators, Contract Negotiator and Contact person(s)**

You must indicate the **lead PI**, the **contract negotiator** and another **contact person**. Please note that all key correspondence related to this application will only be sent to the lead PI and other contact person. A contact person must have physical address details loaded. To do so click on the pencil icon next to the contact person record.

Title Name	Role	Contact Person	Num of days PI will work on Project?
Mrs Aparna Krishnan	Contract Negotiator	<input type="checkbox"/>	30
Dr Clara Delavallade	Lead PI	<input checked="" type="checkbox"/>	80
Dr Ipsita Parida	PI	<input type="checkbox"/>	80
Dr Thomas Bossuroy	PI	<input type="checkbox"/>	80
Vincent Pons	PI	<input checked="" type="checkbox"/>	80

**Staff Duties**

Summarise the roles and responsibilities of each post (including Pis mentioned above) for which funding is sought (give name where known, or state post, e.g. 'Research Assistant', where appointment is not yet made. (**Developing country** researchers are defined as developing country nationals resident in that country. **Country**, means the country in which the person will be primarily resident during this project.)

Name	Role/Post	Responsibility	Organisation	Country	Developing country researcher?
Aparna	Contract	Executive Director	J-Pal South Asia at IFMR	India	<input checked="" type="checkbox"/>

Krishnan	Negotiator				
Clara Delavallade	Lead PI	Senior lecturer	University of Cape Town	South Africa	<input type="checkbox"/>
Diva Dhar	Project Manager	Project Manager	J-Pal South Asia at IFMR	India	<input checked="" type="checkbox"/>
Ipsita Parida	PI	Researcher	J-Pal South Asia at IFMR	India	<input checked="" type="checkbox"/>
Research Assistant	Research Assistant	Research Assistant	J-Pal South Asia at IFMR	India	<input checked="" type="checkbox"/>
Thomas Bossuroy	PI	Research and policy fellow	University of Cape Town	South Africa	<input type="checkbox"/>
Vincent Pons	PI	PhD candidate	Massachusetts Institute of Technology	United States	<input type="checkbox"/>

### INTERVENTION & EVALUATION DESIGN

#### Description of the intervention \*

Describe the intervention you propose to evaluate in not more than 250 words.

More than nine million people around the world become ill with tuberculosis (TB) each year. While TB can be cured in nearly all cases, the biggest challenge to contain the disease and its Multiple Drug Resistant forms is to detect it early and ensure that patients complete the course of the six-month treatment. The DOTS (Directly Observed Treatment "Short Course") system was designed and widely adopted as a response to this challenge.

However, TB remains highly prevalent in Indian urban slums. Poor living conditions, malnutrition and lack of health education increase contagion, while remoteness and lack of access to treatment centers (that patients have to visit thrice a week) prevent efficient detection and consistent compliance to the treatment.

An Indian NGO, Operation ASHA, in partnership with the governments of UP, MP and Punjab, has established a tight network of community-based DOTS centers in its areas of operation. Each center is supervised by a community health worker (counselor), responsible for detecting new patients, monitoring their compliance to the treatment, and tracking defaulters.

Operation ASHA asked a research team to evaluate the impact of monetary incentives on counselors' motivation and performance.

Counselors are first rewarded for newly detected patients, and after their centers have reached an appropriate size, penalized for drop-outs. Incentives come in addition to a base salary that contains the risk faced by counselors.

Extending the attributions of community counselors and providing them monetary incentives may significantly improve the efficiency of the DOTS system in poor, remote urban areas.

#### Evaluation question(s) \*

List the main evaluation question(s) to be addressed by the proposed study [up to 250 words]

This experiment will evaluate the effectiveness of offering outcome-based monetary incentives to community DOTS counsellors. We aim at drawing a causal chain that links the intervention to counsellors' commitment, performance, and satisfaction with their job, their patients' well being and the overall cost-effectiveness of Operation ASHA's centers.

The commitment of the counsellors will be measured by the way they describe their job, when prompted, and by the time and efforts they devote to detecting new patients, monitoring existing patients and tracking patients who miss their pills to bring them back onto the regular course of their treatment. Their performance will be measured in terms of number of detections and patients' outcomes. It might take some time for the counsellors receiving incentives to fully adapt to their compensation scheme, and figure out, for instance, how much effort they need to spend detecting new patients on the field to secure a salary they find satisfactory. The fact that we will follow the performance of each counsellor for several months, together with the design of the experiment, which creates 4 cases, whereby counsellors receive incentives either in the first stage only (detection incentives), in the second stage only (default incentives), in both stages or in none of them, will allow for refined analysis of inter-temporal effects of the incentive provision.

Finally, we will determine whether the impact of the intervention varies upon characteristics of the counsellors, the areas where they operate, and of their patients, as is detailed below.

#### Summary \*

Describe the proposed study in simple terms in a way that could be publicised to a general audience [up to 400 words]

Tuberculosis (TB) is directly targeted by the sixth Millennium Development Goal, and India has the highest incidence rate in the world. While TB can be cured in nearly all cases, the challenge is to detect it early and to ensure that patients complete the simple though stringent treatment, while symptoms often disappear after a few weeks of treatment.

The WHO's DOTS (Directly Observed Treatment "Short course) strategy, which consists in bringing drugs to small centres, and directly watching pills-intake by the patients at the centres (instead of relying on self-administration), has been largely adopted. In India, it now covers the entire country. DOTS centres are mostly run by government hospitals or by NGOs working on delegation of the State health ministries.

Although the DOTS system has led to significant progress, TB prevalence remains very high in slum areas. The lack of access to health infrastructures and of information on the disease, as well as the lack of interactions with health workers makes many people ignorant of steps towards curing their disease. Detection is therefore very low, and defaults are frequent.

Operation ASHA, a Delhi-based NGO which runs DOTS centres on delegation of the State health ministries, has set itself the objective to improve the treatment of TB in urban slums. Each of its centres is supervised by a community health worker (counselor), who delivers information, detects new patients, and tracks defaulters. However, monitoring them is a challenge. Studies have shown that attendance and commitment were often very low in the government health and education systems in remote areas.

Operation ASHA has therefore designed a compensation scheme with financial incentives that would increase their counselors' motivation and efficiency. The counselors are first rewarded for newly detected patients. After the number of detections has reached a plateau, the counselors have to focus on patients' compliance and get penalties for each default. Introducing financial incentives linked to the outcome of their counseling work is strongly believed to increase their motivation, and in turn their impact on TB treatment in slums.

J-PAL South Asia is conducting a randomized controlled trial in slums of fifteen cities in three Indian states (Punjab, Uttar Pradesh, Madhya Pradesh) to assess the effectiveness of providing outcome-based incentives to community counselors. If successful, it will identify a way for the DOTS system to better reach vulnerable patients, contain the spread of the disease, and improve its cost-effectiveness.

#### Justification \*

Briefly describe the existing evidence and literature in the relevant area, and in what way the proposal will contribute to closing the knowledge gap. Further explain the policy relevance of the question(s) addressed (e.g. external validity, theme, and program roll-out plans) and the potential policy impact (stakeholder engagement in design and implementation, and demonstrated interest and commitment)[up to 500 words]

In the standard principal-agent model, the provision of incentives is meant to align the workers' interest with the interest of their firm. This assumes that those are inherently different: working requires the workers to provide a costly effort; they might therefore decide to shirk if their effort is not directly observable or verifiable. Accordingly, Shearer (2004) shows that paying workers from a tree-planting firm using pieced rates rather than fixed wages is associated to large gains in productivity while Fehr and Goette (2007) find that a wage increase caused a large increase in overall labor supply. Finally, Lazear (2000) shows that shifting wages to piece rates increased average productivity and attracted a more able workforce. As most of the existing empirical evidence, these findings come from the private sector. The impact of monetary incentives may be different for social and NGO workers. One would think that the people who self-select to work in such organizations are inherently interested in the organization's mission and that, when actually employed, they identify more easily with its goal (here: curing TB patients, and eradicating TB). If the workers believe in the goal of their organization, and have the intrinsic desire to work well, incentives could have little impact, and their work could even be affected negatively by the provision of incentives: they might see them as the sign that the head of the organization is not really pursuing a social mission, but that it is only interested in getting good figures, and, consequently, provide less effort. In a yet more subtle model, workers feel the need to rationalize their effort; if they are not directly rewarded for it, they will chose their level of effort based on how much they enjoy doing their job. If, on the contrary, they are rewarded for carrying out the task, they might choose their effort level based on the incentives and no longer on their intrinsic motivation: if the incentives are too low, their effort might decrease.

Moreover, in the above-cited studies, the workers were paid based on an aggregate measure of their performance. Whether incentives would work for more complex jobs remains to be tested. The work of the counselors cannot be summarized by a single task. At any point of time, they should, at least, detect new patients, monitor their existing patients, and give advice to their families to prevent further spread of the disease. Given that counselors are first compensated based on the number of detections (and not on defaults), and then on defaults (and not on detections), they may be prompted to neglect the dimensions of their task that are not rewarded by incentives.

So, there are several counteracting forces, identified by the theoretical literature, that might decrease or eliminate the impact of incentives, when given to workers as the ones under study. This study will determine whether incentives provided to social workers and agents performing multiple tasks actually work, thus filling a major gap in the existing empirical literature.

#### Evaluation Design \*

Outline the main features of the proposed evaluation design (up to 2,000 words). (Refer to 3ie's Principles of Impact Evaluation and Impact Evaluation Practice). The evaluation design should clearly address social, gender, and environmental impacts wherever appropriate and possible.

This research project tests the effectiveness of an improved DOTS model where counselors are offered incentives based first on the number of detections of TB infected individuals, and then on the rates of default of the patients of their centers. The evaluation will take place in slums of about fifteen cities in three different Indian states (Punjab, Uttar Pradesh, Madhya Pradesh).

#### The program

During the first three months, counselors are under a fixed salary. Indeed, centers often take slow starts, irrespective of the involvement of the counselor. This also enables the counselors to get their bearings in a new place and for the center to be identified by the population.

Between 3 and approximately 9 months, counselors get a fixed component and a variable component based on their performance regarding detection of new patients. They have to grow their center until they have reached the size (around 50 patients) where they are cost-effective and where patients can be effectively followed-up.

After 9 months, the variable component no longer depends on the number of detections, but on the number of defaults: counselors should then focus on preventing defaults. If the number of patients keeps growing, Operation ASHA opens a new center and the detection work is taken over by another counselor operating that newly open center.

#### The randomization

The randomization has started in August 2009. After their first three months, counselors hired by Operation ASHA have been offered one of the two types of contract 1 described below between three and nine months, and will be offered one of the two types of contract 2 after nine months.

Contracts 1: months 3-9

â€¢ Contract 1a: Fixed salary

â€¢ Contract 1b: Fixed salary (75% of contract 1a) + incentives based on detection (5% of contract 1a for each new detection)

Contracts 2: months 9 onwards

â€¢ Contract 2a: Fixed salary

â€¢ Contract 2b: Fixed salary (75% of contract 2a) + incentives based on default (for a total bounded above by 115% of contract 2a)

Assignments to contracts 1 and 2 are cross-randomized. In the end, we will have 4 cases (1a vs 2a; 1a vs 2b; 1b vs 2a; 1b vs 2b).

#### Preventing efficiency wage effects:

The computation of the contracts is done in each city under the constraint that incentive salaries are equal to fixed salaries. This will isolate the effect of incentives from an income effect (or efficiency wage effect).

In coordination with Operation ASHA, we decided on the following salary structure for the incentive salary:

- Fixed component = 75% of the total fixed salary

- Variable component = computed based on the baseline data so that the total salary would equal the fixed salary in expectation.

For example, in Punjab, the fixed salary (contracts 1a and 2a) is Rs 4000. The fixed component of the incentive salary (contracts 1b and 2b) is Rs 3000. Rs 200 are paid for each new patient in contract 1b (the baseline administrative data show an average of 5 new patients per counselor per month). In contract 2b, Rs 2000 is paid for 0 default, 1500 for 1 default, 1000 for 2 defaults, 500 for 3 defaults, 0 for 4 defaults (the baseline administrative data show an average of 2 patients per counselor per month).

#### Preventing self-selection of counselors:

When they are hired, counselors are told that their salary scheme will be decided by a computer after three months (and then after nine months), but that everyone will get the same amount on average. They are of course free to leave at this point, but this does not threaten the internal validity of our experiment. The fact that they are already three months into the job when they get the first incentive scheme, and were warned that this may happen, should prevent drop-outs. Further, each counselor is told about the type of contract that she was randomly assigned to just before this contract is implemented, so that her performance would not be affected by the anticipation of a future contract.

#### Dealing with the selection bias of patients:

the characteristics of patients in each center might depend heavily on the efforts made by the counselors to go and find the ones who would not have shown up otherwise. The first incentive scheme thus lays the ground for a selection bias in the analysis of defaults. However, the cross-randomization will allow us not only to control for this possible bias, but also to estimate its importance. The data from the patient survey will provide detailed information on the characteristics of the patients detected, and we will see if incentives enable counselors patients who are usually left out of the system and are more likely to default.

#### Preventing contamination:

The DOTS centers are located in non-overlapping and scattered areas and the counselors are permanently assigned to their catchment areas. This limits the scope for interactions between counselors and spill-over effects.

#### Outcome data

The outcome variables are recorded in the treatment cards maintained by the counselors at Operation ASHA but also in the registers maintained by the District TB Officer at the government hospitals.

In each area where a center is open, the following data will be collected:

1/ Register data from the public health officials in charge of TB, who centralize the treatment cards generated by government centers. They provide the essential information on the new patients, the dates and results of their sputum tests and the outcome of the treatment.

These registers also provide baseline data for the areas in which OA implements new centers, as well as data on those patients who live in the areas covered in principle by OA but who are treated in a neighboring center. We have already collected the register data in Ludhiana, Jalandhar, Amritsar and Moradabad, and entered 80% of them, corresponding to about 600 patients. This data is not subject to forgery by the counselors, unless they collude with senior government officials, which is unlikely. They thus provide a reliable measure of the 2 main outcomes of the study: detection and default.

2/ Treatment card data are generated by Operation ASHA. They give daily information about the pills taken by the patients and their sputum tests. If it appears that counselors who get default-related incentives are able to actually reduce the number of defaults, these data will provide additional evidence on the strategy they use to do so: do they take action to any missing pill, do they wait until 2 or 3 pills or more are missed? However, the treatment cards are filled by the counselors themselves, so they may be subject to fabrication, which we can expect to affect the counselors provided incentives more than the others. The fact that the incentives are not directly related to the number of missed pills but to the number of final defaults, and the fact that the treatment cards are collected weekly by the program manager may reduce the risk. We will use the treatment card data only after having run random back-checks by calling 5 to 10% patients of a given center every month and asking them when was the last time they went to the DOTS center or how many times and on which days they went to the DOTS center during the past week. In intensive phase, the patients are supposed to take their pills three times a week so the longer period between two pills is three days. We are then confident we will be able to avoid recollection problems. We would then be able to cross-check this information with the treatment cards data, and use the quite precise information available in those cards to see the impact of the program on compliance.

3/ Surveys of the counselors: we designed, piloted, and started administering comprehensive surveys to the counselors. Three surveys will be administered: the first will be conducted within the first month of being hired (before the first salary randomization), the second during the 8th month (at the end of the detection-based incentives period, and before the second randomization), and the third during the 15th month (at the end of the default-based incentives period). Those surveys will first provide detailed information on the counselors socio-economic background, their motivation when starting their job, their work history. They will then provide information on the activities they perform at work and the strategies they use to improve their efficiency. We finally measure their satisfaction at work, and the level of trust and cooperation they feel within the organization (which may be adversely impacted by performance-based incentives).

4/ Patient surveys to collect socio-economic characteristics, GPS data (to control for the distance to the center), and measure additional outcomes of the programs: health measures, daily activities, and awareness of hygiene behavior meant at reducing the risk of further contamination. They will give a clear picture of who the final beneficiaries of the program are, how the program impacted their lives and whether financial motivation actually improves the detection and treatment of the most remote, uneducated and deprived segments of the population.

**Impact heterogeneity and diversity \***

Briefly describe how impacts may vary between population sub-groups. How will the evaluation design capture the impact of the intervention on disadvantaged groups and other disaggregating of interest (e.g. by gender, caste or tribal group) [up to 250 words]

The impact of providing outcome-based incentives to Operation ASHA's counselors on their performance might vary upon some exogenous characteristics of the areas where they operate, their initial motivation, or job experience. It may be a greater success in underprivileged cities, where people lack information about the availability of the DOTS system. It might also be less efficient for counselors who initially strongly identify with the NGO's goal of fighting TB. In order to compare the results of the program across cities, our sample of counselors will be stratified at the city level and we will collect area-wise indicators, such as the initial prevalence of the disease. Comprehensive survey information will provide the counselors' past work experience, motivation and expectations when taking this job. It will thus be possible to break up the impact of the program on sub-groups of cities or counselors defined by their initial characteristics.

Moreover, if the intervention is efficient, the increased commitment of counselors might affect prospective and current patients in a heterogeneous way. The patient surveys will enable us to identify the characteristics of the patients that benefit the most from intensified detection activities and monitoring. For instance, impacting the treatment outcome of scheduled casts and minority groups might depend on the counselor and the patient sharing a same social origin. Comprehensive patient surveys including GPS measurements will make it possible to have a strong sense of whether the most deprived populations actually benefit the most from the program.

**Cost Effectiveness \***

Briefly describe if and how the study will address the issue of the cost at which the benefits are achieved [up to 300 words]

Operation ASHA prides itself on its cost effectiveness of management of DOTS centres. They are therefore very eager to see results on the costs at which their benefits are achieved. They have minimized the costs of their DOTS centers by assigning two centres per counsellor with 50 patients at each centre at any given time. They also target facilities for DOTS centres that are pre-existing shops, temples, and clinics so as to save on full rent costs for operation. Partnering with existing organizations benefits both parties as the DOTS provider is compensated for ASHA's use of space and ASHA not only is able to reduce our overhead costs but the arrangement allows for a quicker establishment of the centre in the beginning. The cost per patient amounts to 15 USD, based on a seven month treatment. The costs are split as follows: 70% for salaries and training of the center's staff, 10% for other program expenses, 10% for administrative expenses and 8% for fundraising expenses.

Setting up monetary incentives for the counselors corresponds to a desire to reach the most effective organization. The puzzle on the real impact of incentives on the cost-effectiveness of the DOTS centers is a key motivation for this experiment.

Figures on detection and default rates will be used along with figures on Operation ASHA's costs of operation. J-PAL will then be able to compute the number of additional detections or avoided defaults derived from an additional dollar spent on the program, as well as the number of additional hours at work or school days attended.

Sustainability \*

To what extent will the benefits associated with the intervention likely to continue beyond the period of the research or if scaled up? [up to 400 words]

The experiment will provide strong evidence on the impact of providing incentives to community counsellors and its effect on the treatment of TB in urban slums. As it will take place in about 15 cities in 3 different states of India, it will be undoubtedly reasonable to generalize these results to many similar contexts, and will therefore constitute a very strong case for the expansion of this program. A cost-effectiveness analysis will also inform policymakers on the interest they have in adopting this enhanced model and how to best allocate the resources devoted to the eradication of TB in the objective of improving detection and compliance with the treatment. Operation ASHA, a fast-growing organization member of the WHO Stop TB partnership, will spearhead the change by adopting the newly unveiled best practice in all its centres. It will leverage on its tight relationship with the public health care system in India and abroad (WHO, UN MDG committee) to disseminate the results of the study and push for the uptake of the results. This will be facilitated by the active participation of key actors of the government system such as District Tuberculosis Officers throughout the evaluation. Operation ASHA has also planned to spread the lessons drawn from this evaluation to other NGOs in the industry by running training camps where organizations can learn how to start and manage a DOTS centre modelled after the results of the study.

J-PAL will engage in the dissemination of the results as well, following its mission to translate research into action, i.e. to bridge the gap between top-level economic research and policy making. An increasing number of staff at J-PAL South Asia is dedicated to disseminating evidence on effective poverty programs through the media, conferences and policy debates. J-PAL's networks in India and abroad will ensure that the results are widely shared in both academic and policymaking communities. The results will be extensively presented on its website [www.povertyactionlab.org](http://www.povertyactionlab.org).

More generally, the evaluation will provide rigorous evidence on the effectiveness of community-level delivery systems and the responsiveness of social workers to monetary incentives: the study will raise interest from all the circles realizing the need for scientific results on how to make health programs work for the urban poor.

Target Audience \*

Describe the intended primary target audience for the study. [Up to 100 words]

The primary target audience for this study consists in the public health administration involved in the implementation of health programs in remote areas, such as government DOTS centers, dispensaries, primary health centers, Auxiliary Nurse Midwife (ANM) centers. It also targets the numerous NGOs working on curing major diseases (TB, HIV/AIDS) in disadvantaged populations.

Ethical issues \*

Please explain what, if any, ethical issues you believe are relevant to the proposed research project. If you believe that an ethics review is not necessary, please also use this space to explain your view. [Up to 150 words]



The program under evaluation is the regular program of a reputed Indian NGO dedicated to fighting TB. Patients are free to participate in this program or not. It does not harm the beneficiaries in any way.  
 The experiment (providing incentives) is also harmless. At no point will counselors be deceived and they will always have the choice to drop-out and cancel their contract as per Indian regulations.  
 Data collection will be harmless too. There will not be sensitive or offensive questions. Respondents will be informed about the purpose of the research and asked to sign a consent form. They will be explained that they have the right to refuse to answer any single question and to interrupt their participation in the study at any point.  
 However, as it involves human subjects, this research will be reviewed by the ethics committees at MIT and at IFMR.

**APPROVALS**

**Government Approval**

Government approval may be required for primary data collection, for access to secondary materials or as part of government procedures for any in-country research activities. It is the responsibility of the researchers/implementing organization(s) to obtain such permissions as are necessary before the start of the project.

Does the study propose to collect primary data? \*  Yes  No

Does the study propose to seek access to secondary materials for which government approval(s) in the country (ies) where the proposed study is being implemented is required? \*  Yes  No

Does the Implementing organization(s) have government approval(s) in the country (ies) where the proposed study is being implemented? If government approval is not needed click **Yes** and type **not needed** in the ref number field \*  Yes  No

Reference number

If "yes" please provide supporting document(s) as part of uploads

Have all necessary ethical approvals been sought from relevant government authorities in:

(a) Country of collaborating/partnering organization(s)/institution(s)?\*  Yes  No

(b) Country where the proposed project/study is being implemented?\*  Yes  No

In case the request for ethical approval from government(s) is under process, for (a) and/or (b) cited above:

Provide estimated date for (a)\*

Provide estimated date for (b)\*

Please provide supporting document(s) using the document upload tab

In case the ethical approval(s) will be sought in the future, provide an estimate of time period for approval

Provide estimated date for (a)\*

Provide estimated date for (b)\*

**Data Collection**

Will the research proposed in this application produce new datasets? (If no, leave

the remainder of this section blank) \*

Yes  No

Indicate how existing datasets have been reviewed and state why currently available datasets are inadequate for the proposed research. \*

We first need to compile existing administrative data from government hospitals and our partner NGO into a proper dataset, which has never been done in the past and is needed to compute baseline figures and assess the impact of providing monetary incentives to community counselors on the number of TB patients detected and cured. We also need to collect primary survey data from the counselors so as to understand the channels through which the financial incentives succeed or fail at motivating them, and the initial characteristics of the people that account for the impact of the program. Finally, we need primary survey data from the patients to have a precise picture of the characteristics of the final beneficiaries of the program, and how the program impacts their lives (health, but also employment, schooling etc).

Describe the design of the data collection (instruments, sample design and size, power calculations, timing, attention on socially marginalized groups) \*

Administrative data will be obtained from the TB units from the District TB Officer and Senior Treatment Supervisor in a given city where the experiment is taking place. This will include copies of registers with the names and some personal information of patients, types of TB, information about their sputum tests and outcomes of their treatment. Administrative data will additionally include copies of patient treatment cards with added information about pills missed. This data will be collected in two waves: six months after the opening of the center and one year after opening. This data will provide a baseline on the most important outcomes, default and detection, for patients who finished treatment before the inclusion of the areas in the study. Paper surveys will be administered to Operation ASHA counselors and current TB patients. Each counselor will be surveyed three times. The first will be conducted within the first month of being hired (before the first salary randomization), the second during the 8th month (before the second randomization), and the third during the 15th month (at the end of the experiment). TB patients treated at Operation ASHA centers will be given a patient entry survey and a patient exit survey assessing personal characteristics, perceptions about their health, their satisfaction of their TB treatment, health measurements, and the GPS location of their house. Power calculations reveal that 120 counselors need to be part of the experiment in order to give the experiment enough statistical power to capture an effect of one additional detection per counselor and per month. They will all be surveyed as mentioned above. For each of the 240 centers (1 counselor takes care of 2 centers), we will survey approximately 20 randomly selected new patients, summing to approximately 4,800 patients.

#### COMMUNICATION

#### Target Audience, Communications Plan and User Engagement

Describe plans to engage with potential users of the research, to communicate the results of the research to such users, and the potential value of the research to users outside the research community“ from the local to the district/provincial and global levels “ with a variety of objectives and means of communication used at each level, as described in this table. The communications plan for the research project should be closely linked to the target audiences describing the capacity-building activities. Communications should be targeted at a range of audiences.

Overview of the communications strategy \*

To disseminate the results to other NGOs in the industry and impact a wider public, Operation ASHA will spread the lessons drawn from this evaluation to other NGOs by running training camps where organizations can learn how to start and manage a DOTS center modeled after the results of the study. The longer term goals are to have a lasting impact on the public health policy debate surround tuberculosis and on the design of TB policies around the world. The stakeholders in this study will engage into a wide-ranging effort of dissemination of the results once they are known. J-PAL's mission is to translate research into action, i.e. to

bridge the gap between top-level economic research and policy making. An increasing number of staff at J-PAL South Asia is dedicated to disseminating evidence on effective poverty programs through the media, conferences and policy debates. The integration of J-PAL South Asia in an Indian academic institution (IFMR, Chennai) provides immediate connections with other Indian research centers involved in studies on health, economics and development that add to the connection with MIT and with the economic community in the United States, Europe, and the rest of the world. At least one research paper will be published in a top-ranking academic journal, with extended impact on the scientific and policy-making community. Results will be published in J-PAL's marketing supports, regularly presented throughout the world, in the newsletter that is sent to about 2,500 recipients and on its largely visited website. Operation ASHA has established connections with researchers in major universities focused on public health policy. The CEO, Sandeep Ahuja, is active in health policy debates, having given lectures at top-ranking US universities. Jeffrey Sachs, chairperson of the UN MDG Committee, has expressed a willingness to work with Operation ASHA to improve service delivery and treatment compliance. The WHO Stop TB Partnership has recognized Operation ASHA in a publication of best practices.

words left

	<b>Audience</b>	<b>Communication Objective(s)</b>	<b>Format of Information</b>	<b>Means of Dissemination</b>
Local	NGOs dedicated to fighting TB	Sharing best practices on running TB treatment centers	Written documents, presentations	Training camps with theoretical and practical parts
District/Province	Senior TB Supervisors (at government hospitals), District TB Officers (district health administration), State health ministers	Affect the way the government runs its treatment centers and ensures the commitment of its health workers	Policy briefs, research summaries, dialogs	Systematic information about the results of the study
National	Indian Government, Ministry of Health, States Ministries of Health across India, NGOs	Create awareness about TB and the efficient strategy to contain it. Promote the take-up of an enhanced DOTS model. Inform the design of compensation schemes allocated to social workers.	Policy briefs, research summaries, dialogs	Operation ASHA, J-PAL and 3ie's website / tours of OA's centres / article in a prominent Indian publication such as Economic and Political Weekly, J-PAL's policy conferences,

Global	International institutions (especially the WHO), policymakers of developing countries, donors and foundations working on global health challenges	Promote the adoption of best practices worldwide, discuss the validity of the results for other countries and other diseases	Policy briefs, research summaries, dialogs	meetings of J-PAL South Asia's staff with policymakers Operation ASHA, J-PAL and 3ie's website / articles in newspapers and other media / press conferences
Academic	Epidemiologists and researchers in development economics	Provide evidence on the efficiency of community-level healthcare systems in containing the spread of TB or other major diseases, on the efficiency of incentives to motivate workers of the social sector in developing countries and on the positive consequences of improved health on other dimensions of well-being like schooling and employment	Research paper and seminar/workshop/conference presentations	Presentation in workshops, seminars and conferences. Publication in a top-ranking academic journal and on J-PAL's and 3ie's websites

**RESOURCE AND DELIVERABLES**

**Timetable and Deliverables**

We want you to please fit your project into the stages below. You can have more than one deliverable per stage. The first time you edit or add a deliverable, please supply the start and end dates for each stage. For each deliverable please list clearly the deliverables that will be submitted and the corresponding dates.

Type	Stage Description	Start Date	End Date	Deliverable Description	Due Date
STG1	Preparation and design work	01/04/2010	01/10/2010	Pilot - Finalizing survey tools	01/10/2010
STG2	Fieldwork or material/information/data collection	01/10/2010	01/05/2012	Survey and administrative data collected	01/05/2012
STG3	Analysis phase	01/02/2011	01/10/2012	Final evaluation report	01/10/2012
STG3	Analysis phase	01/02/2011	01/10/2012	Intermediary report	01/10/2011
STG4	Writing-up	01/10/2012	01/04/2013	Writing-up and submission of a research working paper to a top-ranking academic	01/04/2013