



EVALUATION

Final Evaluation Report of Initiative to Manage People Alliances in Control of Tuberculosis (IMPACT)

December, 2013

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Final Evaluation Report of Initiative to Manage People Alliances in Control of Tuberculosis (IMPACT)

A project implemented in 28 Tuberculosis Units across 5 districts of West Bengal state in India from September 2009 to September 2013 to support the Revised National Tuberculosis Control Programme, covering a population of 1.5 million approximately.

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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Dr Ambarish Dutta MBBS, MPH, PhD

Member of the faculty of
Asian Institute of Public Health, Bhubaneswar, India
Participated as the USAID consultant in the final evaluation

EXECUTIVE SUMMARY

Background

India carries one fifth of the global Tuberculosis (TB) burden and approximately 2 million new TB cases emerge every year in this country of which half a million dies of this dreadful disease annually. To combat this important public health problem, Revised National Tuberculosis Control Programme (RNTCP) was launched in India adopting the World Health Organization (WHO)-recommended DOTS strategy in the later half of the nineties and was scaled-up to cover the whole country in 2006. The five components of DOTS strategy hence also the core strategies of RNTCP were political commitment, quality diagnosis by sputum microscopy, uninterrupted supply of good quality drugs, Directly Observed Treatment and systematic monitoring and accountability. The DOTS strategy was later expanded into STOP TB strategy by WHO and its partners to consolidate DOTS; to target special groups such as populations with TB-HIV co-infection and Multi-drug resistant TB; to strengthen health system; to involve all healthcare providers; to engage people with TB and affected communities; and to promote research in the TB field.

The components of the STOP TB strategy have also been adopted by RNTCP in India

Despite implementation of RNTCP for almost a decade in many parts of the country and national figures showing achievement of global TB control targets of 85% treatment success and 70% detection of new smear positive TB cases by RNTCP, many operational units of the programme (known as Tuberculosis Units or TUs covering 0.5 million people approximately) were under-achieving. The main gaps identified for such underperformance of many of its units were non-involvement of competing healthcare providers in the private sector to whom many TB patients initially present; inconvenience of TB patients to access DOT from the public health system because of its inconvenient timing, location and long-drawn-out period of treatment; lack of livelihood support during this long period of treatment causing financial hazards to patients and their families thus urging some of them to migrate for work and default treatment; lack of psychological and livelihood support to Multi-drug resistant TB (MDR-TB) patients who undergo even longer period of treatment; lack of awareness of the community about TB and its modern treatment acting as a

barrier to prompt access of these services; and absence of appropriate linkage between TB and HIV programmes impeding seamless cross-referral of co-infected patients.

There was a felt-need by the programme and its partners that extraneous help in the form of an adjunct projects to bridge these gaps is the need of the hour. In this backdrop a project called Initiative to Manage People Alliances in Control of Tuberculosis (IMPACT) was launched by CARE India and its NGO partners, funded by the Child Survival and Health Grants Programme of U.S. Agency for International Development, in 28 under-performing TUs spread over 5 districts of West Bengal state in 2009 covering a population of approximately 14 million. The aim of IMPACT being aligned to that of RNTCP i.e. reducing the morbidity and mortality due to TB, the three main strategic objectives of IMPACT are as follows:

- **Intensify and expand community-based DOTS especially in the poor performing Tuberculosis Units (TU)**, through involvement of Rural Health Practitioners (RHPs), community-based volunteers and need-based Advocacy Communication and Social Mobilization (ACSM)
- **Strengthen the case holding and completion of treatment among re-treatment and MDR-TB patients in order to prevent the increase in load of MDR-TB**, through involvement of community-based volunteers, local rural self-governments (known as Panchayati Raj Institutions or PRIs) in livelihood support, intensified counselling through MDR-TB counsellors and patient-provider meetings
- **Strengthen the TB-HIV coordination at the state and district-level to improve cross-referrals and ensure treatment for suspected TB-HIV co-infection**

The project was completed in September 2013 when it underwent final evaluation (FE) to assess the achievements of the programme in comparison to its objectives that has been set during the initiation phase.

Evaluation purpose

The following are the purposes of the FE

- To provide an overview of project goals, objectives, and key intervention strategies used

- To determine the extent to which the project accomplished anticipated results and to present evidence of these accomplishments
- To describe key factors that contributed to what worked or did not work regarding some or all aspects of the program and to inform future program actions
- To provide a record of how the results were obtained.
- To demonstrate how this project contributes to global learning about community-based health programming

Evaluation questions

The overarching questions guiding the final evaluation process are as follows:

- What were the new intervention strategies implemented through IMPACT and which are the strategies that worked and why?
- How well did the coordination mechanism function between IMPACT and the RNTCP structure and what were the quality and the nature of the relationship between IMPACT and its various community-based partners?
- What were the goal and the strategic objectives of IMPACT and to what extent they were achieved?
- What were the lessons learnt from IMPACT and how its successful components can be scaled-up and also used to influence other programmes so that they adopt similar community-based health programming strategies?

Methods

A mixed quantitative and qualitative approach was used for the FE. TU-wise (for the 28 IMPACT TUs) secondary summary indicators were collected from the West Bengal RNTCP system and analyzed for temporal trends of case detection and treatment success using regression techniques to estimate slopes.

Primary qualitative data was collected through visiting Bardhaman and Murshidabad districts (two TUs in each district) using structured in-depth interviews and focus-group discussions of patients, functionaries of PRIs, women self-help groups, community-based volunteers including Accredited Social Health Activists (ASHAs), RNTCP staff such as laboratory technicians, treatment and laboratory supervisors and physicians. District TB Officers and IMPACT TU coordinators were also

engaged in interviews and discussions at the district level. MDR-TB counsellors were interviewed at Kolkata district MDR-TB indoor treatment site and all three project-provided counsellors were engaged in discussion at the state level. IMPACT state and district-level functionaries were also engaged in a discussion at its state headquarter. The State TB Officer and his support team were also interviewed at the state level.

A grantee-driven Knowledge, Practice and Coverage study was conducted at the base-line and the end-line of the project.

A validation workshop to disseminate the initial findings of the FE to the relevant audience was undertaken at the state level.

The **limitation** of the data available to the FE team included lack of provider-disaggregated referral data thus limiting the analysis from apportioning and comparing contributions of various providers to case detection and treatment success over time and across units. The time taken to diagnose TB patients after onset of symptoms and the time taken to complete their treatment once diagnosed was also not routinely collected by the programme or the project, which if collected could have been a very robust indicator of the project effect.

Finding and Conclusions

Many RHPs (n=1969) with reasonable load of patients in their clinics were sensitized and involved in RNTCP by IMPACT. They were involved in prompt referral of TB suspects, presenting to them, directly to the RNTCP designated microscopy centres (DMC) using an official referral slip and sputum container. The TB suspects were entertained at the DMC without being subjected to repeat clinical screening. The involvement was often mediated through the involvement of the apex associations of the RHPs by IMPACT and RNTCP and IMPACT-developed Bengali sensitization modules were used for their training. RHPs were also encouraged not to prescribe quinolone antibiotics for chest symptoms and use Chest X-ray for diagnosis of TB rationally. Some RHPs were also involved in providing Directly Observed Treatment (DOT) to the diagnosed TB patients identified by them or else provide psychological support to them and their family members regarding curability of TB through RNTCP regimens. The scale of participation of the RHPs in the project was variable.

Involvement of the community pharmacists (mainly pharmacy or medicine shop owners) has been recently undertaken by IMPACT in Bardhaman district in similar lines as that of RHPs. In addition to that, community pharmacists were encouraged to notify diagnosed TB patients buying TB medicine from them to the RNTCP registration system.

IMPACT-facilitated community-based volunteers were sensitized (7311 community volunteers, 1564 ASHAs and 848 SHGs) and involved in identifying TB suspects in the community to provide “doorstep” DOTS for some patients inconvenienced to receive from distant public health sub-centres and to generate awareness among the family members and the community about TB and its management.

Some of the PRIs (483 PRI functionaries sensitized) in some IMPACT TUs were involved in supporting TB patients (n=12927), the involvement process facilitated by IMPACT. They were providing cash, food, nutritional and livelihood support through various social welfare schemes, so that TB patients and their family members can tide over hazardous periods that have affected them due to the disease and they can be prevented from migrating in search for livelihood and hence treatment default.

Need-based ACSM through NGO partners (n=7) and other Faith-based Organizations (n=167) facilitated by IMPACT were carried out in the project areas to develop community awareness about TB and RNTCP services. Local language awareness materials were also developed by IMPACT for this process. Around five thousand small group meetings were delivered through such ACSM activities attended by approximately 50,000 community members. TB-related broadcasting events in public places and observance of World TB days were also conducted by the project

IMPACT provided intensive counselling support to re-treatment TB patients (n=28371 out of which 8404 were re-treatment cases) through community volunteers, TU coordinators and patient-provider meetings (4064 such meetings); and also provided specialized counselling to MDR-TB patients (n=1232) through one MDR-TB counsellor in each of the 4 districts, deployed either at indoor treatment facilities or at District TB Centres. Many project TUs achieved zero default by re-treatment TB cases and the newly emerging MDR-TB cure rates are also encouraging. The counsellors also trained 171 peripheral DOT providers for treating the MDR-TB patients.

IMPACT also facilitated improved coordination between TB and HIV programmes for strengthening cross-referral and achieved >50% counselling and testing of TB patients for HIV in most of the TUs starting from a very low base, ~60% cotrimoxazole prophylactic treatment for HIV-TB co-infected patients and TB screening for majority HIV patients. The project also involved into RNTCP those Targeted Intervention NGOs working in HIV and network of People Living with HIV/AIDS.

By all these inputs and activities the project achieved an impressive reduction in default rate for new smear positive and re-treatment cases in the 12 case-holding-focus TUs as well as all the 28 TUs covered by IMPACT; the subsequent rise in cure rates in those areas were also significant. With regards to case detection, the 11 case-detection-focus TUs experienced almost no change and a slight decline was noticeable in the pooled estimates of the 28 IMPACT TUs. This lack of increase in case detection in case-detection-focus TUs can be attributable to inherently low TB burden in them. IMPACT perhaps was able to reduce the delay in TB case diagnosis in those TUs which was apparent from qualitative data collected from interviews, but could not be empirically verified during the FE, as because this data is not routinely collected.

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Acronyms

ACSM	Advocacy, Communication and Social Mobilization
AIDS	Acquired Immune Deficiency Syndrome
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
ARTI	Annual Risk of TB Infection
CPT	Cotrimoxazole Prophylactic Therapy
DMC	Designated Microscopy Center
DOTS	Direct Observed Treatment – Short Course
DTC	District Tuberculosis Center
DTO	District Tuberculosis Officer
FBO	Faith-based Organizations
HIV	Human Immunodeficiency Virus
IMPACT	Initiative to Manage People Alliance to Control Tuberculosis
MDR-TB	Multi-Drug Resistant TB
NGO	Non-Governmental Organization
NTP	National Tuberculosis Program
PLHA/PLWHA	People living with HIV and AIDS
PRI	Panchayati Raj Institutions
RHP	Rural Health Practitioner
RNTCP	Revised National Tuberculosis Control Programme
SHG	Self Help Group
STLS	Senior Tuberculosis Laboratory Supervisor
STO	State Tuberculosis Officer
STS	Senior Treatment Supervisor
TB	Tuberculosis
TI	Targeted Interventions
TU	Tuberculosis Unit
USAID	United States Agency for International Development
WHO	World Health Organization

1 PROJECT BACKGROUND

In 2008, out of the estimated global annual incidence of 8.8 million TB patients, 1.98 million were estimated to have occurred in India, of whom 0.87 million were infectious patients and approximately half a million died of this dreadful disease, thus making India the country with the largest burden of the disease in the world which is approximately one-fifth of the global burden. About 40% of the adult Indian population is infected with the TB bacillus. The incidence of TB in India is estimated based on findings of the nationwide annual risk of tuberculosis infection (ARTI) study conducted in 2000-2003. The national ARTI being 1.5%, the incidence of smear positive TB patients in the country is estimated as 75 new smear positive patients per 100,000 population and the occurrence of total TB cases is estimated to be 200 per 100,000 population¹.

To address the scourge of this dreadful disease in the country, Government of India (GOI) has been implementing the Revised National Tuberculosis Control Programme (RNTCP), shaped after the DOTS strategy which is identified by the World Health Organization (WHO) as the most effective method to combat TB world-wide currently.

After its launch as a national programme in the late nineties of the previous century, the whole country was covered by RNTCP services since 2006 and is primarily being implemented by the government health system of the different states.

The **goal** of RNTCP is to reduce the TB-related morbidity and mortality in the society so that it ceases to be a public health problem and to achieve this goal the **two objectives** of RNTCP are to achieve and maintain a treatment success rate of at least 85% of the new smear positive cases detected and to achieve and maintain a detection rate 70% of such cases present in the community.

To achieve the goals and the objectives of RNTCP, the programme has adopted the systematic DOTS strategy² which has the following five components:

- Political and administrative commitment
- Good quality diagnosis primarily through microscopy
- Uninterrupted supply of good quality anti-TB drugs
- Directly Observed Treatment (DOT)
- Systematic monitoring and accountability

The new Stop TB Strategy published by WHO in 2006 has DOTS in the core with additional components to address TB/HIV co-infection and Multi-drug-resistant TB (MDR-TB), health system strengthening, involvement of all care providers, engaging people with TB and affected communities, and enabling or promoting research. RNTCP is already implementing or plans to implement the activities recommended under the new Stop TB Strategy²

RNTCP has achieved nationwide objective of >85% treatment success for a long time and the detection objective was met since 2007 after the whole country was covered by the

programme³. Despite this consistent performance by the programme at the national level there remained often many underachieving units in the country where either the treatment success or the case

Vision and targets for RNTCP during the 12th Five Year Plan (2012-2017)

The Government of India has floated a vision for a “TB-free India”. RNTCP has now adopted the new aim to achieve ‘Universal access’ for quality diagnosis and treatment for all TB patients in the community which involves sustaining the achievements of RNTCP, and extending the reach and quality of services to all persons diagnosed with TB.³

By the end-2017, the Programme aims to achieve the following targets: (i) Early detection and treatment of at least 90 per cent of estimated TB cases in the community, including HIV-associated TB; (ii) Initial screening of all re-treatment smear-positive TB patients for drug-resistant TB and provision of treatment services for MDR-TB patients; (iii) Offer of HIV counseling and testing for all TB patients and linking HIV-infected TB patients to HIV care and support; (iv) Successful treatment of at least 90 per cent of all new TB patients, and at least 85 per cent of all previously-treated TB patients; and (v) Extend RNTCP services to patients diagnosed and treated in the private sector.³

detection targets or often both were not met. Moreover the vision of RNTCP which was taking shape in the last few years of the past decade, threw new challenges to the already-stretched existing health system in many states such as provision of HIV counseling and testing to all TB patients; and diagnosing, counseling and supporting treatment of all MDR-TB cases. There was often a felt need by RNTCP and its other stakeholders for external support from outside the health system to improve the performance of the chronic underperforming units and to prepare the programme to face the new challenges being mounted through the expansion of the scope of RNTCP in the country.

Initiative to Manage People Alliances in Control of Tuberculosis (IMPACT)

In this backdrop of underperformance by some basic management units of RNTCP (known as the Tuberculosis Units in the parlance of RNTCP covering a population of approximately 0.5 million and hereinafter referred to as TU in this document) a project was planned by CARE India in partnership with the RNTCP at the central (Ministry of Health, Government of India) as well as state-level for the state of West Bengal (Directorate of Health, Government of West Bengal). The project named Initiative to Manage People Alliances in Control of Tuberculosis (IMPACT) and supported by Child Survival and Health Grants Programme of U.S. Agency for International Development (USAID) was aimed to support some of the underperforming TUs in West Bengal through boosting active participation of the community-based operators in specific areas of the programme who were not naturally and directly included within the ambit of RNTCP service delivery system. IMPACT was underpinned by the experience learnt by CARE India from their previous project called Community-based DOTS. This project was implemented in similar settings up to 2007 and aimed to increase the general awareness of the community about TB and RNTCP so as to enhance the uptake of the DOTS services by them as well as ensuring their participation in the delivery of some of its components such as supervised treatment of TB patients by the community volunteers.

The main gaps in RNTCP in the underperforming TUs of West Bengal identified by IMPACT when it was being envisaged were:

- **Low case detection**, mainly due to competing providers within the rural community such as Non-qualified private practitioners (NQPP also often known as rural health practitioners – a heterogeneous group of not formally-trained medical practitioners but prescribing western allopathic medicines); many TB suspects presented to them with their early symptoms and they were not getting channelized to the RNTCP system
- **Inconvenience to the diagnosed TB patients to access Directly Observed Treatment** from a health worker thrice a week as per the DOTS strategy and that too for six to eight months – main identified barriers being distance to the health facilities, unsuitable timing of the health system

and urge to migrate to distant areas in search of livelihood after initial symptomatic relief; these leading to missed doses and often defaults by patients on treatment. This problem was more critical for patients, who were being either retreated for relapse, failure or previous default, or those undergoing treatment for Multi-drug resistant TB (MDR-TB), as these regimens of treatment were even for a longer period of time spanning from 8-24 months and often these patients tend to be psychologically weak and skeptical about the RNTCP treatments being provided to them because of the previous histories of failing regimens.

- **Weak coordination between the TB and HIV programmes** raising barriers at various levels for seamless transfer of patients from one programme to the other for counseling, screening and medical management whenever necessary.
- **Cross-cutting influence of lack of awareness about TB and its modern management** in the community fuelling many of these gaps

These gaps existed in the underachieving TUs spread over the districts of West Bengal in different combinations.

IMPACT, whose ultimate goal was aligned with that of RNTCP to reduce the morbidity and mortality in the society due to TB, had set out three specific **strategic objectives** for the project from the outset in 2009 to strengthen the identified gaps of RNTCP in the selected 28 underperforming TUs covering a population of approximately 14 million, which are as follows:

- **Intensify and expand community-based DOTS especially in the poor performing Tuberculosis Units (TU)** through the following activities
 - Forging partnerships with Rural Health Practitioners (RHPs) to ensure early referral of TB suspects to RNTCP
 - Sensitizing community-based volunteers such as Accredited Social Health Activists (ASHA) and members of the local self-help groups and other civil society organizations to identify the TB suspects early in their course of diseases and ensuring their referral to RNTCP
 - Linking-up with the local rural self-government system (known as Panchayati Raj Institution or PRI in India) for seamless access to the

ongoing social welfare schemes by the TB patients and his/her family, especially to food security and livelihood programmes. This is to ensure the treatment compliance of the patients by securing their livelihood during the treatment course thus educing their tendency to migrate

- Intensifying and facilitating patient-provider meeting to ensure more patient-centric services by the health system thus improving adherence to RNTCP treatment by patients.
- **Strengthen the case holding and completion of treatment among re-treatment and MDR-TB patients in order to prevent the increase in load of MDR-TB** through the following activities
 - Supporting the Re-treatment patients through repeated home-visits by the project staff and also community-based volunteers
 - Linking-up with the social support/welfare schemes of PRI as mentioned above to facilitate livelihood support to the patients and the families
 - Setting-up an intense counselling mechanism at the treatment initiation and indoor facilities targeted specifically towards MDR-TB patients
- **Strengthen the TB-HIV coordination at the state and district-level to improve cross-referrals and ensure treatment for suspected TB-HIV co-infection** through the following activities
 - Strengthening the co-ordination mechanism between TB and HIV programmes at the state and the district-level through organization of and active participation in meetings
 - Sensitization of the People Living with HIV-AIDS (PLHA) networks about RNTCP and how to access the TB services
 - Increasing cross-referral between the two programmes through repeated sensitization of staff and building capacity of targeted-intervention NGOs working with HIV.

The IMPACT project was rolled out in 2009 with support from the partner NGOs of CARE India and in close collaboration with RNTCP establishments at central and state-level. IMPACT was designed to support RNTCP achieve its project and

programmatic objectives in 28 of the underperforming TUs spread over 5 districts of West Bengal in consultation with RNTCP, up to September 2013. The details of the districts and the TUs covered by IMPACT are given in (

Table 1)**Error! Reference source not found.** to put the FE into perspective.

Table 1. The districts and the Tuberculosis Units (TUs) covered by IMPACT

Name of the district	Name of the TUs covered by IMPACT	Partner NGOs supporting IMPACT
Haora	Domjur, Gabberia, Jagadishpur_Kona, Jagatballabhpur, T L Jaiswal, Uluberia	German Leprosy Relief Association (GLRA)
Hugli	Ahmedpur, Arambagh, Khanakul, Polba, Tarakeshwar	German Leprosy Relief Association (GLRA)
Bardhaman	Asansol, Bhatar, Durgapur, Guskara, Katwa, Khandaghosh, Khandra_Ukhra, Memari, Purbosthali	German Leprosy Relief Association (GLRA)
Murshidabad	Amtala, Domkal, Jangipur, Kandi, Salar	Southern Health Improvement Samity (SHIS)
Malda	Araidanga, Gazole, Manikchak	Southern Health Improvement Samity (SHIS)

IMPACT was headed by the Project Manager and 3 Programme Officers from CARE Indi; and deployed 2 Project Coordinators and 28 TU coordinators (previously block coordinators) from partner NGOs in the project districts.

Out of the 28 project TUs, 11 were selected with a view to focus on case detection on those units with low case notification; referred to hereinafter as case-detection-focus TUs. Twelve TUs were selected to support primarily the treatment adherence of TB patients in those areas where compliance to treatment was comparatively low; referred to hereinafter as case-holding-focus TUs. The rest 5 TUs were selected on certain local considerations in consultation with the district RNTCP establishment.

The deployment of strategies and ensuing activities performed by IMPACT although hardly differed between these TUs but the intensity of implementation of some of the strategies varied across TUs contingent on their selection criteria.

The other operational details of IMPACT with details of project personnel deployed have already been included in other documents from the grantee and hence not being included in this report.

Another parallel project was also simultaneously launched by CARE India to provide counselling support to the Multi-drug-resistant TB patients admitted in the in-patient treatment sites in Kolkata and Jalpaiguri districts of the state, which were set up

under the aegis of the programmatic management of drug-resistant TB (PMDT), a sub-set of RNTCP. Many diagnosed MDR-TB patients spend the initial week(s) admitted to an MDR-TB treatment site for intensive counselling and pre-treatment evaluation; and then they are discharged to continue with their treatment from peripheral DOT-providers nearest to their residences after their initial brief stay at the indoor facility.

Counselling support for MDR-TB patients was provided by IMPACT in Haora and Bardhaman districts in outpatient departments of the central TB clinic at the district headquarters, though in-patient facilities in those districts to admit MDR-TB patients were not available under the programme.

This parallel project intersected with IMPACT with regards to an objective common to both the projects which was to enhance treatment compliance of MDR-TB patients in the project districts of the state.

2 EVALUATION PURPOSE

A final evaluation (FE) was planned for the IMPACT project and timed at the end of the project period i.e. September 2013 to elicit a comprehensive and summative understanding of what the various components of the project were set to deliver at the outset and what they had achieved at the end.

The broad purposes of the evaluation exercise of IMPACT are listed below with brief description for each of the purposes

- **To provide an overview of project goals, objectives, and key intervention strategies used:** The FE was planned to draw a comprehensive outline of the project aims and objectives and the methods used to achieve the goal. This was to contextualize and underpin the whole evaluation exercise and to provide a point of reference with which the processes, outputs and outcomes of the project could be compared and their quality assessed. This purpose was also to provide a detailed account of the intervention strategies and other resources used by the project.
- **To determine the extent to which the project accomplished anticipated results and to present evidence of these accomplishments:** This purpose was to initiate the comparison process with the benchmarks of the project. This was meant for guiding the evaluation process to quantify as to what extent IMPACT has been able to achieve of what they expected to achieve at their formative stage, laid down in their Detailed Implementation Plan (DIP).
- **To describe key factors that contributed to what worked or did not work regarding some or all aspects of the program and to inform future program actions:** This purpose of the FE was to assess the various components of the different intervention strategies used in IMPACT, and to differentiate the effective strategies from the not-so-effective ones. The evaluation exercise also examined the underlying factors which determined the quantum of success or failure of those intervention strategies. This would help the replication of the positive aspects of IMPACT and avoidance of its pitfalls while scaling-up of those strategies state or country-wide, or when put to use by other similar projects or programmes.

- **To provide a record of how the results were obtained:** This purpose of the FE mainly deals with the exploration of the mechanism of intervention which provides an account of the platforms of interaction between IMPACT and its various partners and stakeholders and their operational details.
- **To demonstrate how this project contributes to global learning about community-based health programming:** The key elements of IMPACT include aspects of the National TB programme being implemented through community-based stakeholders that are outside the direct ambit of the health system such as rural local self governments known as Panchayati Raj Institutions in India, self-help groups of women, local civil society organizations, community-based volunteers, ASHAs and rural health practitioners. The FE set out to demonstrate as to how such grass root-level agencies can effectively contribute to the health programmes as well the wider health system in West Bengal, India and in other countries.

Hence the main audience of the FE comprised of the following groups and the purpose of the FE was to inform their potential future decisions which are also listed along with them below

- **Grantee and its functionaries;** so that the FE can inform them about the strengths and weaknesses of IMPACT and influence their future course when they undertake similar endeavours or advise others.
- **Revised National Tuberculosis Control Programme** in West Bengal and India comprising of RNTCP personnel from the local basic management unit, district, state through the country level; so that the decision to scale-up the successful and sustainable components of IMPACT can be informed. Moreover the FE was also set out to inform the RNTCP through the IMPACT experience while scaling-up or replicating its components, to avoid the systematic deficiencies of IMPACT; and to overcome the operational difficulties faced by the project.
- **Community-based partners of IMPACT** who are the central focus of the project; so that they sustain their contribution and help to replicate the successful components of the project elsewhere through participation in disseminating their experiences of IMPACT to their counterparts, motivating

their fellow grass root-level operators to come forward and imparting training to the new entrants.

- **The wider health system in the district, state and the country,** so that future efforts of community-based health programming can be informed by the IMPACT experience.

3 EVALUATION QUESTIONS

The following are the evaluation questions asked within the four distinct domains linked to the purpose of the FE

- **Intervention strategies:** What were the new intervention strategies implemented through IMPACT and which are the strategies that worked and why?
- **Implementation mechanism:** How well did the coordination mechanism function between IMPACT and the RNTCP structure and what were the quality and the nature of the relationship between IMPACT and its various community-based partners?
- **Achieving project aims and objectives:** What were the goal and the strategic objectives of IMPACT and to what extent they were achieved?
- **Lessons learnt:** What were the lessons learnt from IMPACT and how its successful components can be scaled-up and also used to influence other programmes so that they adopt similar community-based health programming strategies?

4 METHODS

The methodological approach of the FE was a mix of quantitative and qualitative analysis. Both primary and secondary data were collected for the analyses.

4.1 Secondary data

Available routine quarterly case detection and treatment outcome summary indicators of RNTCP were analysed by the FE team. This relevant secondary data for the project TUs were collected from the Health Management Information System (HMIS) system of RNTCP by the local IMPACT team and also from the summary indicators periodically published by the State RNTCP cell. Secondary data was analysed for mapping temporal trends using ordinary least squares regression for estimating slopes.

4.2 Primary data

The FE team collected primary data, mainly qualitative, using interviews and Focus Group Discussions (FGD) from the service providers, partners, stakeholders and community members in the districts. The primary data collection covered two of the five project districts namely Murshidabad and Bardhaman and two TUs in each of these selected districts. The districts were sampled using a stratified random sampling method after the districts were categorized into two strata based on their distance from the state capital i.e. Kolkata. The TUs within the districts were sampled using a simple random sampling method. The service providers, partners, stakeholders and community members for interviews and focus-group discussions were selected using a purposive sampling method based on the convenience of access to them by the FE team. The details of the health facilities and other establishments visited and interviewees engaged are provided in Annex IX. Since signed informed consent was not obtained from the interviewees, their identities are not being disclosed; but for certain interviewees such as unique functionaries of RNTCP or other systems, their identities could not be anonymized. Project-specific data was also collected for analysis of the inputs given, processes performed and outputs achieved by IMPACT.

In addition to this, at the district level the District TB Officers were interviewed in the two districts and FGDs were conducted for TU co-ordinators of those districts working for IMPACT and deployed by NGO partners of CARE India. A MDR-TB indoor treatment facility was visited at K S Roy TB Hospital in Kolkata district where the counsellor, MO-in-charge and the superintendent were interviewed. The counsellors for MDR-TB patients of Kolkata, Haora and Bardhaman were also engaged in a FGD.

At the state level, state functionaries of RNTCP in the State TB Office and state IMPACT project staff were interviewed.

4.3 MDR-TB treatment site

The MDR-TB treatment site of Kolkata was visited and the service providers as well as the in-patients of that site were interviewed by the FE team. Kolkata, although not directly an IMPACT district has been provided with additional support by CARE India to make counselling services available to the MDR-TB patients admitted in the treatment facility in that district, hence was included in the FE to contextualize their . The counsellors of Kolkata, Haora and Bardhaman also participated in an FGD with the FE team.

Structured interviews were used to collect primary data from various groups of interviewees; the interview schedules for them are attached in Annex. For FGDs, probes were used to guide the discussion.

4.4 Knowledge, practice and coverage survey

A knowledge, practice and coverage survey was conducted by the grantee at the baseline and end-line, the reports of which were made available to the FE team to help in their evaluation exercise.

4.5 Validation workshop

A validation workshop was organized at the state level to disseminate the initial findings and the suggestions of the FE to the target audiences already mentioned above.

4.6 Limitations

Although the identities of the various providers especially those involved through IMPACT initiatives and who were referring TB suspects to RNTCP, were being recorded in the programme documents such as laboratory forms and registers; provider-disaggregated reports or monitoring indicators were not routinely generated or used for temporal and spatial comparisons of project performance as was also felt by the FE team.

It would have been helpful to assess the real influence of the project by using the metrics of time. Time taken by patients to get diagnosed after onset of their symptoms and time taken to complete treatment regimens by diagnosed TB patients could have been ideal measurements used to evaluate the IMPACT project, as many of its strategies were destined to reduce the time delay rather than just adding to the numbers of the cases detected or successfully treated. It could have been only possible to measure the time with a built-in operational research plan within the project, unfortunately which was not envisaged initially.

4.7 Caveat

The FE team concentrated on evaluating the project IMPACT and its interface with RNTCP and deliberately avoided evaluating the general RNTCP structure, inputs, processes, outputs and outcomes those were unlinked to IMPACT; for example the evaluation team did not check the quality of sputum microscopy or RNTCP drugs etc. as neither IMPACT had any mandate to influence them nor the FE team were authorized to evaluate such components of the programme.

5 FINDINGS

The findings of the FE are summarised in two broad sections the first one giving an account of the inputs given, activities performed and outputs achieved; and the second section analysing the outcome of such activities in broad programmatic perspective. The major achievements of IMPACT are summarised in M&E table (Table 2).

5.1 Inputs, activities and outputs

In this section we describe the various inputs and activities carried out by IMPACT to achieve their objectives and goals. They are discussed here under the thematic headings of the various major activities undertaken instead of the three strategic objectives of the project, because many of these activities cut across the objectives and if not described holistically their cross-cutting nature can elude the audience. But in M&E table (Table 2) the quantitative summary of inputs and activities are tabulated under the headings of the strategic objectives.

In addition to the tabulated empiric evidence, the descriptive portion of this section also narrates the underlying implicit processes employed by IMPACT that influenced the project activities, most of which were synthesized during qualitative data collection.

The outputs achieved are also described in this section in relevance to the inputs and the activities which are also summarised in table (Table 2).

5.1.1 Involvement of the Rural Health Practitioners (RHPs)

RHPs are group of health-related service providers in rural India who are not formally qualified or certified by any authority, but they practice western allopathic medicine from their private clinics which also double as local village medicine shops. They are often the first-stop health posts where a considerable section of the rural population in India presents with their initial symptoms of different sicknesses. Hence they come in touch with many TB suspects in the initial phase and treat mainly their symptoms with their limited skills; hence their involvement in RNTCP is critical to widen the programmatic reach especially to TB suspects early in their course of the disease.

The RHPs within the project areas were initially mapped and ranked as per the health seeking behaviour of the local patients determining the workload handled by the RHPs and their level of motivation to participate in public health programmes, although their service areas were not well demarcated as expected.

IMPACT then arranged for the involvement of some selected RHPs (based on patient-load and motivation) running well-utilized clinics in collaboration with RNTCP. It was decided that RHPs involved in RNTCP would refer the TB suspects (patients presenting with cough for two weeks or more) presenting to them promptly and directly to the RNTCP designated microscopy centres (DMC) for sputum smear microscopy, using a programme referral slip and sputum container. Then the referred TB suspects from the RHPs would undergo sputum microscopy in DMCs without being routed again through the RNTCP physician.

Sensitization and training of the selected RHPs were organized by RNTCP which was facilitated by IMPACT, both through investment of material resources and advocacy skills. IMPACT also developed a training module for the RHPs in Bengali language which was effectively used by the RNTCP training team.

In many occasions the local chapters of the association of the RHPs were involved in a tripartite manner where IMPACT and RNTCP were the other two partners.

Consumables such as referral slips and sputum containers were distributed to the selected RHPs after training and regular visits by both project and RNTCP staff were facilitated by IMPACT to hand-hold these included practitioners.

During the training as well as supportive supervision, the RHPs were also encouraged to use antibiotics rationally such as they were suggested to strictly refrain from using quinolones for symptoms like cough. Rational use of X-ray to diagnose smear negative cases was also emphasized during the training of RHPs. The results of the training were evident from interview of an RHP in Kandi TU of Murshidabad.

Some RHPs were also recruited to carry out supervised treatment of the identified TB patients after they were diagnosed by RNTCP and were also encouraged to provide periodic psychological support to the patients and their families so that the patients adhere to the full-course of their RNTCP treatments and become disease-free.

IMPACT also facilitated the “recognition” of the participating RHPs from the government health system; the clinics of those RHPs actively involved in the programme were recognized as RNTCP referral outposts with programme signboards displayed there.

This involvement of the RHPs in RNTCP under the IMPACT project was not uniform across all the project units and varied with the motivating skills and rapport-building capacity of the local RNTCP staff and IMPACT project personnel. The scale of involvement of RHPs in some project areas was also considered inadequate jointly by local RNTCP and IMPACT establishments as elicited during interviews conducted by the FE team.

5.1.2 Involvement of the community pharmacists

A special type of community health care provider who were involved in RNTCP through the IMPACT initiative in the later phase of the project are the community pharmacists who own pharmacy (also referred to as medicine shops in the Indian context) and may or may not have a formal training in pharmacy. They also dispense over-the-counter medicine to the community members who often present to those establishments with their symptoms during the initial course of their illnesses. This initiative of involving this group of providers was taken by IMPACT mainly in Bardhaman district. They were sensitized not only to refer TB suspects presenting to them for symptomatic relief to the RNTCP system, but also notify diagnosed TB patients purchasing TB medicine from their pharmacies based on prescriptions from private practitioners to RNTCP. This initiative was in its very early phase so could not be objectively assessed during FE.

5.1.3 Involvement of the community-based volunteers

Mainly three types of community volunteers were involved by IMPACT to achieve some of their strategic project objectives which included Accredited Social Health Activist (ASHA) – a newly recruited group of volunteers to spearhead the community-based activities of the health system; Self-help Group (AHG) of women – a organization mainly formed to provide livelihood support to women and their families; and unaffiliated community volunteers.

These community-based front-line volunteers were identified and trained by RNTCP and this activity was facilitated by IMPACT through resource inputs and ground-level

participation in selection and sensitization of these volunteers and groups. This involvement activity of community volunteers especially ASHAs picked up real speed after it was strongly recommended during mid-term evaluation of IMPACT in 2011. The ASHAs and the community volunteers were involved in early identification of TB suspects in their local areas as often they are the first “port-of-call” for TB suspects seeking healthcare. They were also actively involved in supporting the treatment of diagnosed TB patients either as “doorstep” DOT providers” instead of inconvenient DOT from public health sub-centres or through periodic supervisory visits to patient homes to counsel them and their family members to ensure treatment adherence. The community volunteers played an important role in collaboration with IMPACT TU coordinators to intensify the treatment compliance of the retreatment patients as was evident in the project areas visited by the FE team. The default rate for re-treatment patients has dropped to null in Kandi TU of Murshidabad for the last few quarters due to such intensified support to TB patients. The universal involvement of the ASHAs in all IMPACT facilitated TU areas was hampered by the stalled recruitment process of ASHAs in some administrative areas of West Bengal, moreover the financial incentives passed on by the RNTCP system to these community-based volunteers were often considered to be insufficient to sustain the volunteerism.

Those few SHGs recruited by RNTCP through facilitation of IMPACT provided targeted livelihood support to the TB patients or families with TB patients within their ambit, so that migration from the place of residence in search of livelihood during the treatment period can be prevented.

5.1.4 Involvement of the Panchayati Raj Institution (PRIs)

The PRIs are the three-tiered local rural self-government primarily for providing social welfare and security to its constituents. It is the lowest unit in the structural and operational hierarchy for various social welfare schemes such as livelihood support, food security, supplementary nutrition, cash benefit for disability, mobility support for seeking healthcare etc.

IMPACT facilitated the link-up of the TB patients to the PRIs so that these patients can be targeted with the welfare schemes as deemed locally appropriate. For this,

the project in collaboration with RNTCP sensitized the PRI functionaries about the TB disease and RNTCP.

The underlying objective of this link-up was mainly to provide livelihood support and mitigate other financial hazards rising in the family due to TB, so that compliance to anti-TB treatment can be ensured and migration in search for livelihood can be prevented during the period of treatment. This IMPACT initiative was designed to bring the focus of the local governing machinery to TB patient and its family as a social entity and not merely as a medical subject; so that he/she and the family can be socially supported to tide over unfavourable times owing to the disease.

Apart from many patients benefitting through this link-up, the oversight of the PRIs into RNTCP and then in other broader health programmatic activities at the grass-root level also increased the accountability of the grass-root health system for TB patients and other health programmes. This was evident as many PRI units actively started utilizing the Community Health Care Management Initiative platform which is an interface between PRI and the grass-root health system, to monitor various health programmes targeting their constituents. This has created a potential for synergistic improvement of social targeting of welfare schemes by PRIs and quality improvement of health programmes through their monitoring. This was evident to the FE team during collection of qualitative information from PRI functionaries and grass-root level health workers.

The recent PRI elections held in August 2013 have ushered in many new PRI functionaries and witnessed the departures of many incumbents, thus decelerating this link-up activity to some extent.

Although this linking-up of the under-treatment TB patients with the PRIs has witnessed many successful outcomes in the project areas; but this support to the TB patients has been far from universal and systematic. Rather it and has been contingent upon the motivation of individual PRI functionary of that particular PRI unit. Moreover the budgetary allocation for such support was made available through different budgetary heads in different PRI units without any earmarked allocation for this support and often the flow of funds for this activity has been inconsistent in some units thus causing interruption in support to TB patients, midway during their treatments. State-wide or at least district-wide systematic PRI policy and strategy to support the under-treatment TB patients was prominent by its absence during the

early phases of the project, as found by the FE team; however ongoing support to many TB patients through IMPACT-facilitated PRI units, preventing their migration was evidently a high point of this endeavour. Also recently, to reverse this trend of unstandardized support to TB patients through the PRIs, district-level PRI policy-issuing bodies in few districts have designed standard framework for support to the TB patients which was issued to the newly-elected PRI units and functionaries such as in Murshidabad district. This was possible due to strong evidence-based lobbying with the district planners and policymakers by IMPACT for such a uniform policy.

5.1.5 Need-based Advocacy, Counselling and Social Mobilization (ACSM) activities

IMPACT facilitated RNTCP to carry-out different need-based ACSM activities among which intensified patient-provider meetings were prominent. These meetings were targeted towards enhancing treatment compliance especially of re-treatment patients, although the numbers of attendees in such meetings were not always as expected. The participation of the local facility-based physicians in such meetings was a unique achievement of facilitation and advocacy by IMPACT. Although initiated by IMPACT, the patient-provider meetings are yet to become a standard programmatic protocol in all the TUs supported by the project.

Small group meetings and broadcasting events about TB and RNTCP in villages and public places such as railway stations were facilitated by IMPACT through partner NGOs and Faith-based Organizations, whose capacity in carrying-out such ACSM activities were built by the project initially. Visible observation of World TB Day in the project units was also another prominent ACSM activity facilitated by IMPACT. Many appropriate information materials were developed by IMPACT for display in various types of health facilities, PRI offices etc.

Many of the counselling and ACSM materials in local languages were developed after receiving appropriate feedback from a community survey (known as “doer non-doer survey”) conducted by IMPACT in the initial years of its implementation.

The laboratory technician at Patikabari PHC felt that such ACSM activities are influencing chest symptomatics and their family members to report to the health facilities earlier in the course of their symptoms than what was previously

experienced. An ANM at Amtala TU opined that such intensive ACSM activities and the demonstration of curability of TB by effective DOTS strategy has helped to overcome many entrenched social stigma about the disease in the community; this has led to many sub-populations such as the middle-class section of the society, who previously preferred to avail less effective but less stigmatising private anti-TB treatment, to start gravitating towards public RNTCP programme.

5.1.6 Initiating sputum collection centres

In areas with difficult access to the nearest RNTCP designated microscopy centres (DMCs), IMPACT facilitated the setting-up of sputum collection centres where samples were collected from the referred TB suspects and transported to the nearest DMC. Twenty-seven such sputum collection centres were set up in the project area under IMPACT 22 in Bardhaman, 1 in Maldah and 4 in Murshidabad districts.

5.1.7 Intensified support to MDR-TB patients

IMPACT and a parallel project run by CARE India's West Bengal chapter deployed two master counsellors at the MDR-TB indoor treatment facilities in Kolkata and Jalpaiguri district head quarter (which are not IMPACT districts); and two more master counsellors were also deployed at Bardhaman and Haora districts at the respective District TB Centres from where the treatment of MDR-TB patients in those districts were initiated on an out-patient basis (see).

Counsellors provided formal counselling of the TB patients on one-to-one basis as well as group counselling in the wards, often with family members participating. The content of the counselling constituted of psychological support for this long-drawn-out treatment for these patients especially in the backdrop where these patients have experienced previous failures with RNTCP regimens. The counsellors also probed livelihood opportunities for the patients and counselled them about selecting the appropriate option which will neither jeopardize their treatment nor affect their families financially.

IMPACT counsellors also identified and trained peripheral DOT-providers in counselling skills, mostly from partner NGOs, before the patients were transferred for domiciliary treatment from convenient DOT-centres nearest to their places of residence. This model of intensive counselling support was first started by CARE

India in its project areas intersecting with IMPACT. This model of counselling support to MDR-TB patients is now being adopted nationally by RNTCP and is being scaled-up across the country.

Interviewed counsellors identified the lack of continuity of appropriate counselling support in the periphery, once the patients are shifted to the peripheral DOT-providers from the in-patient facilities. Local language training modules are being developed for in-person training of the peripheral DOT-providers to be used in recent future by RNTCP.

IMPACT also reimbursed transportation cost to MDR-TB patients for their travel to in-patient facilities for pre-treatment evaluation and counselling and also for their travel for follow-up sputum examination. As patients stated during interview, this has helped them to comply.

5.1.8 Strengthening TB-HIV co-ordination activities

IMPACT facilitated TB-HIV co-ordination committee meetings at state and district levels and helped RNTCP to refocus on this important activity. The centre-stage of these co-ordination meetings were encouraging universal voluntary counselling and testing for HIV of all diagnosed TB patients and also referral of HIV infected persons to RNTCP for screening, diagnosis and treatment if suffering from TB. This cross-referral activity has received a boost in the IMPACT TUs and also the programme focus on this activity has introduced the paradigm of diabetes as a co-morbidity of TB in the spotlight; and consequently some districts such as Bardhaman and Murshidabad have initiated free diabetes screening for all TB patients along with counselled blood testing for HIV.

Under this sub-section of activities Integrated Counselling and Testing Centre (ICTC) counsellors, Targeted-Intervention NGOs (TINGO) working in HIV and network of People Living with HIV-AIDS (PLWHA) were sensitized intensively by IMPACT in RNTCP activity skills so that they can rout their clients for seamless RNTCP services. Advocacy and monitoring by IMPACT has also increased the coverage of Cotrimoxazole Prophylactic Treatment (CPT) in project areas considerably. IMPACT achieved 70% counselling and testing of TB patients for HIV in some districts starting from a very low base, 60% cotrimoxazole prophylactic

treatment for HIV-TB co-infected patients and TB screening for majority HIV patients.

5.1.9 Interaction of IMPACT with RNTCP

The FE explored the channels and the mechanisms employed by IMPACT to interact with RNTCP at various levels of its hierarchy. It found that IMPACT had laid down mechanisms at state, district and TU-levels through their own project personnel or members of its partners NGOs to engage with RNTCP at respective levels to unanimously decide on plans, processes and activities to be carried out under the project so that synergy can be established and the results of this project can be optimized, mainstreamed and scaled-up for benefitting the TB patients within the project area and then for all the TB patients in the state and the country. Innovative suggestions from programme functionaries were synthesized critically and debated at broader forums to arrive at consensus and then implemented with resources pooled both from the project and the programme. Sustainability of many project initiatives was thought through in collaboration with RNTCP for their continuity after the termination of the project.

All the RNTCP personnel and PRI functionaries and RHPs interviewed during the FE recognised the support provided by IMPACT and many were apprehensive about the fate of many supported activities grinding to a halt due to the withdrawal of IMPACT.

Table 2 Summary Table of Inputs, Activities, and Outputs That Contributed to Key Outcomes

Objective 1: Intensify and expand community-based DOTS especially in the poor performing Tuberculosis Units (TU)			
Project Inputs	Activities	Outputs	Outcome
Sensitization of Rural Health Practitioners (RHP) earlier known as Non-Qualified Private Practitioners.	Mapping, listing of motivated RHP, Training, distribution of referral slip, follow up, linkage with RNTCP follow up and support	1969 RHPs were trained. referral slips developed under the project and recognized by RNTCP.	<p>The RHPs have referred 13606 TB suspects till date. Out of these referrals 1206 have been diagnosed as sputum positive cases</p> <p>The RHPs have contributed 3% of the total referral in RNTCP over the project life in all TUs.</p>
Identify and train CB DOTS providers	Listing of providers, capacity building and linking with RNTCP	<p>7311 community based volunteers and</p> <p>1,969 RHPs have been sensitized.</p> <p>As per MTE recommendation 1564 ASHA workers have been sensitized</p> <p>848 SHGs members have been sensitized</p>	<p>RHPs, if they choose to may provide DOTS: several are presently providing DOT. State RNTCP has acknowledged the contribution of RHPS and involving them selectively in other districts</p> <p>Cure rate for NSP cases increased from 81.2% (baseline 2008) to 85% in 2Q13.</p> <p>Treatment success rate for NSP increased from 84% (baseline 2008) to 86% in 2Q13.</p>

Project Inputs	Activities	Outputs	Outcome
Identification and sensitization of local NGO/FBOs	Listing of NGOs/FBOs in project operational area, sensitization on TB and RNTCP	7 local NGOs have been sensitized on TB 167 FBOs have been sensitized	NGOs and FBOs are creating awareness on TB through their regular activities. The Imams in mosques are spreading messages on TB during weekly Friday prayers. The local NGOs are spreading the information on TB through their other program like RCH.
Link patients with welfare schemes	advocacy at the state level to issue order from the Health Secretary, follow up with individual <i>Panchayet</i> Sensitization of local government(PRI) and opinion leaders, listing of the existing social welfare schemes, patient list submission	Advocacy meeting at state level 483 PRIs sensitized on socio economic aspect of TB 12927 TB patients have been linked with various welfare schemes	This initiative is much liked by PRI and the MOH. The MOH has given GO for it to be replicated in the state Treatment success rate among retreatment TB patients improved Treatment success rate for retreatment increased from 69% (baseline 2008) to 71% in 2Q13 Default rate for Retreatment decrease from 16% (baseline 2008) to 11% in 2Q13 Default rate for NSP cases decrease from 9% to 6% in 2Q13

Project Inputs	Activities	Outputs	Outcome
Need based ACSM activities	Counselling of TB patient with focus on retreatment patients during home visit and patient provider meetings, Small group meetings, observation of World TB day, IEC materials in local language	<p>28371 TB patients have been counselled in the patient provider meetings and during home visit. 8408 are retreatment patients out of the total patients</p> <p>4064 patient provider meetings organized</p> <p>5206 village and ward covered in small group meetings. These meetings were attended by 28582 males and 31233 females</p> <p>IEC materials developed(details annex)</p> <p>4424 broad casting events were organized through FBOs and announcement in railway stations</p>	<p>PPM are now institutionalized at PHC level with regular meetings happening.</p> <p>IMPACT advocated successfully for TB patients including retreatment, MDR and HIV/TB with the Panchayets.</p>
Objective 2: Strengthen the case holding and completion of treatment among re-treatment and MDR patients so as to prevent the increase in load of MDR TB			
Specific communication strategies and materials for retreatment and MDR TB patients	Orientation of project staff Doer Non Doer survey conducted Training module for counselling	<p>Survey completed</p> <p>IEC materials have been developed based on the survey results and printed in local language</p> <p>A training module for counselling of</p>	<p>Treatment success rate for retreatment increased from 69% (baseline 2008) to 71% in 2Q13</p> <p>Default rate for Retreatment decrease from 16% (baseline 2008) to 11% in 2Q13</p>

Project Inputs	Activities	Outputs	Outcome
		retreatment and MDR TB patients have been developed 483 PRIs sensitized on TB and MDR TB	
Link patients to welfare schemes	Listing of retreatment TB patients. Sensitize Government officials at different level and meeting with the Gram Panchayats	The Government issued a letter for supporting TB patients through welfare schemes.	446 Gram Panchayats is involved out of 542 and supported 12927 TB patients with welfare schemes.
Support MDR patients for transportation of sputum and pre treatment evaluation tests.	Financial support	CARE has provided support to MDR TB patients in two DOTS Plus sites (Kolkata and Jalpaiguri).	Increase patient compliance to follow-up sputum examination
Provide counselling support to MDR TB patients and family members	Counselling, training	Two master counsellors have been trained. 96 NGO staff have been trained on counselling 171 DOTS Plus providers trained on counselling skills.	Counselling support has been provided to 8408 retreatment patients and 1232 MDR TB patients 55.12 % of CAT IV patients have successfully completed treatment
Identify and counsel category II and IV patients	Patient providers Meeting	4064 patient providers meetings have been organized	8408 Category-II and 1232 Category IV patients have received counselling support.

Project Inputs	Activities	Outputs	Outcome
Objective 3: Strengthen the TB-HIV coordination at state and district level to improve cross referrals and ensure treatment for suspected TB-HIV co-infection			
Advocacy and support coordination at state and district level	Meeting	CARE is recognized as a member of the state and district level TB/HIV coordination committee. 32 district level meetings and 3 state level meetings have been attended	Percentage of TB patients referred to ICTC increased from 0% to 46% (least) in Malda to 81% in Bardhaman (highest). The rate at the state level is 65.5%. Out of the 306676 clients attending ICTC, 6331 TB suspects have been referred to RNTCP i.e 2% referral as per RNTCP report for the first two quarters of 2013. 443 number of ICTC referred TB suspects have been diagnosed as TB(7%) and 410 (92.5 %) diagnosed patients are put on DOTS. Efforts have been taken to build capacity of the ICTC counsellors on TB and DOTS.
Sensitize PLHA networks towards TB control through their umbrella agency BNP+.	Meeting, workshop	District level PLHA network has been sensitized in four districts(except Howrah)	CPT has been initiated in all the districts. 60% co infected patients are currently put on CPT
Build capacity of TI NGOs	Training	4 TI NGO staffs were sensitized for improving the cross referrals and support to TB patients.	
Facilitate opening of sputum	Mapping of difficult to reach areas,	27 sputum collection centres	.

Project Inputs	Activities	Outputs	Outcome
collection centres	identification of possible locations, collaboration with RNTCP	opened in government PHCs.	
Operation Research Objective: Study the treatment compliance of TB patients when they migrate			
Project Inputs	Activities	Outputs	Outcome
Study the treatment compliance of TB patients when they migrate	Identification of areas with history of migration Secondary data analysis In depth interview with patients	TB patients interviewed Secondary data analysis done	Data shows that there is no significant contribution to patient default due to migration

5.2 Outcome

The outcome indicators which the project was set to achieve are presented in two main themes in this section which are new smear positive case detection rate; and treatment success rate for new smear positive and retreatment cases. Secondary RNTCP data from the IMPACT TU were analysed to generate these temporal trends

5.2.1 Case detection rate

From analysis of secondary data of RNTCP the estimate of annual increase in new smear positive (NSP) case detection rate in the 11 case-detection-focus TUs were almost negligible (Table 3). But of these 11 TUs, only Manikchak in Maldah district consistently achieved and maintained 70% detection of estimated NSP cases and Salar TU in Murshidabad district achieved 70% case detection in 2011.

There was an overall slight decline (decline of 1 percentage points annually [95% CI: 2- 0]) in case detection in all the 28 TUs covered by IMPACT with the baseline case detection rate dipping to 67% in first two quarters of 2013 from 71% in 2008.

Table 3 Case detection trends

Year	11 case-detection-focus TUs			All 28 IMPACT TUs		
	Population	NSP cases detected	NSP ACDR (%)	Population	NSP cases detected	NSP ACDR (%)
2008	5787817	2383	55%	14543490	7768	71%
2009	5848507	2523	58%	14150612	7446	70%
2010	5719036	2585	60%	13756074	7268	70%
2011	5719036	2586	60%	13756074	7289	71%
2012	6015043	2479	55%	14049598	6829	65%
2013 (till 2nd Quarter 2013)	6015043	1260	56%	14049598	3504	67%

5.2.2 Treatment success rate

The secondary data analysis illustrated 0.4 percentage point annual increase (95% CI: 0.2 – 0.7, $p = 0.009$) in treatment success of NSP cases and negligible increase in treatment success of re-treatment cases in the 12 case-holding-focus TUs covered by IMPACT. The changes for NSP treatment success was more modest in overall 28

TUs under IMPACT (0.2 percentage points annually [95% CI: -0.3 – 0.7, $p=0.3$]) and the changes for treatment success of re-treatment cases remained negligible in all the 28 TUs. The pooled estimates of the 28 TUs and their sub-set of 12 case-holding-focus TUs achieved the RNTCP objective of >85% success rates for new smear positive cases.

The decline in default rate was more noticeable with 12 case-holding-focus TUs registering an annual decline of 0.6 percentage points (95% CI: 0.4 – 0.8, $p=0.001$) and 1 percentage point (95% CI: 0.3 – 1.8, $p=0.01$) for NSP and re-treatment cases respectively, whereas the annual decline of default rates for all the 28 TUs under IMPACT were 0.4 percentage points (95% CI: 0.1 – 0.8, $p=0.01$) and 1 percentage point (95% CI: 0.5 – 1.5, $p=0.004$) for NSP and re-treatment cases respectively. The pooled estimates for default rate for re-treatment cases declined from 15% (2007) to 11% (first two quarters of 2012) in all 28 IMPACT TUs as well as the sub-set of 12 case-holding-focus TUs. (

Table 4)

Table 4 Treatment outcome trends

Year	12 case-holding-focus TUs				All 28 IMPACT TUs			
	NSP cases		Re-treatment cases		NSP cases		Re-treatment cases	
	Treatment success rate	Default rate	Treatment success rate	Default rate	Treatment success rate	Default rate	Treatment success rate	Default rate
2007	83%	9%	71%	16%	85%	8%	70%	15%
2008	84%	9%	71%	17%	84%	8%	69%	16%
2009	84%	8%	69%	16%	84%	8%	69%	15%
2010	84%	7%	70%	12%	85%	7%	70%	14%
2011	85%	7%	70%	12%	85%	6%	71%	12%
2012 (till 2 nd quarter)	86%	6%	71%	12%	86%	6%	71%	11%

6 CONCLUSION

In this section, interpretations of the findings and analyses of primary and secondary data, collected during the Final Evaluation (FE) of IMPACT are presented. The theme of the sub-sections are often aligned with those sub-headings of the previous section, with some cross-cutting themes emerging in the concluding discussions

6.1 Involvement of the Rural Health Practitioners (RHPs)

Involvement of the RHPs by IMPACT was a critical achievement of the project. This group of important grass-root healthcare providers has started contributing to detection of approximately 5% of the infectious cases in the IMPACT TUs during the later phases of the project. The contribution was substantially more in some of the IMPACT units where their participation has been more strongly facilitated and supported by the project.

The most critical step facilitated by IMPACT in the strategy to involve RHPs in RNTCP was to extract the commitment from the programme that the RHP-referred TB suspects would be honoured by the RNTCP system at the DMC without the necessity of any repeat screening of their symptoms by RNTCP physicians. This had not only led to avoidance of delay in diagnosis and hence spread of infection, as TB suspects did not have to be screened twice. Moreover the TB suspects can also avoid lengthy inconvenient queues at DMC health facilities which initially would have pushed him/her away from the government health system delivering RNTCP to the RHP. This honouring of referral of TB suspects from non-formal providers by the RNTCP system without repeat clinical screening was always a contentious issue on previous instances between RNTCP and its various referring partners, whenever similar steps to boost TB suspect referral was tried out. This is perhaps for the first time through IMPACT in West Bengal that this resistance was overcome and non-formal provider-referred TB suspects were directly tested with sputum microscopy by the programme thus creating an opportunity in future for more referral from other non-formal providers.

Another very effective incentive used by IMPACT to motivate these RHPs was to extract “official recognition” from RNTCP in the form of a signboard carrying

RNTCP emblem for these participating clinics of the RHPs, which proved to be a “win-win” situation for both the programme and the practitioner. Quinolones being the mainstay of treatment for MDR-TB has to be used very rationally to preserve their life-saving efficacy and should be avoided for cough-related symptoms because they also temporarily mask symptoms, thus causing delay in diagnosis of TB patients and hence its inappropriate use also facilitates spread of infection in the community. This critical messaging by IMPACT for the RHPs was very well intended, although their reach and impact on antibiotic use could not be objectively measured by the FE team due to lack of scope as well as resources. Despite such critical steps being initiated by IMPACT with regards to involvement of RHPs in RNTCP their participation has not been universally mainstreamed in all the units under the project. The involvement of the RHPs was largely driven by the motivation of local RNTCP establishment to uptake this linkage facilitated by IMPACT.

6.2 *Involvement of the community-based volunteers*

The involvement of the community-based volunteers in RNTCP by IMPACT has benefitted many TB patients as they received TB services such as Directly Observed Treatment and sputum containers for follow-up examination at their “doorsteps” through these patient-friendly arrangements. The community volunteers also referred TB suspects for sputum microscopy early in the course of the disease and provided counselling support to the patients and their family members so that they pursue the right course of medical management and comply to such advises. The awareness about TB and its treatment, locally generated by these volunteers also was easily tangible during the interviews with the communities served by them. The involvement of the majority of ASHAs was a comparatively recent phenomenon in the project which was taken-up in a large scale after the recommendation of the mid-term evaluation of IMPACT. As because the recruitment of the ASHAs in all the administrative units of West Bengal was not uniform as in some blocks (lowest administrative unit in Indian states) they were yet to be recruited, this had hindered the standardization of their involvement in RNTCP by IMPACT in all its TUs. The involvement of the Self-help groups (SHGs) of women in RNTCP were also not uniform, as was expected, because many SHGs lacked capacity to take up health-

related responsibilities other than their primary focus area which was micro-financing livelihood schemes.

In spite of such recent and non-uniform involvement of many of these volunteers in RNTCP, facilitated by the project, their contribution was well appreciated by the programme, patients and the communities as was evident during the interviews. Their involvement had far-reaching potentials to make RNTCP a really community-based health care service, unshackling it from the clutches of health facilities which are often difficult to access by the TB patients for early diagnosis and extended treatment.

The sustainability of their volunteerism emerged as an important theme as found during interviews of this group of front-line participants. It definitely remained a contentious issue, as too much incentive to the volunteers may be a financially unviable option for RNTCP in the long-term, whereas absence of appropriate incentives may discourage their participation in RNTCP, thus jeopardizing the critical “doorstep” services they offer to the TB patients.

6.3 Involvement of the Panchayati Raj Institutions (PRIs)

The linkage of the TB patients with the PRI, brokered by IMPACT and later institutionalized in many TUs, was an impressive achievement of IMPACT. This had provided livelihood and nutritional support to the TB patients and their family members, thus preventing their migration in search for livelihood and increasing their chances to complete treatment without interruption.

But as mentioned above, the interrupted nature of the PRI support experienced by few patients was dissatisfying to them which can be mainly ascribed to the lack of a standardized policy framework at the PRI-level guiding this support which led to the budgetary allocation for this activity being at best intermittent and patchy. Moreover the participation of the PRIs in this support activity being not uniform in all areas also bred discontentment among deprived clients i.e. TB patients who did not receive the support but heard from their peers about others receiving assistance. But recent trends in districts such as Murshidabad where district administration has issued a uniform PRI-RNTCP collaboration guideline to support TB patients is a very promising sign, which can be attributed to relentless advocacy by IMPACT.

Despite these few and rare shortcomings, the overwhelming positive impact created by this unique linkage of RNTCP to the PRIs, facilitated by the project was striking. Moreover this linkage also helped to extract political commitment from these local self-governments for overseeing many other health programmes in various forums that exist within the purview of the PRIs and which were often under-utilized previously, thus benefitting the community and also helping the wider public health system to streamline their various programmes at the grass-root level.

6.4 Intensified support for treatment success especially to the re-treatment and MDR-TB patients

The project achieved a substantive decline in default rate especially with regards to re-treatment cases which can be attributed to intensified support provided by the IMPACT-facilitated community volunteers, TU coordinators and the linking-up of TB patients to the social welfare schemes of PRIs; some project TUs even achieving a no-default situation for such cases over a sustained period. The IMPACT-boosted patient-provider meetings also contributed substantially to this case-holding achievement. Moreover the time taken to complete treatment by TB patients under IMPACT initiatives might have come down also which could not be documented either by the project or the FE and can go down as a limitation of the FE. The future sustainability of such remarkable achievements in the absence of project support can be questioned especially if mainstreaming of many of the components underlying this success is not expedited.

The counselling support provided by IMPACT to a critical component of RNTCP i.e. programmatic management of MDR-TB patients at their indoor-facilities as well as at the District TB Centres in 4 districts (two of which are not in IMPACT but in a parallel project run by CARE India targeting only MDR-TB patients) was unique, strong and scalable; hence decided to be mainstreamed by the national RNTCP policy-makers throughout the country, thus ensuring its future sustainability. The positive psychological impact of counselling was evident in conversations with MDR-TB patients during the FE exercise.

The development of the necessary counselling skills of the peripheral DOT-providers of MDR-TB patients, needed to support a treatment regimen of a recurrently ill patient that spans a couple of years, emerges as an enormous future

challenge to the programme. The local language training module developed by IMPACT to enhance the counselling skills of the peripheral DOT-providers can be a very important tool for the future of the programmatic management of MDR-TB patients in the state.

6.5 Strengthening TB-HIV co-ordination activities

The TB-HIV co-ordination activities were boosted by the inputs from the project which was reflected in the increase in cross-referral activities and enhanced coverage by cotrimoxazole prophylactic treatment for co-infected patients. The additional gain of the policy of universal blood testing of TB patients in district like Murshidabad and Bardhaman was screening of TB patients for diabetes.

6.6 Case detection rate

The estimated NSP cases occurring in the community annually (estimated incidence in India being 75 NSP cases/100,000 population/per year) was used as a denominator to calculate the proportion of cases detected by the programme in various units. This denominator is primarily a pooled estimate of TB incidence in India. From the interviews of the RNTCP key functionaries in the district and the state such as State and District TB Officers as well as IMPACT officials and managers, it was apparent that these pooled country estimates were highly unlikely to be applicable in the II case-detection-focus TUs covered by IMPACT which had inherently low case detection at baseline, and most of them did not achieve the RNTCP target of 70% case detection. The lack of rise in case detection in most of the II case-detection-focus TUs are very likely to be attributable to low case burden in those areas rather than cases “missed” by RNTCP. This likelihood seems plausible as because the adjoining TUs of IMPACT units belonging to adjacent districts with substantially different RNTCP infrastructure, administration and strategy have also very similar case detection trends. To cite an example Karimpur TU of Nadia district which is outside the IMPACT area lying adjacent to Amtala TU of Murshidabad district which is an IMPACT TU has similar case detection rates over the years which lower than the RNTCP national objective. This perhaps demonstrates TB epidemiology being similar in these low case-detection areas and most of them have low case burden, which is the main underlying factor behind low case detection in such units and perhaps not cases missed by RNTCP being a determinant.

The lack of increase in case detection rates from baseline may also be due to the reason that many TB patients detected by IMPACT anyway was being detected by the RNTCP system at baseline. So it can be argued that what the project has done is mere shifting of some of the patients from the general RNTCP system to the project, thus not adding much to the general pool of the TB cases detected. But in absence of IMPACT, RNTCP was most likely detecting those cases at the cost of a *delay*. Qualitative data analysed during the FE points towards the direction that IMPACT was perhaps effective in cutting down the delays in diagnosis of TB especially among patients who present with their symptoms to providers outside the formal ambit of RNTCP. This can perhaps be ascribed to the involvement of multitude of providers facilitated by the project and the ACSM activities relentlessly carried out by it. This delay could have had very serious deleterious effect not only on the patient from a morbidity context but also to the larger community with regards to spread of infection and promotion of stigma related to the incurability and protracted nature of the disease . This reduction in delay by the project may not have immediate impact on TB incidence and hence detection rates but may have far-reaching impact on local TB epidemiology.

The ensuing early diagnosis, treatment and symptomatic relief perhaps led to the reduction of TB-related stigma in the community which was discernible during conversation with the community at the time of the FE visits.

Quantitative operational research studies may be planned in future to examine such anecdotal findings by estimating the effect of the project on the time taken to diagnose the TB patients after their onset of symptoms, in comparison to those in non-project areas.

To summarize, the **overall conclusion** that emerges from this evaluation exercise is that IMPACT has provided many invaluable inputs to RNTCP and performed uniquely effective community-based activities of which involvement of PRIs, RHPs and community volunteers; intensified support to re-treatment and MDR-TB patients and relentless ACSM activities are prominent. The effect of such project activities on outcome indicators such as treatment success and default rates is obvious whereas the effect on case detection is modest; the latter can be perhaps attributable to low disease burden in some areas, and moreover reduction in delay of case detection due to IMPACT activities can not be ruled out. The standardization and

mainstreaming of many of the unique community-based processes initiated by IMPACT remain to be taken-up by the RNTCP and its allied systems. In the course of the project IMPACT has enriched the body of global knowledge of community-based health programming with what it has remarkably achieved in RNTCP through its various community-based grass-root level partners such as the RHPs, PRIs, ASHAs, women SHGs and partner NGOs.

7 Recommendation

The recommendations for RNTCP and its various stakeholders emerging from the final evaluation exercise of the IMPACT project is tabulated below (Table 5) with a view that the effective strategies employed by the project are sustained, customised and scaled-up for long-term benefits of the TB patients and the community by the programme, after the project comes to an end and its resources are withdrawn.

Table 5 Recommendation

Finding	Conclusion	Recommendation	Action	Who is responsible
<p>The social support to under-treatment TB patients through PRIs was highly effective wherever applied, in improving case-holding and mitigating financial hazards occurring due to the disease to the patient's family. The PRI oversight also helped to improve RNTCP performance at grass-root level. However, this was not uniformly applied to all eligible patients and also in very few patients after initial application interruption of support was experienced.</p>	<p>Lack of a uniform policy framework at the state and district level for this PRI-RNTCP collaboration, though some policies have been framed in districts like Murshidabad recently, targeting the newly elected PRI bodies and functionaries</p> <p>PRI oversight can improve the health system functioning</p>	<ul style="list-style-type: none"> • A state-wide policy for this highly effective strategy to support under-treatment TB patients with PRI-run social welfare schemes. • Sustainability component of the funding mechanism needed for such linkage to be clearly incorporated in the policy • Use PRI oversight in health programmes systematically 	<ul style="list-style-type: none"> • Engagement of the PRI ministry at the state-level by the state RNTCP cell, supported by the larger health department and IMPACT for designing such a uniform policy. • Sensitization of the PRI bodies at the district-level and district and sub-district-level functionaries about such guidelines during their induction training which is to be held after the recently concluded PRI election. • Sensitize PRI functionaries to oversee health programmes regularly • Unsustainable and interrupted allowances to be avoided by the system as it is often counter-productive 	<p>State PRI ministry</p> <p>State RNTCP cell</p> <p>State Health ministry</p> <p>IMPACT</p>
<p>Another highly effective IMPACT strategy was to involve the RHPs in referring TB suspects presenting to them and also using their connection with the under-treatment patients to support their ongoing treatment for increased compliance. However the strategy was not mainstreamed across all the project units and districts</p>	<p>This strategy experienced impressive success as IMPACT was able to extract the commitment from RNTCP that the RHPs participating in this collaboration will be officially recognized by the system and their referred suspects will be honoured by the RNTCP for direct sputum microscopy without duplicate screening.</p>	<ul style="list-style-type: none"> • A universal strategy to involve this important segment of the rural non-formal health care system where many patients present with their initial symptoms. • To Involve the apex associations of RHPs is necessary in such an endeavour for resource pooling and long-term sustainability 	<ul style="list-style-type: none"> • A uniform state-wide policy to map, target, sensitize and involve the RHPs in RNTCP in all the districts • Forging stronger and formal collaborations with the associations of the RHPs – both state and district chapters 	<p>State RNTCP cell</p> <p>District RNTCP cell</p> <p>Associations of RHPs</p>

Finding	Conclusion	Recommendation	Action	Who is responsible
The involvement of the community-based volunteers supported by the TU coordinators of IMPACT had counselled the TB patients mainly the re-treatment group through repeated home-visits	Tangible gains in reducing default rate of such patients were achieved. This helped some TUs to achieve zero default rates.	To sustain such volunteer involvement and its positive impact on treatment compliance after the project is rolled-down	<ul style="list-style-type: none"> District RNTCP may involve the community volunteers as formal peripheral DOT-providers within the system and ensure their timely receipt of honoraria for such volunteerism The same applies to ASHAs also; all ASHAs should be universally trained to refer TB suspects early in the course of their diseases and supervise DOTS treatment 	District RNTCP cell TU RNTCP managers
Intensified ACSM using various channels were conducted to inform the community of the TB disease, the services of RNTCP and their access	The ACSM activities undertaken by IMOACT in conjunction with its various partners perhaps helped to TB suspects recognise their symptoms early in the course of illness and come forward for diagnosis and treatment promptly	To sustain ACSM activities and its results to the level achieved by the project	<ul style="list-style-type: none"> The IMPACT trained NGOs and Faith-based Organizations may be included in "Team RNTCP" in the districts Alternative funding sources can be tapped for such additional activities which in the project phase was supported by IMPACT 	District RNTCP cell
Intensified counselling support to MDR-TB patients was providing a strong background for enhanced treatment compliance by these group of patients, undergoing a tough and long-drawn-out treatment regimen, which was also evident by the initial treatment results coming out of such cohort of MDR-TB patients	The counsellors in the indoor-facilities of MDR-TB treatment sites and in District TB Centres were providing quality counselling and this model is going to be scaled-up country-wide soon. But the sustained counselling coverage throughout the course of treatment of the individual patients through continued training of the peripheral DOT-providers is yet to be institutionalized, though a training module for peripheral DOT-providers have been developed by IMPACT	The training of the peripheral DOT-providers improving counselling skills can be an important component in determining the success of the programmatic management of MDR-TB patients in future	<ul style="list-style-type: none"> Expediting state-wide recruitment of MDR-TB counsellors in all the District TB Centres and/or MDR-TB treatment sites as per the newly formed national policy All peripheral DOT-providers need to be trained with the counselling training module developed by IMPACT The reinforcement of the training of the DOT-providers during their supportive supervision and monitoring by the system needs to be carried out periodically. 	State RNTCP cell District RNTCP cell MDR-TB consultants of RNTCP

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2. World Health Organization. *Global TB Report 2013*. Geneva; 2013.
3. Sachdeva KS, Kumar A, Dewan P, Kumar A, Satyanarayana S. New vision for Revised National Tuberculosis Control Programme (RNTCP): Universal access - “reaching the un-reached”. *Indian J. Med. Res.* 2012;135(5):690–4.

ANNEX I. PROGRAM LEARNING BRIEF(S): EVIDENCE BUILDING

Attached

**ANNEX II. LIST OF PUBLICATIONS AND PRESENTATIONS
RELATED TO THE PROJECT**

Attached

ANNEX III. PROJECT MANAGEMENT EVALUATION

Attached

ANNEX IV. WORK PLAN TABLE

Attached

ANNEX V. RAPID CATCH TABLE

The Rapid Catch Table is not applicable to the Tuberculosis projects as stated by the grantee

**ANNEX VI. FINAL KNOWLEDGE, PRACTICE, AND COVERAGE
REPORT**

Attached

ANNEX VII. COMMUNITY HEALTH WORKER TRAINING MATRIX

Attached

ANNEX VIII. EVALUATION SCOPE OF WORK

Attached is the signed contract and the scope of work is a part of it

ANNEX IX: EVALUATION METHODS AND LIMITATIONS

The “Methods” section of the main body of the Final Evaluation Report contains all relevant details of the evaluation methods and its limitations; hence the methods are not included as an annex.

ANNEX X. DATA COLLECTION INSTRUMENTS

Attached

ANNEX XI. SOURCES OF INFORMATION

Attached

ANNEX XII. DISCLOSURE OF ANY CONFLICTS OF INTEREST

Attached

ANNEX XIII. STATEMENT OF DIFFERENCES

No statement of difference is applicable at this stage of the FE

ANNEX XIV. EVALUATION TEAM MEMBERS, ROLES, AND THEIR TITLES

Attached

ANNEX XV. FINAL OPERATIONS RESEARCH REPORT

The final operations research (OR) report is not included with the FE report as there was no formal component of OR in IMPACT, which is a Tuberculosis project. Whatever OR was conducted by the IMPACT team was reported through the Mid-term Evaluation report.

ANNEX XVI. OPERATIONS RESEARCH BRIEF

Please see the note above for Annex XV

ANNEX XVII. STAKEHOLDER DEBRIEF POWERPOINT PRESENTATION

Attached

ANNEX XVIII. PROJECT DATA FORM

The CSHGP data form was filled-up online by the grantee; hence copy could not be attached with the FE report.