TDR SMALL GRANT FINAL TECHNICAL REPORT

Small Grant Scheme TB ID No 14-10

Project title: Increasing the overall detection rate of Tuberculosis cases in Nangarhar Regional Hospital, Afghanistan

Submitted to: TDR /WHO /EMRO

Period covering from 1st July-2015 to 29th Feb -2016

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PART I - ADMINISTRATIVE INFORMATION

Please note: Project draft report must be sent by email or post to (……@who.int). Facsimile (fax) copies will not be processed for review. Part I (ADMINISTRATIVE INFORMATION) and the budget (with original signatures) must be send by post/courier to TDR offices in Geneva. (World Health Organization, TDR/DQR, 20, Avenue Appia, CH- 1211 Geneva 27)		
PRINCIPAL INVESTIGATOR		
Surname: Jabarkhil	First name(s): Mohammad Nazir	Title: Dr
Female [ ] Male [✓]	Nationality : Afghan	Indicate which "Call for Proposals" this application corresponds to and reference number Innovative interventions to increase tuberculosis case detection, including co-infections
Full postal address Kabul city district # 5, street # 2, and house # 110 Contact information		
Telephone (office): 0093789103425	(mobile): 0093729995000	
e-mail: nazir.jabarkhil@gmail.com	Disease: TB	
Are you a previous TDR trainee or grantee? Yes [ ] No [✓]	If Yes, indicate Date _____ Project ID _____	
Project title : Increasing the overall detection rate of TB cases in Nangarhar Regional Hospital Afghanistan		

Executive summary:

The implementation research project in Nangarhar Regional Hospital Afghanistan was focused on mixed method (qualitative and quantitative) research to define the innovative Interventions to increase the tuberculosis case detections within the catchment area of Nangarhar Regional Hospital. The project was also focused to provide an overall scenario of the existing practice of tuberculosis case detections and touched upon the technical errors and other challenges in detecting tuberculosis cases within the selected site of the project. During 8 months project implementation period July -2015 to Feb-016 tuberculosis positive case detection has been further improved within the given time frame considering the project objectives several meetings that were conducted in order to seek public support to enhance TB case detections and as well the community participation and increasing numbers of volunteers to refer suspected cases for sputum examination to hospital, furthermore by implementation of this project horizontal referral within policy clinic and other wards have further improved in Nangarhar Regional Hospital.

Period covered by this report From 1st July-2015	To 29th - Feb -2016	
Committee	Relevant diseases Pulmonary Tuberculosis	Project ID number SGS 14-10

Signatures for progress report	
Principal investigator Signature	Date:19th Feb -2016
INSTITUTION ADMINISTERING THE GRANT	
Full name of Institution: Afghanistan Community of Evaluators' Organization	
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Head of Department/Institution Signature	Date :13th March-2016

PART II. PROJECT DETAILED ACTIVITIES REPORT

1. Background:

Tuberculosis is the second greatest life threatening disease (after HIV/AIDS) worldwide caused by a single pathogen Mycobacterium Tuberculosis airborne infectious disease. Globally, 9 million people were affected with TB and 1.5 million died as a result of it in 2013.[1] More than 90% of global TB cases and deaths occur in the developing world.[2] The study site was Nangarhar Regional Hospital relevant' departments based on feasibility and researchers' accessibility, which is a postgraduate hospital providing round the clock quality tertiary health care and also emergency care for the large number of victims from security incidence and traffic accidents on the main highway. High OPD where mixes of services are provided in order to meet consultation more than 30,000 clients on average basis per month, high Bed Occupancy Rate (BOR).[3] Implementation research project started in 1st July -2015 according to project plan during this report period all planned activities were achieved such as staff orientation/training, strengthening and establishment of networking between all involved departments, and pretesting the research questionnaires/tools ,and data collection conducted during this reporting period ,beside that the research team did an assessment in the result of assessment the gaps were identified/found shared with hospital management team and effort was made to find out proper solution in the result a separate DOTs rooms , organized sputum collection room , and establishment of strong referral and consultation system further improved. Furthermore the data recording and filing reviewed and support provided to them based need.

2. Project Objectives and outcomes

1. *Create public space to seek public support for enhancement of TB coverage in Nangarhar regional hospital;*

In order to increase awareness of people different meeting, workshops and TV sessions were conducted in order to raise awareness of the people and motivate all other sections in the hospital to focus and pay especial attention to TB cases and particularly refer suspected TB cases for further investigation and screening. This has resulted to the establishment of referral and consultation system which further helped hospital to cover all cases as necessary as possible. Moreover, the hospital technical staff have rotationally had regular live TV discussion] direct calls from audience during the TV interviews. The speaker was not only providing information

in regards with TB, but they were touch other communicable diseases as well. Furthermore Hospital Community Board Members (HCBM) were asked to be engaged in supporting the tuberculosis program and refer suspected cases to the hospital for screening and sputum examination.

2. *Enhance community participation to increase the number of volunteers to refer suspected cases sputum examination to the hospital.*

Solid efforts has been made to increase TB case detections. The clients were informed that in case if they observe a person who has cough more than two - weeks should be refer to TB diagnostic center particularly Nangarhar Regional Hospital. Such community mobilization efforts have gone beyond the tertiary level of care, a total number of 75 health posts where two community health workers work in each health post under two mobile health clinics were also provided with awareness raising meetings and they were encouraged to promote the referrals and send the cases with the aforementioned symptoms to the hospital for sputum examinations.

3. *Promote referral, early detection of TB and the same patient will be investigated for HIV as well if suspected*

During the project period, it has been observed that the inter department referrals in the hospital have been further improved and the linkage between poly clinic OPD, medical ward's entry point, pediatric ward's entry point as well as medical ward for consultation purpose with TB wards have been visibly enhanced. Moreover, in order to further improve TB services, beside the early detection of TB patients, health care providers have assigned even after the official time to attend night duties in medical and pediatric wards' OPD section in order to timely capture all cases without any missing, this is because that one of the gaps detected was less attention of mentioned wards OPD section to the patients that were in need of further investigation for TB. Additionally, these issues have been discussed in hospital community board meetings, mass media and in health education sessions in order to further improve TB case detection in hospital's catchment area. Moreover, during data collection process, the research team had direct interviews with TB patients and their other family members and encouraged them in case of suspicion on TB any member of family or other people at least send them for screening. The interesting thing we found during the data collection there was a patient who sent people for TB screening and 9 of them were diagnosed TB sputum smear positive.

PI has documented a success story in regards with a patient who got treatment in the hospital and then started to promote the referral cases to the hospital for screening, the complete story of that patient is annexed to this report.

3. *Key deliverables and success indicators for the proposal*

This section should answer the question "What needs to be done to achieve the objectives?" List up to four deliverables produced by this project (e.g. research evidence, trained scientists, new strategic approach, policy briefs, strengthened network, etc.).

For each deliverable, provide one indicator of achievement and its target date.

Milestones are events that mark progress towards the achievement of an objective. List one or two milestones per deliverable and per year. Add as many rows as necessary.

Deliverables list

Deliverable 1: All the line department of Nangarhar Regional Hospital are oriented at Sub national level by 1st week of July -2015

Milestone 1.1: Orientation of the line departments in regard with the project objectives and the desired support for the efficient implementation of the project

The project implementation starting in the 1st week of July -2015 in TB ward and poly clinic section and related staff oriented on project goal, objective and activities and staff were asked to extend their support and cooperation for successfully implementation of the project .And total around 30 staff from different categories have been oriented such as specialist, medical officers, head nurse, nurses, midwives and head of departments.

Deliverable 2: Strengthened Coordination Mechanism between the different departments of the Nangarhar Regional Hospital (NRH) to empower the referrals and early detection of suspected TB cases.

Milestone 2.1*: Assign role and responsibilities for parties involved in the implementation research TB wards staff, infectious diseases and poly clinic staff* 2nd week July -015

A meeting conducted in the second week of July -2015 with all involved parties term of reference for each staff of each category such as specialist, medical Officer, nurses and head of wards and also discussed the responsibilities for each staff on how to connect these three departments' of Hospital with each other in order to improve referral cases within hospital and avoid/stop missing cases. In the result and discussion with hospital and agreed to assign head of poly clinic for follow up of referral cases between poly clinic and TB ward and other section in order to increase the case detection in the hospital .beside that night duties has been started by TB ward's medical officers in order to capture TB suspected cases and refer them for proper investigation sputum examination and other required tests in worth to mention that with implementation of this project Nangarhar regional hospital has reached to their given target the target is given to hospital from ministry of public health;

Milestone 2.2 Coordination meetings with existing departments of the hospital including the hospital poly clinic with the aim to further strengthen the existing network and develop the plan of action to implement the research.***3rd week July -015***

A plan is developed for regular coordination meeting and the main agenda was in each meeting discussion on how to increase TB detection rate and refer suspected TB cases for sputum examination to lab section and follow up patient fortunately this is done and there is strong follow up mechanism is in placed research team particularly PI has attended several coordination meeting that was held between poly clinic and TB ward and focused how to improve the TB services in the hospital and increase the case detection and encouraged hospital management team to give especial focus to TB ward.

Milestone 2.3 *Identified plan of action for establishing the network between involved wards and IR team* ***4th week July -015***

Action plan is developed and agreed between the both parties with clear responsibilities and specific timeline of actions the progress against action plan is regularly reporting to implementation research PI the meeting minute kept and documented.

Deliverable 3: The Technical Capacities of the Staff Involved in the Research are built 1st week Aug-015

Milestone 3.1*: Developing Capacity Building (CB) plan for training of the project staff to early detect suspected TB cases more efficiently*

All staff are involved in TB section and Out Patient Department assessed for their capacity building from different aspect together with hospital medical director and TB specialist and training plan was made as per training need assessment beside that on the job training was given

to them where were needed in both technical and reporting system improvement.

Milestone 3.2: *Training of the staff in regard with the project implementation using the existing tools developed for the case notifications and questionnaires. 2nd and 3rd weeks –Aug-015*

As the standard tools in different forms had been developed by National Tuberculosis Control Program by technical and financial support from main donors Global Fund and WHO these tools were available in the hospital ,but the researcher team found gaps in the implementation of these tools ,all involved staff particularly in poly clinic section of the hospital refreshed and linked all relevant department on how to do follow up of the cases and provide necessary health care services to the TB patients in meanwhile send the strongly suspected patient for HIV screening test in order to detect co infection of TB and HIV. Beside that research assistants and data collectors also oriented /trained on goal, objective and main deliverable of the projects. Total around 20 staff trained to efficiently use the existing tools developed for the early *case detections.*

Milestone 3.3*: Research questionnaires and in depth interview guidelines developed by the key project staff pretested 4th week of Aug-015*

The research questionnaires were developed by PI in consultation with project team reviewed and pretested in the similar setting/ hospital area were done and few questions were eliminated, and some new questions which were required were added.

Deliverable 4: Submission of the research report

Milestone 4.1: Hospital survey(planned activities to be implemented in the wards) ***2nd week Sep-015 till 4th week of Nov-015***

Follow up of planned activities tracked in poly clinic ,TB ward and other related section of the hospital and gaps were identified during assessment also followed up with hospital technical and management team in term of diagnosis ,because one of research team strongly followed up with hospital management team and ministry of public of health for providing Digital x ray in the hospital finally they succeed to install computed Radiography system in the hospital , and also technical errors were found during assessment improved and corrected accordingly ,monitoring chart for easily understanding TB ward staff about their performance.

Milestone 4.2: health care provider survey and patient survey (data collection) ***3rd Oct-015 till mid Dec-016***

Data collected directly through face to face interviews by researcher and trained researcher assistants. Researcher and research assistants went to hospital each day and took a list of patients from wards and cabins from nursing station, where TB patients or suspected patients registered. The required numbers of patients were selected randomly from that list for study purpose. For qualitative part the research team used open ended questions, but for quantitative part most of the questions were close-ended and the chosen answers by the respondents indicated ticked mark. The data included personal information such as age of patient, living condition ,occupation ,education level, family income, contact person ,smoking history ,information about disease , opinion about TB , program weakness and strength ,and how we can increase detection rate and so on.

Milestone 4.3: Data Entry, Analysis and Drafting the research findings and Report ***Mid Dec-015 till Mid Feb -016***

Data are entered and recorded using SPSS version 23. Software and Microsoft Excel.

Descriptive and inferential statistics have done and findings presented by summarizing, cross tabulation format in the finding/result section.

4. Study Design and methods

Mixed (Quantitative & Qualitative) research method was used to conduct this study.

A cross sectional design is used in order to identify and document TB suspected cases and

explore new innovative approaches to increase the TB case detections at within a specific time frame. The study site was selected Nangarhar Regional Hospital relevant departments.

4.1 Study duration

The study started on 1st July -015 and ended on Feb-016 for the duration of total eight months

4.2 Study Population:

Participants in the study were randomly selected from the TB wards' patient file, TB register book and poly clinic OPD section of Nangarhar Regional hospital. Initial the sample size was 384 including TB confirmed cases and TB suspected patients, who had TB or coughing for more than two weeks for different reasons. Fortunately there was zero nonresponse rate, therefore the whole sample size covered accordingly.

4.3 Sampling methodology

For quantitative part simple random sampling technique was used for study in order to give chance to every subject to participate in the study. There was a list of patient which contained all basic necessary information of patient's name, full address in every day of data collection and the requisite number of patients was randomly selected from list and register .and for those patients they were under treatment but they were not present in the hospital the data collector used their phone number and went to their home for taking their interview .The data was collected by getting information from respondents through individual interview of the randomly selected patients in OPD section and also from theirs' files.

4.4 Sample Size: Sample size was 384 with 10% nonresponse rate fortunately the nonresponse rate was zero in this study.

Equation for calculation of sample size was used $n=Z^2 * (p*q) \div d^2$

$q= 1- P$ $P= 50\%$ and at 95% confidence interval then $Z= (1.96)2$. margin error was considered 5% , and for qualitative as per data saturation the research team did interview of 30 IDIs

4.5 Study Tools:

Closed-ended structured questionnaires with appropriate response option were used for data collection and for qualitative part open ended question used for IDIs guideline and the patient files were used based on prior taken consent of, for using patient address in order to find out the patient in living catchment areas.

4.6 Data Collection Procedures and Analysis:

Data collected directly through face to face interviews by researcher and trained researcher assistants. The researcher and research assistant went to hospital each day and took a list of patients from wards and cabins from nursing station, where TB patient or suspected patients registered. The required numbers of patients were selected randomly from that list for study purpose. For qualitative part we used open ended questions ,but for quantitative part most of the questions were close-ended and the chosen answers by the respondents indicated ticked mark The data included personal information such as age of patient, Living condition ,occupation ,education level, family income, contact person ,smoking history ,information about disease , opinion about TB , program weakness and strength ,and how we can increase detection rate and so on. Qualitative thematic analysis is done and the result is reflected in result section and quantitative part data is under process and according to the plan the data will be generated within a month and reflected in the final report that will be released in Mid Feb-016.

4.7 Ethical consideration:

After initial approval of the project by World Health Organization the research methodology has shared with ethic committee of hospital and also has ensured that is in line with ACOEO ethical guideline. This committee is responsible for operationalization the health research system by identifying and prioritizing the health research needs and gaps.

Pre-appointment permission was obtained from hospital to collect information mainly through interview of the patient in OPD section of poly clinic, other OPDs and TB ward of mentioned hospital and from their files upon consent. An informed verbal and written consent was obtained from participant before taking interview from them. They were informed that there will be no financial or other incentives for participating in the study, and that their participation is voluntary. They were also told that they may withdraw participation in the study at any time after initial participation, without any prejudice or penalty. They were further told that they may decide not to respond to particular questions.

Finally, they were assured about confidential handling of their information and that their name or any identifier will not be used in performing data analysis and in sharing with the results of the study. Following this, a signature (or a thumb impression for those unable to sign) was obtained from the consenting participants.

In order to make sure the Reliability of the tools questionnaires were pretested and corrected based on findings of pre- testing and for Validity questionnaires were translated into Afghan national language for better communication and also research assistants was trained and sensitized with the research questionnaires before data collection.

5. Results:

As per plan that was shared before start of the project the data analysis has done during Jan – Feb 016 mainly quantitative part and the following is the summary that is obtained in the basis of thematic analysis of qualitative data that reflect health care providers views regarding provision of TB care to clients and statistical analysis of quantitative that reflect both confirmed TB and suspected patients views by using structured questionnaires' and on how to increase the TB case detection rate in the hospital catchment area.

Total N=383 participants were enrolled in the study out of this number 54.6 percent (n= 209) were male and 45.4 percent (n=174) were female patients with active TB and suspected TB the study took place in the hospital and using the patients record the patients were also tracked in the field by using their phone number that was written in TB patient register and direct interview carried out with them in their home and structured questionnaires' were used for this purpose.

Socio demographic characteristic:

Variables	Frequency	Percent
Sex of patients		
- Male	209	54.6%
- Female	174	45.4%
Place of living		
- Urban	199	52%
- semi urban	1	.3%
- Rural	183	47.8%
Home Address		
- City	201	52.5%
- District	182	47.5%

Occupation		
- House wife	132	34.5%
- Farmer	67	17.5%
- Student	97	25.3%
- Service	64	16.7%
- Business	2	0.5%
- Professional	9	2.3%
- Jobless	12	3.1%
Education level		
- No education	222	58%
- Primary	67	17.5%
- Secondary	69	18%
- Higher	25	6.5%
More than one TB patient in family		
- Yes	13	3.4%
- No	270	96.6%
Referrals to Hospital		
- Health providers	201	52.5%
- Self-referral	182	47.5%
Current smoking history		
- Yes	15	3.9%
- No	268	96.1%
Past smoking history		
- Yes	47	12.3%
- No	87.7	87.7%

The average age of participants were 32 Years ranging from 16 years to 75 Years and 52.5% (n=201) of participants were from city (urban area) while 47.5 percent (n= 187) of participants were from districts (rural areas).

fortunately 96.1 %(n=368) of participants were nonsmoker and only 3.9 %(n=15) was current smoker and 12.3 %(n=47) had past positive smoking history.

The majority of study participants 64.4 % (n=247) had monthly income around 150 USD, 14.1 %(n=45) had less than 90 USD monthly income and only 21.4 %(n=82) had more than 150USD monthly income. And most of confirmed cases were reported from those they had low income level. And regarding past contact history with TB Patient 10.7%(n=41) had contact at home ,4.2%(n= 16) had contact at health facilities ,2.6%(n=10) had contact out of home ,56.4%(n=216) of participants had no contact with TB patients and only 26.1%(n=100) participants did not know about whether they had contact with TB patient or not

Average 10 members were available per family while minimum members of family was 2 and maximum 27 member and most of the cases were available in the crowded family.

Regarding program effectiveness 86.9 %(n=333) study participants were satisfied from provision TB program and only 2.9 %(n=11) participants were not satisfied and 10.2% (n=39) responded that they do not know about program.

Regarding factors that are more important in treatment of the patient 43.9%(n=168) think that financial support is important, 46%(n=176) think community worker contribution is important, 8.1%(n=31) think neighbor support is important, and only 2.1%(n=8) of participants think that TB patient around the living place can play great role in the treatment of tuberculosis patient. And from this study it has found that the more cases were present where the people living with low socioeconomic condition and with low coverage of health services particularly where community health worker support and contribution are less, but support and contribution of

previous TB patient is very crucial a story of Bibi Pari daughter of Abdul Karim who had referred many suspected patients 9 out of them were strongly suspected and after required tests all nine got sputum smear positive the principle investigator documented the story with some photo that can be seen in **annex A**. furthermore this study has shown strong an association between smear sputum positive cases and low socioeconomic status ,poverty and low education level of the patients.

The health care providers who participated in this study explained regarding how to increase detection rate
stated that *" Health education session should be held in public gathering mosque school, Mass media and other source for raising community awareness regarding Tuberculosis also good coordination with primary health care related health facilities, private sectors, and further improvement of TB program in term of diagnosis for children, prisoner, diabetic patients are the areas that can contribute to increase detection rate".*

Regarding the question how to improve TB care for suspected patient and TB program in the hospital .most of the health care providers stated *"digital x-ray should be procured and supplied to hospital in order to improve TB care in the hospital"*

Fortunately the digital x-ray provided by implementer NGO supported by Ministry of Public Health .But few of them stated *"strong monitoring and supervision system will contribute for further improvement of TB care and TB program in the hospital"*

When the health care providers were asked for challenges against successfully implementation of TB program in the hospital almost all of health officials stated

"Patients with chronic cough mostly received anti TB drugs in private clinic irregularly this lead patients to MDR ,Lack of regular supervision and monitoring system, Irregular Lab and Drugs supply chain,instable security situation ,and poor economic condition are the main challenges",

Furthermore response to the question what kind of economic status do TB patients have ,majority of the respondents stated about economic status of tuberculosis patients

"They can hardly benefit from the existing health services ,however the treatment is free ,but due to poor economic condition they are not able to pay for transportation and other support treatment particularly nomadic population in the province"

One of health provider stated *"If DOTS facilities are established in nomadic population areas, it will further improve TB detection rate and avoid MDR cases".*

The longstanding conflict in the eastern region and the subsequent high staff turn-over, particularly in the rural areas, and insecurity were reported by some health official as the reason of poor access to TB care:

"The health facilities in the rural areas are empty of staff because those areas are hard to reach due to insecurity combined with poor infrastructure. Accordingly, the health workers in the rural parts of the province may not receive salary, sometimes for several months. They often come back to Jalalabad city and they never go back again"

And regarding the collaboration of program with other stake holders medical director responded *"There is good collaboration with local authorities and NGOs, Ministry of Public Health has*

leading role in implementation of TB program and initiatives activities in the province WHO Provides technical Support to the program".
And some health provider had views regarding TB illness and program stated "*Basically this illness is just for poor people beside free medicine they really need appropriate food as well. Few years ago (WFP) were come to the point and helped the patients with appropriate food. And decreased the level of the problems for a while. But unfortunately there is no help at all for right now which the patients really wants some needy helps''.*

6. Conclusion

Generally the project implemented successfully, a lot have been covered in regards with enhancing TB case detections, raising awareness of both clinical staff and community people in different means. Hospital Community Board Management (HCBM) Team which is known as the bridge between the clinical staff and the community people, during the project implementation their engagement has visibly enhanced the referrals of suspected TB cases to the hospital .

Encouraging the patients and family members was another approach that have contributed in better implementation of the project and successful results.

During the project implementation period, it has been observed that there the key approach to enhance the referral system and increase the number of volunteers is to raise the level of awareness of the community population.

Coming to the tertiary level of care, Inter departmental referrals inside the hospital requires regular follow up. Although there was especial focus on establishing and strengthening the interdepartmental linkage but it needs required further support and regular follow up.

7. Quality assurance

ACOEO project staff has used standard tools for quality assurance and conducted internal assessments bimonthly as per plan. Additional to that technical support and guidance was provided regularly through ACOEO Kabul office in close coordination with the involved parties.

8. Environmental considerations

However this research project did not have any potential impact on environment in term to be risk for environment. The project team has tried to do not use un necessary paper print out and copies and proper placed study materials in order to, do not emit greenhouse gases because production of paper copies use need for amount of energy which alternatively produce greenhouse gases mainly CO2.

9. Risk management:

A well-coordinated approach were used and there was no potential risk to the successful achievement of project objectives as defined in work plan and also there was no any obstacles during project implementation.

10. Recommendation

The Mass media live events particularly the TV discussions and roundtables and answering to the questions arise by the people have provided an enormous support to the project and requires to be further enhanced.

Support inter departmental linkage within hospital for proper reporting, optimising case detection and identification of smear sputum positive TB cases by extension of the project for longer periods as well as to others provincial and regional hopitals .

Support appropriate operational research for further imrpovemnt of referral system at community and hospital levels for assessment of referral system monitoring tools that will help in increasing TB detection rate and that will also improve initiating service ,counter referral ,linkage ,and referral networks.

11. BUDGET JUSTIFICATION

As per signed contract 75 % of total ceiling has been received and disbursed according to the plan in the following lines ;

Personnel salaries, trainings, printing tools/ photocopies, communication and transport based on budget in each lines during

expenditure report.

S/No	Budget Item	Original Total contract Budget	Total Fund Received	Expenses	Installments Received		Remaining Budget vs. Total Budget	
					in Amount	in %	in Amount	in %
1	Total Salaries and Wages	7,640	5,730	7,640	5,730	75%	1,910	25%
2	Total Goods and Services	1,368	1,026	1,368	1,026	75%	342	25%
3	Training Activity	700	525	700	525	75%	175	25%
4	Indirect cost/Admin cost	292	219	292	219	75%	73	25%
Grant total		**10,000**	**7,500**	**10,000**	**7,500**	**75%**	**2,500**	**25%**

Reference

1. WHO. (2014). Global Tuberculosis Report 2014. Geneva, Switzerland: Author. Retrievedfromhttp://apps.who.int/iris/bitstream/10665/137094/1/9789241564809_eng.pd
2. BRAC Afghanistan Annual Report. (2012).ABOUT BRAC AFGHANISTAN. Retrieved fromhttp://www.brac.net/sites/default/files/ar2012/
3. Afghanistan Ministry of Public Health, Nangarhar Regional Hospital Quarterly Technical Reports ,page # 02&03 table 01 performance indicators
4. Afghanistan, Ministry of Public Health Management Information System Directorate http://www.mohp.gov.af
5. Afghanistan, Ministry of Public Health National Tuberculosis Program (NTP) http://www.mohp.gov.af.

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Annex A Success story of Bibi Pari daughter of Abdul Karim

Back in 2013 in fall season as cold days had been started with Respiratory track infection's patients most of them along with cough were coming to my private clinic day by day for examination and treatment of TB and some other Respiratory diseases' patients. But unfortunately in the country at east zone from remote area the level of TB infected were high among the patients one day I have seen a young teenager girl about 12 years old was waiting to meet me but she couldn't speak none of our national language (Pashto or Dari),but there was another young white and beautiful woman with green eyes and she was able to speak Pashto and Dari all covered up with ''Hejab'' her attitude and movement was like completely educated woman was right next to the patient and her job was interpreting . After a normal respect she introduced the patient and she told me the story of the patient she interpreted all my questions into Nooristani language and back to me in Pashto language. After examination especially for TB (Sputum examination) and diagnosis her treatment plan made by Nangarhar Hospital and referred her to Nooristan Hospital. As this event repeated few time by guiding and interpreting of this young woman and I necessarily helped the patients. Helping and keep coming of this young woman along with patients made me to know her better and point the reason of her helps with patients.

Her name is Bibi Pari daughter of Abdul Karim originally from Gostuz village Kamdish District, Nooristan province Nooristan province is located in eastern part of Afghanistan where Afghanistan has long border with neighbor country Pakistan and is one of very remote province. After 3-4 decades indecent in the country made the family to emigrant from Nooristan to Chatral Pakistan. 35 years ago she born in immigrant camp in Chatral and growth up there she studied up to 6th class in Camp's school and then studied up to 10^{th} level in Chatral city at Afghan Immigration school .learned to speak Pashto, Dari, Urdo, and little bit English languages.

Because of country culture and immigration she couldn't continue her education .she was only 14 years old while she married in 1994. Poverty, immigration and lack of family health knowledge she became ill 2 years after her wedding for Tuberculosis Pleural Effusion in right side because of complicated case-emphysema she hospitalized in Peshawer Hospital. She became healthy after long treatment.

In 2012 her family Re-integrated back to the country but because of security threat in father's dwelling place they placed in Jalalabad village area close to Nangarhar Regional Hospital. As she was aware of TB she helped and referred patients, her neighbors and other villagers whom were coming from Nooristan for treatment to hospitals.

as I remember this chain was continue for 2-3 years among the patients which were referred by Bibi Pari to my private clinic 9 of them were positive Sputum Smear and the necessary treatment is either completed or on going .

Poverty, less rooms, lack of infection prevention knowledge, and not enough appropriate food pave the ground to relapse back to TB again. So she kept going to hospital along with other patients to help them and her husband was in the Army in remote area because of poverty after 5 months slight, fever coldness weakness cough phlegm lack of appétit she couldn't endure it anymore and told me everything in examination room. After examination Bibi Pari,s relapse case sputum smear positive TB diagnosis and hospitalized in TB ward . Facing her over and over in my private clinic and in the hospital along with TB patients diagnosed positive which were referred by her made me to know her better and give her much more respect every time I faced her I advised to prevent herself and family from TB infection but she always complained about not having separate rooms and some other problems.

some private problems being very busy in the house, poverty and her pregnancy made her to

stay in the hospital's bed

Bibi Pari said when she became healthy this time she will keep finding patients and won't be tired of referring them to the Hospitals .and as well I will try my best to keep away healthy people from TB . because I know how easy this illness spread from patients to healthy people

Bibi Pari was accompanied by her father and her widow sister and their helps with Pari is respectable .Bibi Pari used mask day and night time she kept away her children even her husband. And given some INH preventive Medicine to her 3 years old daughter for 6 months against TB .she become little bit better in 45 days but pregnancy, poverty, lack of appropriate food, and same heavy work was a huge barrier to her .

Photo taken during interview ;

PI taking interview from Bibi Pari

PI taking interview from chief of TB ward in his office

PI with TB specialists in their office