This report was produced for review by the United States Agency for International Development (USAID). It was prepared under contract with Checchi and Company Consulting, Inc. for USAID’s Afghanistan “Services under Program and Project Offices for Results Tracking Phase II” (SUPPORT II) project.
Activity Signature Page

This report was contracted under USAID Contract Number: AID-306- C-12-00012. Afghanistan Services Under Program and Project Office for Results Tracking Phase II (SUPPORT II).

This Activity was initiated by the Office of Program and Project Development (OPPD) through Mr. Daryl Martyris, COR/SUPPORT II.

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Activity Start Date: November 10, 2014
Completion Date: December 22, 2014

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## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>APHA</td>
<td>Afghan Private Hospitals Association</td>
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<tr>
<td>BHC</td>
<td>Basic Health Center</td>
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<tr>
<td>BPHS</td>
<td>Basic Package of Health Services</td>
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<td>BRAC</td>
<td>Bangladesh Rehabilitation Assistance Committee</td>
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<tr>
<td>CB-DOTS</td>
<td>Community Based DOTS</td>
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<tr>
<td>CHC</td>
<td>Comprehensive Health Center</td>
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<tr>
<td>CHS</td>
<td>Community Health Supervisor</td>
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<td>CHW</td>
<td>Community Health Worker</td>
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<tr>
<td>DH</td>
<td>District Hospital</td>
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<tr>
<td>DOTS</td>
<td>Direct Observation Treatment Short-course</td>
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<tr>
<td>EPHS</td>
<td>Essential Package of Hospital Services</td>
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<tr>
<td>GIRoA</td>
<td>Government of the Islamic Republic of Afghanistan</td>
</tr>
<tr>
<td>IEC</td>
<td>Information Education Communication</td>
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<tr>
<td>IC</td>
<td>Infection Control</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, Education, and Communications</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<tr>
<td>KPHD</td>
<td>Kabul Provincial Health Directorate</td>
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<tr>
<td>MoPH</td>
<td>Ministry of Public Health</td>
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<tr>
<td>MSH</td>
<td>Management Sciences for Health</td>
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<tr>
<td>NSSP</td>
<td>New Sputum Smear Positive</td>
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<tr>
<td>NTP</td>
<td>National Tuberculosis Program</td>
</tr>
<tr>
<td>OPD</td>
<td>Outpatient Department</td>
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<tr>
<td>PHD</td>
<td>Public Health Directorate/Director</td>
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<tr>
<td>PPM</td>
<td>Public-Private Mix</td>
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<tr>
<td>SOPs</td>
<td>Standard Operational Procedures</td>
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<tr>
<td>SOW</td>
<td>Statement of Work</td>
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<tr>
<td>SS+</td>
<td>Sputum Smear Positive</td>
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<tr>
<td>SS-</td>
<td>Sputum Smear Negative</td>
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<tr>
<td>TB</td>
<td>Tuberculosis</td>
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<tr>
<td>TB CAP</td>
<td>Tuberculosis Control Assistance Program</td>
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<tr>
<td>TB SS+</td>
<td>Pulmonary Tuberculosis Sputum Smear Positive</td>
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<tr>
<td>TB SS-</td>
<td>Pulmonary Tuberculosis Sputum Smear Negative</td>
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<tr>
<td>TBS</td>
<td>TB Suspect Case</td>
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<td>TBSE</td>
<td>TB Suspect Expected</td>
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<td>TSR</td>
<td>TB Success Rate</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>WHO</td>
<td>World Health Organization</td>
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I. EXECUTIVE SUMMARY

1. PROJECT BACKGROUND

Tuberculosis continues to be a public health problem in Afghanistan. As recently highlighted by the World Health Organization Country Representative, Dr. Richard Peeperkorn, “Afghanistan is among the 22 countries in the world that suffer from a high burden of tuberculosis (TB) and annually around 13,000 people die because of this disease.” He added that the figures show that each day 36 people die of TB. Dr. Peeperkorn noted that although the TB cases reporting rate has increased in the last 13 years, many cases are still not diagnosed. Last year, more than 31,000 TB cases were reported and registered for treatment, but around 27,000 cases remained undiagnosed. He underlined, “In Afghanistan, women constitute two-thirds of all TB patients.” The USAID TB-CARE I project was initiated and funded to help Afghanistan address its high burden of tuberculosis, with an operational focus on 13 selected provinces.

Management Sciences for Health (MSH), the implementing partner for TB-CARE I, initiated its efforts in the third quarter of 2011 and is continuing to support TB control in Afghanistan. This report focuses on questions related to the empowerment of the national TB system and improvements in TB indicators obtained through TB CARE I’s support to and the implementation of Urban-Direct Observation Treatment Strategy (DOTS) and Community Based-DOTS (CB-DOTs). Additionally, the evaluation addresses reported challenges and facilitators for any possible future expansion or continuation of USAID’s support for TB-CARE I-related initiatives. While the TB-CARE I project is expected to support improvements in TB system indicators, it is also expected to improve the technical leadership, management, and operational control capacity of the National TB Program (NTP). This report explores changes in both TB system indicators and the capacity of NTP.

2. EVALUATION QUESTIONS, DESIGN, METHODS AND LIMITATIONS

The questions listed below are addressed in this performance evaluation. To address these questions, quarterly data from the beginning of 2008 to the third quarter of 2014 on provincial TB program indicators, along with clinic-level indicators for the second quarter of 2014, were obtained from NTP through the TB-CARE I project. Qualitative information and insights were obtained from interviews with national-, provincial-, district-, and clinic-level TB principals. Some international NGOs supporting TB clinics in TB-CARE I provinces were additionally interviewed.

Where applicable, the evaluation design relies upon quantitative evidence of improvements in TB system indicators as listed in the quarterly reports prior to TB-CARE I and those reports after the start of TB-CARE I’s implementation. This design includes a comparison of indicators for those Afghanistan provinces that are not included in TB-CARE I’s operational plan—prior to and after the start of TB-CARE I.
Qualitative information obtained from interviewed principal actors leading, managing, and implementing national-, provincial-, district-, and clinic-level TB control efforts serves as the basis for responses to the more subjective questions.

This evaluation is partially dependent upon the data made available by NTP through the TB-CARE I project. It is important to highlight that this evaluation does not include an assessment of laboratory quality, treatment protocols, reporting accuracy, continuity of drug supplies, or contact tracing. In the absence of data, an assumption of uniformly distributed security/insecurity is made to permit comparisons over time and between groups of provinces.

3. Evaluation Questions:

1) To what extent were the TB CARE I activities effective in achieving the project goal (increasing TB case detection and improving TB treatment outcomes in Afghanistan)?
   a. Are there significant differences in outcomes between provinces? Why?
   b. What factors hindered or helped achieve the project goal?
2) To what extent have the Community-Based DOTS and Urban-DOTS packages been effectively scaled up?
   a. What challenges have these models faced in scaling up?
   b. What conclusions can be drawn about scaling up and replicating these models in the future?
3) How cost-effective have the Community-Based DOTS and Urban-DOTS intervention packages been?
4) How effective has TB CARE I been at working within government structures, and/or leveraging investments in TB from the Global Fund, JICA, and other donors? What conclusions can be drawn about the sustainability of TB CARE I’s interventions?
5) Based on these analyses, what recommendations can be made for future programming?

4. Findings and Conclusions

As recently reported by a senior Global Fund official, “TB Control in Afghanistan is one of the few collaborative efforts of the [Afghan government] that has made significant progress towards reaching its Millennium Development Goals.”

The implementation of URBAN-DOTS/Public-Private Mix on a large scale in an urban setting can be cost-effective, and can considerably reduce the financial burden of TB for patients. URBAN-DOTS, as implemented in Kabul, appears to be a cost-effective and efficient mechanism to increase case detection and treatment outcomes. The evaluation team concluded that an expansion of URBAN-DOTS to include those provinces with large urban centers can significantly increase case detection.

The cost effectiveness of CB-DOTS over a wide range of countries is well-documented in the international literature. An assessment of the success of CB-DOTS that is limited to the initial six provinces fully implementing CB-DOTS yields positive results that are similar to those demonstrated by URBAN-DOTS in Kabul. Given the very high potential for increased
synergies with other MDG health-related interventions, an expansion of CB-DOTS with its empowerment of community health workers can benefit not only TB patients but help to improve Afghanistan’s basic health indicators. CB-DOTS through its use of CHWs is one of the few efficient mechanisms for reaching the poorest of the poor in remote Afghanistan. The TB evaluation team concluded that a pro-poor approach should include proportional funding for an expansion and enhancement of CB-DOTS—especially in any provinces selected for URBAN-DOTS expansion.

Afghanistan’s NTP has taken a critical step forward by fully adopting the Health Management Information System (HMIS) of the Ministry of Public Health (MoPH). The current support system for essential TB management and monitoring information does not permit timely management review and action. The long delay in the availability of third quarter (Q3), 2014 TB indicator data from NTP and TB-CARE is evidence of a systemic problem. The long missing quarterly provincial data reinforces this observation. The TB evaluation team concluded that significantly increased attention to the capture, reporting, analysis, and timely feedback of TB indicator data is required to permit management oversight and timely intervention. Additionally, historical and current quarterly data with descriptive analysis should be made publicly available (perhaps on a website) to help increase awareness of and oversight of TB control efforts in Afghanistan.

We applaud TB CARE I’s third quarter 2014 provision of training to permit NTP to expand TB case detection and treatment at Afghanistan’s largest prison in Kabul as part of the expansion of Urban-DOTS. The TB CARE evaluation team strongly supports this intervention and hopes that all prisons with long-term inmates will be included in NTP’s network.

As evidenced by both the high variability in provincial-level quarterly TB indicators and the findings from provincial site visits, TB program implementations at the provincial and district levels cover a wide range of approaches, partnership arrangements, and NTP control. The non-TB CARE provinces continue to suffer from an excessive variability in their quarterly treatment success rates. This variability is often attributed to the absence of standards, routine supervision, and management control. Although varying levels of insecurity maybe a contributor, the TB CARE I evaluation team concluded that an expansion of support for joint quarterly supervision visits to all of Afghanistan’s provincial TB programs in conjunction with training and support for the timely analysis and monitoring of quarterly reports has a good potential to further empower NTP and to additionally improve overall system performance.

5. **Recommendations (First Ten)**

1. URBAN-DOTS/PPM should be expanded in concert with existing PPM initiatives not only within Kabul but to the other major cities as appropriate.
2. CB-DOTS should be expanded and enhanced at the district level to cover all health post in all provinces—especially in any province selected for URBAN-DOTS expansion.
3. The evaluation team recommends that TB CARE I increase efforts to develop community support for sputum/slide/specimen transport arrangements for remote villages.

4. TB CARE I should support a higher level of collaboration with local religious/social leaders and the media, along with local and national associations of previous TB patients, to increase awareness and case finding.

5. More effort should be made to detect childhood TB as part of the Basic Package of Health Services (BPHS).

6. TB CARE I with NTP should support high quality and universal antenatal screening for TB to help eliminate TB as a cause of maternal mortality.

7. TB CARE I should provide technical and training support to permit effective and timely reporting and use of TB data in conjunction with the existing HMIS data bases.

8. TB CARE I could support/motivate/require NTP and provincial-level TB staff participation in widely available certified e-learning for health analytics and data management.

9. TB CARE I should assist NTP to promote incorporating the TB control program supervisory checklist into the health facility supervisory checklist for the BPHS now being utilized by MoPH and NGO supervisors.

10. The organization and staffing of TB-CARE I could be enhanced to increase its effective in-office support to NTP and to the TB directors in highly-populated provinces, especially to directors in any provinces selected for Urban-DOTS expansion.
II. INTRODUCTION

1. PROJECT BACKGROUND

The following notes are extracted from the Scope of Work and TB CARE I’s project documentation: Afghanistan is one of 22 countries highly burdened by tuberculosis. Afghanistan has an annual estimated prevalence of 358 cases per 100,000 people, incidence for all cases of 189 per 100,000, and a death rate of 37 per 100,000 population, respectively. According to national TB surveillance data for 2012, total cases notified were 28,578 (new and retreatment). The case detection rate is 52 percent and treatment success rate is of 91 percent.

TB CARE I is a five-year, USAID-funded project that began in July 2011. In Afghanistan, TB CARE I works on decreasing morbidity and mortality through increasing case detection and treatment success of pulmonary TB patients.

In Afghanistan, TB CARE I partners Management Sciences for Health (MSH), the KNCV Tuberculosis Foundation (KNCV), and the World Health Organization (WHO) partner with the Bangladesh Rural Advancement Committee (BRAC) and Ministry of Public Health (MoPH)-contracted implementers of the Basic Package of Health Services (BPHS) and Essential Package of Hospital Services (EPHS) to carry out project activities.

Through TB CARE I, USAID assists the National Tuberculosis Program (NTP) to implement its 2009-2015 strategic plan to achieve its objectives of increasing case detection and improving treatment success rate by implementing standard operational procedures for case detection, diagnosis, treatment, TB Infection Control (TB IC), and its detection and treatment in children in 18 provinces (Kabul, Bamyan, Baghlan, Badakshan, Jowzjan, Faryab, Herat, Farah, Nimroz, Helmand, Kandahar, Zabul, Maidan Wardak, Ghazni, Paktika, Paktiyan and Khost).

TB CARE I activities aim to improve Direct Observation Treatment Strategy Short Course (DOTS) coverage, case detection, and treatment. These activities aim to reduce the number and percentage of TB patients who default from TB treatment, thereby improving the TB treatment success rate. TB CARE I has developed and implemented the innovative Urban-DOTS intervention package since 2009, targeting the densely-populated city of Kabul with its irregular infrastructure and poor health system. To reach vulnerable rural populations, TB CARE I has developed and expanded an innovative Community-Based DOTS (CB-DOTS) approach in 13 USAID-supported provinces. TB CARE I has supported the implementation of CB-DOTS in four provinces through the MoPH’s contracted BPHS implementers, and in an additional nine provinces through BRAC.

TB CARE I also focuses on strategic areas and challenges to assist the NTP in improving the management and technical capacities of the central and provincial TB teams, as well as expanding the quality of DOTS. For example, TB CARE I has assisted the NTP to develop and implement an electronic reporting system in all 34 provinces of Afghanistan.

The overall goal of TB CARE I in Afghanistan is to improve health outcomes, which in turn contributes to USAID/Afghanistan’s development objective, “Gains in Health, Education, and the Empowerment of Women Maintained and Enhanced.”

**Figure 1: Goal, development objective and intermediate results of TB CARE I**

To increase case detection and treatment success rates, TB CARE I in Afghanistan works with the MoPH and the NTP in four technical areas:

1. Universal access to TB services
   a. Urban directly-observed treatment, short-course (DOTS) implementation in Kabul city
   b. Community-based-DOTS implementation in 13 provinces
2. Strengthening health systems
   a. Policy document development
   b. Raising staff capacity at national- and health--facility levels
3. Tuberculosis infection control
   a. Provide a safer working environment to health care staff, clients, and communities
4. Strengthening M&E and operational research
   a. Promote evidence-based decision-making

The intended results from TB CARE I’s project in Afghanistan are:

1. Increased access to TB services through innovative approaches to DOTS implementation in densely-populated areas of Kabul city and CB-DOTS implementation in 13 provinces;
2. Strengthened health system through renovation of health facilities, training of health care staff, development, printing and dissemination of TB guidelines, standard operating procedures (SOPs) for case detection and TB information, education, and communications (IEC) materials;
3. Strengthened TB infection control (IC); and
4. Strengthened monitoring and evaluation, surveillance systems, and operations research by providing assistance to the NTP on the implementation of electronic reporting systems, annual national evaluation of the TB program, and by conducting research in NTP priority areas.

To date, the project has expanded DOTS to 80 public and private health facilities in Kabul city, and to approximately 4,000 villages located in rural and remote, hard-to-reach areas. Training, supervision, and monitoring of DOTS implementation have also been expanded to 368 health facilities. Identification and examination of 413,268 presumptive TB cases have led to the notification of 28,741 cases of sputum smear positive, and 65,307 of all forms of TB cases in the intervention areas. In addition, treatment success rate improved by seven percent, from 83 percent in 2009 to 90 percent in 2013.

2. Evaluation Purpose

As detailed in the Scope of Work for this evaluation, the purpose of this final performance evaluation is to assess the effectiveness of TB CARE I’s approach and activities in contributing to the project’s intended results, and to develop recommendations to promote the effectiveness of future TB programs. The evaluation should draw strong evidence-based conclusions that inform sound, actionable recommendations to USAID and other key stakeholders, e.g., WHO and the MoPH, in achieving the overall goal. The evaluation will identify the strengths and weaknesses of the project and will identify lessons learned and recommend options for future support of TB programs and projects in Afghanistan.

The specific objectives are:

1. To assess the performance of TB CARE I’s activities in Afghanistan.
2. To make evidence-based observations, draw conclusions, and provide substantive recommendations that may be used in future programs based on lessons learned.
3. **Evaluation Questions**

1. To what extent were the TB CARE I activities effective in achieving the project goal (increasing TB case detection and improving TB treatment outcomes in Afghanistan)?
   a. Are there significant differences in outcomes between provinces? If so, why?
   b. What factors hindered or helped achieve the project goal?
2. To what extent have the Community-Based DOTS and Urban-DOTS packages been effectively scaled up?
   a. What challenges have these models faced in scaling up?
   b. What conclusions can be drawn about scaling up and replicating these models in the future?
3. How cost-effective have the Community-Based DOTS and Urban-DOTS intervention packages been?
4. How effective has TB CARE I been at working within government structures, and/or leveraging investments in TB from the Global Fund, JICA, and other donors? What conclusions can be drawn about the sustainability of TB CARE I’s interventions?
5. Based on these analyses, what recommendations can be made for future programming?

4. **Methods and Limitations**

To address the quantitative questions, quarterly data from the beginning of 2008 to the third quarter of 2014 on provincial TB program indicators, along with clinic-level indicators for the second quarter of 2014, were obtained from NTP through the TB-CARE I project. Descriptive plots and, where appropriate, statistical tests of significance are included in Annex V with details and notes on the methodology, analytical findings, and results.

Due to time limitations, individual clinic-level data were not aggregated. This data for only quarter two, 2014 was used to examine the age-gender distribution of new sputum smear positive (NSSP) cases and the percentage of female patients across Afghanistan’s provinces. The timely availability of this data for the last 27 quarters by clinic in a usable format would facilitate further analysis.

Gender-specific data are not currently available in the provincial quarterly indicators reports. However, we understand that the Global Fund and WHO will soon require indicators disaggregated by gender.

Qualitative information and insights were obtained from interviews with national-, provincial-, district-, and clinic-level TB principals. Some international NGOs supporting TB clinics in TB-CARE I’s provinces were additionally interviewed.

Where applicable, the evaluation design relied upon quantitative evidence of improvements in TB system indicators listed in the quarterly reports prior to TB-CARE I, and those reports after the start of TB-CARE I’s implementation. This design includes a comparison of
indicators for those Afghanistan provinces that are not included in TB-CARE I’s operational plan—prior to and after the start of TB-CARE I.

The quantitative portions of this evaluation are dependent upon the data made available by NTP through the TB-CARE I project. It is important to highlight that this evaluation does not include an assessment of laboratory quality, treatment protocols, reporting accuracy, continuity of drug supplies, or contact tracing. A copy of the scope of work for this evaluation is provided in Annex I.

The third quarter of 2011 is utilized as a baseline for TB CARE I before and after comparisons of available TB-provincial level indicators. Given that CB-DOTS programs require some time to reach full implementation status, Quarter 3, 2012 is utilized as a split date to explore its impact. The initial six CB-DOTS are utilized for this effort.

**III. FINDINGS**

Quantitative data and qualitative information obtained from interviews with active TB professionals in Afghanistan are used to address each of the evaluation’s questions. Additional details and documentation can be found in Annex V containing methodology and analysis notes, and in Annex VII, which provides details on information obtained during interviews. In evaluation question order:

1. **To what extent were the TB CARE I activities effective in achieving the project goal (increasing TB case detection and improving TB treatment outcomes in Afghanistan)?**

Based on the data provided by NTP and the TB CARE I project, there is evidence that TB case detection has improved in project provinces, and there has been a clear improvement and stabilization of clinic-level treatment outcomes in TB CARE supported provinces. Urban-DOTS (Kabul) is the primary contributor to this success.

The following plot presents data points representing quarterly sums of new suspect cases and NSSP cases prior to and after the implementation of TB-CARE I. The quarterly sums for TB-CARE I (blue) and non-TB-CARE I (pink) provinces are depicted separately.
Figure 2: Trends of the Semi-Annual Sum of All Cases and NSSP Cases by TB CARE and non-TB CARE Provinces

The above plot for suspect cases and the plot below for NSSP cases both indicate very strong seasonality for both TB CARE I and non-TB CARE I provinces. The saw-tooth lines connecting quarterly sums of new suspect cases and NSSP cases separately for TB CARE I and non-TB CARE I provinces highlight a seasonality that appears to be broadly consistent over time. This periodicity may be an understandable weather-related phenomenon that equally affects essentially all provinces. As indicated by the dashed blue (TB CARE I) and pink-smoothed (non-TB CARE I provinces) trend lines, TB CARE I provinces present evidence of a higher level of improvement than non-TB CARE I provinces since the start of TB CARE I. The statistical confidence interval for the ‘true’ trend lines is represented by the blue- and pink-shaded areas. These confidence intervals diverge for new suspect TB cases during the later quarters of TB CARE I’s implementation.

As highlighted in Annex V, this is supporting evidence of TB CARE I’s possible positive impact on new suspect case identification. Additionally, it is encouraging that the trend line for the quarterly sums of new suspect case identification has increased its growth above and beyond that for non-TB CARE I provinces (which appear to have flattened) after the implementation of TB CARE I.

Under the assumption that security/insecurity has been more or less the same over time and among TB CARE I and non-TB CARE I provinces, we would expect some indication of an improvement in case detection among the non-TB CARE I provinces as a result of TB CARE’s general support to NTP. Aside from possible real security/insecurity differences, other possible explanations for this ‘non-performance’ by non-TB CARE I provinces include
the migration of both qualified staff to better supported TB programs and the migration of patients to better operated TB programs in TB CARE I provinces.

**Figure 3: Sum of Quarterly NSSP cases for TB CARE I and Non-TB CARE I Provinces**

![Sum of Quarterly NSSP cases for TB CARE I and Non-TB CARE I Provinces](image)

Although the TB CARE I and non-TB CARE I provinces’ quarterly sums diverge for NSSP cases during the implementation of TB CARE I with an increased trend line, the two confidence bands continue to overlap. Possible reasons for the dampened growth of NSSP cases despite the significant growth in new suspect cases include the reported paucity of diagnostic services at the district level.

Although both of the above plots give evidence of TB CARE I’s higher level performance, the data on new suspect case finding has clearly improved under TB CARE I. For TB CARE I provinces compared to non-TB CARE I provinces, both the increased reported levels of new suspect case findings and its trend line are approaching a high level of significance.

The plots in Figure 4 present evidence of improvements in TB indicators for TB CARE I provinces compared to non-TB CARE I provinces over time. These box-and-whisker plots graphically display non-parametric descriptive statistics. The box hinges (top and bottom) represent the first interquartile range, with the extended ‘whiskers’ representing 1.5 times the interquartile range, or roughly a 95 percent confidence range, to help describe the underlying distributions of the reported quarterly average values. Outliers (single black dots) for new suspect TB cases and for NSSP cases are an indication of the extreme range in province populations or the resulting reported indicators. Outliers for the average Treatment Success
Rates (TSR) are indications of inconsistent reporting, exceptionally poor average Treatment Success Rates, or related interruptions in program implementation.

Figure 4: TB Program Success Indicators
Quarterly average new suspect case findings, NSSP cases, and the average TSRs have improved under the time period of TB CARE I compared to the performance of non-TB CARE I provinces. Although these improvement are not at a significant level, there is a measurable increase in all three indicators. Additionally, there has been a parallel reduction in the number of outlier quarterly TSR data points in TB CARE I provinces compared to non-TB CARE I provinces since the introduction of TB CARE I.

The consistency or variability in TSR is a statistical process control measure. A reduction in process variability is normally attributed to process standardization and improved control. TB CARE I’s training programs, promotion of SOPs, and routine supervisory visits are very likely the reasons for this improvement. Although TB CARE I assisted NTP to widely distribute the jointly-developed SOPs, the available data yields less evidence of process standardization in the non-TB CARE I provinces. All else being equal, TB CARE I’s increased training and support for on-site supervisory visits are the likely reasons for the process improvement in TB CARE I’s TSRs compared to that displayed by non-TB CARE I provinces since the start of TB CARE.

As noted above, we do expect some ‘spill over’ effect on the performance of non-TB CARE I provinces as a result of TB CARE I’s support to NTP. TB CARE I’s support to NTP and collaboration with GFATM has clearly generated synergies. There has been improvement in TSR reports but not as much as demonstrated by TB CARE I provinces. Again, this reduced level of improvement may be the result of real differences in security/insecurity and/or qualified staff migration to TB CARE I provinces for work.

Figure 5 below highlights the reduced variability in reported quarterly TSRs for TB CARE I provinces after the implementation of TB CARE I.
For TB CARE I provinces only, the above notched boxplots presents the quarterly TSRs for the data covering the quarters prior to the implementation of TB CARE I and for the available quarterly data covering time periods after the start of TB CARE I. The red dots highlight extreme quarterly provincial TSR values. There has been a measurable improvement in TSRs by TB CARE I provinces which increased their mean quarterly provincial TSR value of 85.8 percent to 89.2 percent for the time period after the start of TB CARE I. Although measures of significance are not appropriate, under an assumption of normality, this difference would be considered significant. We can accept that there has been some improvement in the TSRs of TB-CARE I provinces compared to their performance prior to the start of TB CARE I.

As previously highlighted, Figure 5 gives a clear impression of the reduced variability during the implementation of TB CARE I: implying improved consistency and uniformity of operational practices—likely the result of increased joint NTP/TB CARE I training and supervisor support. The increase in the mean TSR can be attributed to improved patient compliance and defaulter reductions.
a. Are there significant differences in outcomes between provinces? If so, why?

Based upon the quarterly TB indicator measures for the time periods prior to and after the start of TB-CARE I, there is evidence of progress by most of TB CARE I provinces (ten out of 13). As presented in Figure 6 with ‘box and whisker’ plots of provincial-level quarterly NSSP cases, only Ghazni and Faryab provinces have experienced a decline in average NSSP quarterly cases since the implementation of TB CARE I. Ten of TB CARE’s 13 provinces show clear increases, sometime significant increases, in NSSP cases during the implementation of TB CARE I compared to their performance prior to TB CARE I.

Figure 6: Average Quarterly NSSP Cases by Province before/after TB-CARE

The following plot (Figure 7) presents trend lines for each of TB-CARE I provinces during time periods prior to and after the implementation of TB CARE I. Ten of the 13 TB CARE I provinces not only have higher values but also have positive trend lines for the future status of their indicators.

It is interesting to note that the quarterly reports from some TB CARE I provinces present a mixed picture of their progress. For example, although Paktika’s average number of NSSP cases increased under TB CARE I, as displayed below, the trend line for its reported NSSP cases under TB CARE I presents a downward trend. Although both Paktiya and Takhar provinces, on average, have increased their NSSP workload, both provide evidence of a decreasing trend in their recent successes.
Five provinces that presented a decreasing trend in their NSSP case load prior to the start of TB CARE I now give evidence of an increasing trend in their NSSP case load since the start of TB CARE I.

**Figure 7: Trends for NSSP Cases by Province Prior to and After Start of TB CARE**

As presented the figure above, nine of TB CARE I’s 13 provinces show improvements in the estimated rate of growth for the identification of NSSP cases during TB CARE I’s implementation. The gray lines are standard least squares linear regression (trend) lines for quarterly NSSP cases reported by province. Only two of TB CARE I’s 13 provinces show evidence of a reversal in their NSSP case identification growth rate. We understand this drop off in the NSSP case identification trend for these two provinces (Pakitiya and Takhar) to be a result of the deteriorating security situation and/or recent high levels of staff turnover.
All five of TB CARE I’s provinces that had a downward or flat trend for quarterly NSSP cases prior to the start of TB CARE I now have a positive increasing trend for growth in NSSP cases since the start of TB CARE I.

b. What factors hindered or helped achieve the project goal?

It should be highlighted that the GFATM has provided significant support to many of the issues raised below and that there are documented improvements. However, despite these improvements, the TB principals interviewed report the following as TB CARE I program-related factors that have hindered the implementation and outcomes of TB CARE I.

- Doctors and involved staff have low levels of essential skills.
- Low levels of TB awareness limit case identification and sometimes leads to treatment failure.
- Treatment failures often result from patient transportation problems/costs.
- Staff shortages, and in some areas the complete absence of trained TB professionals, especially laboratory staff constrain performance.
- As reported by NTP officials in Kabul and Herat, there is room to improve the integration of TB control programs with the BPHS package. NTP officials in Bamyan additionally noted the need for area NGOs to more fully embrace TB control as a core component of the BPHS.
- The mixed implementation and low incentive/transportation rate for CHWs and community health supervisors (CHSs) to attend trainings and review meetings makes attendance impossible for those whom are remotely located.
- According to the NTP, the absence of incentives/motivation awards, review meetings, and follow-up on the implementation of the public-private mix (PPM) approach are reported to have resulted in the failure of PPM in some provinces. The success of PPM in two provinces is attributed to local leadership and commitment.
- The low number of laboratory diagnostic centers and the inconsistent implementation of sputum/slide/specimen transport systems has led to diagnostic delays/failures resulting in missed treatment opportunities.
- The presence of multiple NGOs involved in service delivery in some provinces complicates coordination, reporting, and project implementation.

Project-related factors reported by TB principals that have helped achieve the project goal include:

- There is reported to be good coordination and collaboration between NTP, MSH (TB CARE I), and NGOs for implementation of the program;
Joint supervisory visits to monitor program implementation by NTP and TB CARE I entities helps to both empower NTP and to improve performance at the provincial level; (Without access to NTP’s supervisory travel logs it is not possible to fully attribute such supervisory visits as a success factor.)

High levels of support from NGOs and privately-funded organizations have contributed to TB CARE I’s success. Specifically, the German Medical Service in Kabul, the German Catholic Charity (LEPCO) in Bamyan, and the Danish Afghanistan Committee in Herat play leading roles in their respective locations;

With the technical support of the TB CARE I project and from international organizations such as WHO, UNDP, and BRAC, NTP has been able to develop and publish a wide range of needed guidelines and SOPs. These guidelines and SOPs have been distributed to almost all TB-associated health facilities for use. This synergistic standardization of protocols will hopefully have a growing impact on reducing the historically wide variability in quarterly TB TSR indicators;

The stability/continuity of TB CARE I project staff and their commitment and transparency to the program was appreciated by some provincial authorities.

2. To what extent have the Community-Based DOTS and Urban-DOTS packages been effectively scaled up?

Figure 8 below presents trend lines for changes in the number of NSSP cases reported on a quarterly basis in Kabul prior to and after the start of TB CARE I. Kabul is representative of TB CARE I’s Urban-DOTS implementation.

Figure 8: Trend of NSSP Cases in Kabul Before and After the Start of TB CARE
Urban-DOTS can be considered a success given its statistically significant growth over the pre-TB CARE I time period. Kabul has significantly increased both the identification of suspect cases and the number of NSSP cases. Quarterly TB indicator reports for Kabul also confirm a significant increase in its TSR since the start of TB CARE I. The average TSR of Kabul clinics, as listed in their quarterly reports prior to the start of TB CARE I, is 54.9 percent, while their average post-TB CARE I quarterly TSR is 78.9 percent. This significant increase in Kabul’s TSR could well be the result of Urban-DOTS.
Kabul (Urban-DOTS) has significantly increased its average TSR, with very positive implications for the related defaulter reductions and increased compliance. Aggregated data from the quarterly TB reports of all TB CARE I provinces (excluding Kabul) does not yield similar evidence of large recent improvements in TB indicators. However, CB-DOTS has not yet been fully implemented in some of these provinces. A subset of active CB-DOTS is considered below.

The great majority of TB CARE I provinces demonstrate improvements in both case findings and NSSP cases. Eight out of 12 provinces show higher levels of NSSP cases after the start of TB CARE I. Perhaps equally important, almost all TB CARE I provinces show a reduction in the variability of their quarterly TSRs. As highlighted for TB CARE I provinces in general, this increased consistency is very likely due to TB CARE I’s support for increased supervision and technical compliance.

Although there has been historical work in this regard, the full implementation of CB-DOTS did not coincide with the start of TB CARE I’s work. Summary measures of change using Q3, 2011 as its start date do not fully reflect the impact of TB CARE I’s CB-DOTS work. To isolate the possible impact of CB-DOTS implementation, quarterly indicator data from the six provinces that are reportedly fully implementing CB-DOTS are utilized. A one-year delay after the start of TB CARE I is utilized to capture the time period of their full operation.

Figure 10 below mirrors the success of Urban-DOTS in Kabul. For these six initial CB-DOTS provinces (Herat, Jowzjan, Faryab, Baghlan, Badakhshan, and Takhar), there has been a
significant reduction in the variability of quarterly TSRs. Although not statistically significant, these six CB-DOTS provinces increased their quarterly average TSRs from 91.4 percent to 93.3 percent; increased their quarterly average number of new suspect cases from 274.9 to 324.9, and increased their quarterly average number of NSSP cases from 142.3 to 149.7. The less-than-proportional increase in NSSP cases is thought to be related to the unavailability of diagnostic services in rural areas. The absence of TSR outliers and the noted increases in TSR, new suspect cases and NSSP cases are supportive evidence of a successful CB-DOTS implementation.

When available, data on the numbers of active CHWs, their work load over time, incentive status, and on their patient outcomes would help to quantify the expected outcomes from marginal increases in CB-DOTS through increased CHW involvement. (Additional plots are provide in Annex V.)

Figure 10: TSR in the Six Initial CB-DOTS Provinces

a. What challenges have these models faced in scaling up?

TB CARE I has not yet taken actions to expand the existing Kabul-based Urban-DOTS program to other urban centers. The possible challenges, discussed below, are based upon our interviews with national and Kabul-based TB principals. Many of the reported challenges faced by Kabul’s Urban-DOTS program are generic to the health system. The following list of reported or observed challenges are limited to those related to areas of work that would facilitate an expansion of Urban-DOTS to other provinces and that are within TB CARE I’s scope.
The reporting and recording system is regarded as poor, with only sporadic periodic feedback provided to leading facilities.

The complicated and often difficult process required to obtain needed drugs and reagents is reported to be a burden.

There are uncooperative public/private facility staff who do not support the provision of TB services at their facility.

As reported at Kabul’s December quarterly review meeting,
- There is poor contact screening;
- There are difficulties with isoniazid therapy, especially for children; and
- Without urban CHWs, an effective system for patient tracking and follow-up is not operational.

Challenges to be faced in scaling up CB-DOTS program:

The challenges explained below were identified through consultations with provincial TB principals. Although many of them are generic to the health system, all specifically serve to limit an expansion of CB-DOTS and its full implementation. It should be highlighted that there are wide variations in the health system’s management and operations from province to province, and even from district to district within a province. These challenges are common to CB-DOTS expansion in essentially all locations.

- NTP, MSH, and the Herat and Bamyan health directorates each noted that TB control would benefit from increased visibility in the BPHS package. TB is still perceived as a vertical program by some rural based NGOs. According to the NTP director, this perception is limiting rural NGO participation and collaboration with NTP.
- There are a wide variety of NGOs and organizations supporting the health system in rural Afghanistan, each with its unique funding models and operational mandates. Efforts to coordinate their TB-related work requires time and significant travel.
- As highlighted by the TB drug manager of BRAC and several provincial TB directors, the number of health workers provided with training is low compared to the number of people working within the system and the ongoing high turnover.
- The remote districts of most provinces suffer from a shortage of medical doctors, nurses, laboratory technicians, and other specialists. As noted by the Director of Kishm District Hospital in Badakhashan, the availability of female doctors for work in the districts is nearly non-existent.
- There are community health workers and supervisors in remote areas. However, due to the low (below actual cost) and often no transport reimbursement, they are not financially able nor motivated to implement TB control. This issue was highlighted by almost all interviewed. It is hoped that the new Global Fund model will be implemented in a way that provides appropriate transportation reimbursements. Related recommendations
received from clinic directors include the provision of some incentive and motivational
awards to productive CHWs (especially those serving in remote locations) for their
increased attention to case detection and treatment success. Although sustainability is one
of the overarching concerns, unless properly addressed, this challenge will limit the
success of CB-DOTS and continue to ignore those living in the more remote locations.

b. What conclusions can be drawn about scaling up and replicating these
models in the future?

Urban-DOTS:

1. According to the NTP director and Urban-DOTS coordinator in Kabul, the Urban-DOTS
program in Kabul has been successful. Available data from NTP’s quarterly reports
supports this assertion. Since its start, there has been an increase in case detection and
treatment success rates. An expansion of Urban-DOTS to Afghanistan’s major urban
areas appears justified based upon the improved results obtained in Kabul. The above
discussions highlight some preliminary steps that would facilitate an expansion of Urban-
DOTS. An expansion of Urban-DOTS is very likely to generate increased rural patient
diagnosis in urban centers. Some Urban-DOTS programs report that the continuity of
treatment is a problem for many of these rural patients. Improved communications and
information sharing mechanism are needed to facilitate these newly diagnosed patients to
return to their rural health facility for treatment or its continuation. An active CB-DOTS
program in provinces selected for Urban-DOTS would help to address this source of
defaulters.

CB-DOTS:

The findings of the evaluation team support the Community Based-DOTS approach. Provincial
and district officials report it is an effective model for reaching communities, especially those in
the remotest locations.

Many Afghans now living on the periphery of district centers, and especially those living in more
remote locations, are served only by community health workers (CHWs). CHWs involvement
and support for TB control takes advantage of available resources and builds synergies with
existing primary health services. Efforts to strengthen CHWs skills in implementing TB
interventions also strengthens their role in a wide range of primary health care interventions. TB
case identification and nutrition status monitoring provide one such example.

As previously noted, not all NGOs providing health services to rural populations collaborate with
TB CARE I. The Danish Afghan Committee (DAC), the Afghan Institute of Learning (AIL) in
Herat, and the Shuhada Organization in Bamyan are not supported by TB CARE I. These NGOs provide health services to significant proportions of their region’s populations. A comprehensive implementation of CB-DOTS will require the inclusion of rural-based health NGOs to help achieve full coverage. The full implementation of BPHS standards is a related concern.

According to essentially all interviewed provincial TB coordinators and health facility staff, the funds allocated as travel reimbursement/incentive for CHWs is insufficient to cover the actual travel cost of those serving in remote locations. Reimbursements to CHWs according to their actual travel costs was a common suggestion from district and remote clinic TB authorities. Several district TB authorities noted that their CHWs serving in remote locations could not afford to attend quarterly TB review meetings, bring sputum/slides, or attend training sessions due to the low reimbursement rates. As noted previously, any expansion of CB-DOTS will have to address this discrepancy in order to reach the remote poor. Hopefully, the new Global Fund model will permit remote CHWs to be fully reimbursed for their real travel cost to attend quarterly TB review meetings, to support sputum/slide transport, and to implement DOTS in their remote communities.

Some TB treatment centers have exceptional reputations with a resulting high flow of suspect cases. Many of these suspect cases are reportedly from rural areas visiting urban centers for their initial diagnosis and treatment. However, as is the case for the German Medical Doctors (GMS) clinic in Kabul, many of their rural origin patients prematurely return to their homes and default on their treatment. To minimize this phenomena, the expansion of Urban-DOTS must be managed in parallel with expanded support for TB care in the surrounding communities. As also noted above, along with improvements in neighboring CB-DOTS programs, improvements in TB patient records that facilitate the timely sharing of diagnostic and treatment arrangements would help many patients to continue their therapy upon return to their home locations.

A fully operational community supported sputum/slide/specimen transport system is essential for the success of CHWs implementing CB-DOTS efforts.

3. How cost-effective have the Community-Based DOTS and Urban-DOTS intervention packages been?

As detailed in Annex V, Kabul’s Urban-DOTS program has increased the average quarterly number of NSSP cases from 234.7 to the current average of 293.5 during the time period of TB CARE I. Kabul is the only province that has demonstrated a statistically significant increase in its quarterly case findings and NSSP cases from the time period prior to TB CARE I to the present. As a caveat, it should also be observed that Kabul is very likely to have had a proportional increase in its population over this time period. Again without documentation, it is also suspected that health care seeking migration to Kabul was a leading contributor.
The MSH-reported Urban-DOTS direct expenditures from November 2013 to October 2014 are some $34,114, not including project overhead or start-up costs. Although there will likely be additional costs to help improve Kabul’s Urban-DOTS program, this initial investment seems very likely to yield a continuing return with increasing levels of case findings and NSSP cases, as indicated in Figure 7.

The evaluation team was not able to gain timely access to sufficient financial and personnel data to permit a detailed assessment of the ‘cost-effectiveness’ of Urban-DOTS. However, several of the reports listed in the attached bibliography strongly support both Urban-DOTS and CB-DOTS as cost-effective interventions across a range of country settings.

For populations living in villages with sparsely-populated small housing clusters (some in very remote locations), CB-DOTS provides an efficient mechanism to identify suspect TB cases, arrange for sputum/slide transfer to a diagnostic center, and implement DOTS at the patients’ locations. Although CB-DOTS may be an efficient health services delivery model for sparsely-populated areas, the evaluation team was unable to obtain sufficient evidence to report whether it is a cost-effective mechanism to identify and treat TB patients in Afghanistan. However, international TB literature documents the cost-effectiveness of CB-DOTS in a wide range of countries. There is no reason to suspect that CB-DOTS program in Afghanistan does not reflect these international findings.

Based upon Urban-DOTS’s success in Kabul, higher returns on investments are expected through the expansion of Urban-DOTS to other urban centers in Afghanistan. CB-DOTS has synergistic value that helps the MoPH and its partners in Afghanistan provide essential primary health care services to remote and marginalized populations that are often the poorest of the poor.

CHWs can play a significant role in reducing the logistical cost of expanded rural health care for both the patients and for the Afghan government. With rural and remote populations’ increased access to basic health services, their health indicators will improve and hopefully result in less incentives for rural to urban migration.

Afghanistan will have to balance its investments in health in a way that takes advantage of efficient low-cost health returns, such as through expanded Urban-DOTS. At the same time, it should ensure support to rural and remote populations to foster the long-term stability of TB services and reduce the need for rural-to-urban migration for health services.
4. How effective has TB CARE I been at working within government structures, and/or leveraging investments in TB from the Global Fund, JICA, and other donors? What conclusions can be drawn about the sustainability of TB CARE I’s interventions?

With the support of TB CARE I, National TB Program (NTP) has been able to develop, publish, and distribute guidelines, SOPs, and other related documents to all provincial and district TB directors. TB CARE I has additionally supported national annual evaluation workshops. With the assistance of TB CARE I, NTP staff have routinely participated in provincial quarterly TB meetings.

TB CARE I’s production of SOPs and related documents is considered by NTP and others as one of the leading interventions that has resulted in increased consistency and standardization within the system. Given the large number of semi-independent rural TB programs supported by NGOs, this standardization is a welcomed improvement that is reflected in reduced variability of quarterly provincial TSRs. It is also important to highlight the efforts of TB CARE I to share best practices through their quarterly review meeting.

NTP does receive assistance from other donors. In financial terms, TB CARE I’s support is overshadowed by other donors. However, assistance from the Global Fund, JICA, and others does not generally include technical and system improvement support. The NTP reports that it is dependent upon TB CARE I for its management and technical coordination efforts. TB CARE I’s technical support to NTP in drafting proposals and work plans for the Global Fund was appreciated.

The sustainability of TB CARE I’s interventions appear to be mixed. Clearly, TB CARE I’s support for the development of SOPs and guidelines will have a lasting effect. This effort has additionally helped to establish the authority and credibility of NTP among provincial health authorities who operate somewhat autonomously. TB CARE I has helped to fully establish the leadership, donor coordination role, and technical reputation of the NTP. This reputation should last well beyond TB CARE I. Clouds on NTP’s horizon include continuing high staff turnover and the potential loss of travel funds for their continuing participation in provincial quarterly TB review meetings.

Although TB CARE I has provided significant training and technical support to NTP staff, staffing levels at NTP provide for very limited spare technical capacity. Because there are few reasons to expect staff turnover to abate, it may be appropriate for TB CARE I to help build reserve technical and managerial capacity, especially in Kabul and in any provinces selected for Urban-DOTS expansion.
Although TB CARE I has a very high level of data management skills, these skills do not appear to have been transferred to NTP. It is hoped that the recent inclusion of the TB information system (TBIS) into the Health Management Information System (HMIS) will facilitate TB CARE I’s support to NTP for increased data management and analytical skills. The incomplete and very tardy third quarter 2014 report is an example of missed opportunities. It is expected that NTP will collaborate with the MoPH to make current TB data with both provincial- and district-level analytics available publicly on the web for access by any interested party one using a browser or a smartphone. Given current technology, it is also possible for TB CARE I to support NTP and the MoPH to more fully include the TB and primary health care work of CHWs in the HMIS.

**IV. CONCLUSIONS**

With a few exceptions, TB-CARE I is considered both a successful and needed enhancement to the work of Afghanistan’s MoPH and its partners. TB CARE I has provided a consistent support system for provincial health authorities and garnered the appreciation of essentially all involved parties. Community health workers have expressed gratitude for their inclusion in TB control efforts and a willingness to increase and expand their role.

**Urban-DOTS**

Available data suggest that Urban-DOTS, now limited to Kabul, has been a significant success for TB-CARE I. Case findings, NSSP cases, and TSRs have significantly increased under TB-CARE I’s Urban-DOTS.

The evaluation team concluded that an expansion of Urban-DOTS in Afghanistan has a great potential to result in significant sustainable increases in TB indicators.

**CB-DOTS**

For the six provinces that have fully implement CB-DOTS, there is very clear evidence that the program numerically increased the provinces quarterly TSR, case identification and NSSP cases. CB-DOTS has also improved the consistency and uniformity of the TB control efforts as evidenced by the improved consistency in quarterly provincial TSR reports. While the data for all non-Kabul TB CARE I provinces does not present exceptionally strong evidence of improvements, overall averages have increased. It is also noteworthy that despite the cessation in food support from the World Food Program, there is evidence that TSRs have been maintained by these non-Urban-DOTS programs.

The staggered implementation of CB-DOTS does not facilitate a straightforward detection of its impact on TB indicators. However, as detailed previously, a before/after comparison of changes
in TB indicators in the first six provinces selected for CB-DOTS highlights a high potential for positive change when replicated.

The evaluation team concluded that an expansion/enhancement of CB-DOTS, especially in any province selected for Urban-DOTs expansion, has the potential to sustainably increase the level of TB indicators and to reduce program variability, as reflected in its quarterly reports.

Gender Issues
Although TB CARE I recently undertook a review/survey of Afghanistan’s high female TB case load, the results do not support a conclusion of real gender-based differences in NSSP case rates. This study resulted in a consensus that the higher female TB case load is correlated with the higher female clinic attendance rates. The proportion of sputum smear positive was 0.068 among women and 0.066 among presumptive male TB cases.

Annex V presents an age-gender histogram of NSSP cases for the second quarter of 2014. Female NSSP caseloads exceed those for males in all age groups with the exception of infants and young children. Although the map on the cover page utilized data for only one quarter (Quarter 2, 2014), all provinces with the exception of Kabul appear to have a higher female NSSP case load.

The World Health Organization reports that TB is a leading cause of death for women in the 10-19 and 20-44 age groups in low income countries. Afghanistan’s recently concluded National Mortality Survey does not mention TB as a cause of death. The underlying TB-related maternal mortality rate in Afghanistan is not clear. However, given TB’s high contribution to maternal mortality in similar countries, it seems appropriate for TB CARE I to support NTP in increasing its collaboration with the United Nations Population Fund, WHO, and UNICEF for maternal mortality reduction through improved antenatal TB screening.

V. RECOMMENDATIONS

Urban-DOTS

1. Urban-DOTS should be expanded in concert with existing PPM initiatives not only within Kabul but to the other major cities as appropriate.

2. The organization and staffing of TB-CARE I could be enhanced to increase its effective in-office support to NTP and to the TB directors in highly-populated provinces, especially to directors in any provinces selected for Urban-DOTS expansion.
3. We applaud TB CARE I’s third quarter 2014 provision of training to permit NTP to expand TB case detection and treatment at Afghanistan’s largest prison in Kabul as part of the expansion of Urban-DOTS. The TB CARE I’s evaluation team strongly supports this intervention and hopes that all prisons with long-term inmates will be included in NTP’s network.

4. To help prepare for the continuing high levels of staff turnover, TB CARE I could support/motivate/require NTP and provincial-level TB staff to participate in widely available, certified e-learning for health analytics and data management.

Community Based-DOTS

1. For increased rural case findings and treatment, Community Based-DOTS should be expanded and enhanced at the district level to cover all health facilities in all provinces—especially in any province selected for Urban-DOTS expansion.

2. The success of CB-DOTS is dependent upon access to diagnostic services. The evaluation team recommends that TB CARE I increase efforts to develop community support for sputum/slide/specimen transportation arrangements for remote villages. This effort with additional training for laboratory staff can include additional laboratory specimens to reduce the high logistical cost to patients for TB and associated health care diagnostics.

3. To foster a stronger integration of TB control services within the BPHS, TB CARE I should assist NTP to incorporate TB control program supervisory checklist into the health facility supervisory checklist currently utilized by MoPH and NGO supervisors.

4. The existing involvement of community health workers in monitoring childhood nutrition levels provides an opportunity for synergies. Any future expansion of childhood nutrition support by USAID that specifically includes increased nutrition for childhood TB cases would increase this synergy. (Re-consideration of WFP’s nutrition program for TB patients was routinely requested by provincial, district and health facility TB managers.)

Cross Cutting Recommendations

1. To increase awareness, reduce stigma and increase case finding, TB CARE I should support a higher level of collaboration with local religious/social leaders, medical associations (ATLDS), local associations of previous TB patients and the media.

2. The TB CARE I evaluation team recommends an increase in the identification of childhood TB. The age-gender bar chart in Annex V showing NSSP cases during Quarter 2, 2014 depicts very few such childhood cases. A higher number of childhood TB cases are expected, given the reported levels of stunting in Afghanistan.
3. Although the underlying male/female TB prevalence rates are estimated to be essentially equal, there is a disproportional rate of new sputum smear positive cases among reproductive age females in Afghanistan. TB-CARE I with NTP should take advantage of this higher level of case findings to promote high-quality and universal antenatal screening for TB to help eliminate TB as a cause of maternal mortality.

4. NTP and the MoPH have significantly improved their TB data management capabilities through the recent merger of TB Information Management System (TBIS) and Health Management Information System (HMIS). Significant additional benefits can be obtained through improvements in the completeness of the datasets, full use of GIS, and the routine trend analysis of data from provincial/district and other subset clinic groupings. TB CARE I should provide technical and training support to permit effective and timely reporting and use of TB data in conjunction with the existing HMIS databases. This assistance should additionally include training and support for a password-protected web-based database of patient records for urban-diagnosis/rural treatment patient care. Related applications for smartphones could help improve both reporting/feedback and the use of health analytics for management decisions.

5. To generate evidence for managers and decision makers, a TB module should be included in the planned Demographic Health Survey and other nationwide health-related assessments.
ANNEX I: SCOPE OF WORK
OFFICE OF SOCIAL SECTOR DEVELOPMENT (OSSD) / OFFICE OF PROGRAM AND PROJECT DEVELOPMENT (OPPD)

STATEMENT OF WORK: PERFORMANCE EVALUATION

SUPPORT TO TB CARE I PROJECT, CONTRACT NUMBER AID-OAA-A-10-00020

I. PROGRAM INFORMATION

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<td>Mission Development Objective (DO):</td>
<td>DO 2: Gain in Health Education, and the Empowerment of Women Maintained and Enhanced, IR 2.1 Health Outcomes Improved, SubIR 2.1.2: Use of Quality Health Services Increased</td>
</tr>
<tr>
<td>Linkage to Standard Program Structure (SPS):</td>
<td>3- Health, 3.1.1-Tuberculosis,</td>
</tr>
<tr>
<td>Required?</td>
<td>Non-required</td>
</tr>
<tr>
<td>Public or Internal:</td>
<td>Internal</td>
</tr>
</tbody>
</table>

II. INTRODUCTION

USAID’s evaluation policy encourages independent external evaluation to increase accountability, to inform those who develop programs and strategies, and to refine designs and introduce improvements into future efforts. In keeping with that aim, this final performance evaluation will be conducted to review and evaluate the performance of the USAID-funded TB CARE I project in Afghanistan. TB CARE I started in July 2011 and will end December 2014. The lead implementing partner is Management Sciences for Health (MSH). The project activities are in line with the national TB strategic plan of the MoPH, and the aim of project is to decrease morbidity and mortality by improving case detection and treatment success rates. This final
evaluation will assess the project’s performance since July 2011 in achieving its program goal, objectives, and results. The evaluation will focus on answering the evaluation questions listed under section VI. Further, the findings of the evaluation will be used by USAID to design a follow-on project.

III. BACKGROUND

Afghanistan is one of 22 high burden TB countries globally. Afghanistan has an annual estimated prevalence of 358 per 100,000, incidence for all cases of 189 per 100,000, and death rate of 37 per 100,000 population, respectively (page 115, Global TB Report 2013, WHO). According to national TB surveillance data for 2012, total cases notified were 28,578 cases (new and retreatment). The case detection rate is 52% and treatment success rate of 91%.

TB CARE I is a USAID globally funded project working in Afghanistan. TB CARE I is a 5 year project that began in July 2011. In Afghanistan, TB CARE I contributes to achieving its objectives of decreased morbidity and mortality through increasing case detection and treatment success of pulmonary TB patients in USAID priority countries.

In Afghanistan, TB CARE I partners Management Sciences for Health (MSH), KNCV Tuberculosis Foundation (KNCV), and World Health Organization (WHO), partner with the Bangladesh Rural Advancement Committee (BRAC) and MOPH-contracted implementers of the Afghan Basic Package of Health Services (BPHS) and Essential Package of Hospital Services (EPHS) to carry out project activities.

USAID, through TB CARE I, assists the NTP to implement its 2009-2015 strategic plan achieve its strategic objectives of increasing case detection and improving treatment success rate by implementing standard operational procedures for case detection, diagnosis, treatment, TB Infection Control (TB IC), and TB in children in 18 provinces (Kabul, Bamyan, Baghlan, Badakshan, Jawzjan, Faryab, Hirat, Farah, Nimroz, Helmand, Kandahar, Zabul, Maidan Wardak, Ghazni, Paktika, Paktiyan and Khost).

TB CARE I activities aim to improve DOTS coverage, case detection, and treatment. These activities aim to reduce the number and percentage of TB patients who default from TB treatment, thereby improving the TB treatment success rate. TB CARE I has developed and implemented the innovative Urban DOTS intervention package since 2009, targeting the densely populated city of Kabul with its irregular infrastructure and poor health system. To reach vulnerable rural populations, TB CARE I has developed and expanded an innovative Community-Based DOTS approach in 13 USAID supported provinces. TB CARE I has supported the implementation of CB-DOTS in four provinces through the MOPH’s contracted (BPHS) implementers, and in an additional nine provinces through the Bangladesh Rural Advancement Committee (BRAC).

TB CARE I also focuses on strategic areas and challenges to assist the NTP in improving the management and technical capacities of the central and provincial TB teams as well as expanding quality DOTS. For example TB CARE I has assisted the NTP to develop and implement an electronic reporting system in all 34 provinces of Afghanistan.
IV. PROJECT GOALS AND OBJECTIVES

The overall goal of TB CARE I in Afghanistan is to improve health outcomes, which in turn contributes to USAID Afghanistan’s development objective “Gains in Health, Education, and the Empowerment of Women Maintained and Enhanced”:

TB CARE I’s objective is to decrease morbidity and mortality by increasing case detection and treatment success of pulmonary TB patients.

To increase case detection and treatment success rates, TB CARE I in Afghanistan works with the Ministry of Public Health (MoPH) and the National TB Control Program (NTP) of Afghanistan in four technical areas:

1. Universal access to TB services
   a. Urban directly observed treatment, short-course (DOTS) implementation in Kabul city
   b. Community-based-DOTS implementation in 13 provinces

2. Strengthening health systems
   a. Policy document development
   b. Raising staff capacity at national and health facility level

3. Tuberculosis infection control
   a. Provide safer working environment to health care staff, clients and communities

4. Strengthening M&E and operational research
   a. Promote evidence based decision making
The intended results from the TB CARE I project in Afghanistan are:

1. Increased access to TB services through innovative approaches to DOTS implementation in densely populated areas of Kabul city and community-based DOTS (CB-DOTS) implementation in 13 provinces.
2. Strengthened health system through renovation of health facilities, training of health care staff, development, printing and dissemination of TB guidelines, SOPs for case detection and TB IEC materials.
3. Strengthened TB infection control (IC).
4. Strengthened monitoring and evaluation, surveillance systems, and operations research by providing assistance to the NTP on the implementation of electronic reporting systems, annual national evaluation of the TB program, and by conducting research in NTP priority areas.

The project to date has expanded DOTS to 80 public and private health facilities in Kabul city, and to approximately 4,000 villages located in remote and hard to reach areas. Training, supervision, and monitoring of DOTS implementation have been expanded to 368 health facilities. Identification and examination of 413,268 presumptive TB cases have led to the notification of 28,741 sputum smear positive and 65,307 all forms of TB cases in the intervention areas. In addition, treatment success rate improved by 7%, from 83% in 2009 to 90% in 2013.

V. PURPOSE OF THIS EVALUATION

The purpose of this final performance evaluation is to assess the effectiveness of TB CARE I’s approach and activities in contributing to the project’s intended results, and to develop recommendations to promote the effectiveness of future TB programs. The evaluation should draw strong evidence-based conclusions that inform sound actionable recommendations to USAID, including other key stakeholders, e.g., WHO and the Afghan Ministry of Public Health in achieving the overall goal. The evaluation will identify the strengths and weaknesses of the project and will identify lessons learned and recommend options for future support of TB programs and projects in Afghanistan.

The specific objectives are:

1) To assess the performance of TB CARE I’s activities in Afghanistan.

2) To make evidence-based observations, draw conclusions, and provide substantive recommendations that may be used in future programs based on lessons learned.

VI. EVALUATION QUESTIONS

1) To what extent were the TB CARE I activities effective in achieving the project goal (increasing TB case detection and improving TB treatment outcomes in Afghanistan)?
   a. Are there significant differences in outcomes between provinces, and why?
b. What factors hindered or helped achieve the project goal?

2) To what extent have the Community-Based DOTS and Urban DOTS packages been effectively scaled up?
   a. What challenges have these models faced in scaling up?
   b. What conclusions can be drawn about scaling up and replicating these models in the future?

3) How cost-effective have the Community-Based DOTS and Urban DOTS intervention packages been?

4) How effective has TB CARE I been at working within government structures, and/or leveraging investments in TB from the Global Fund, JICA, and other donors? What conclusions can be drawn about the sustainability of TB CARE I’s interventions?

5) Based on these analyses, what recommendations can be made for future programming?

VII. EVALUATION METHODS

The evaluation team will be responsible for developing an evaluation workplan and methodology that include a mix of qualitative and quantitative data collection and analysis approaches. The methodology will be presented as part of the draft work plan as outlined in the deliverables below and included in the final report. The evaluation team will have available for their analysis a variety of program implementation documents, and reports. Methodology strengths and weaknesses should be identified as well as measures taken to address those weaknesses. All data collected and presented in the evaluation report must be disaggregated by gender and geography.

The methodology should comply with the USAID Evaluation Policy, be outlined as part of the draft work plan per the deliverables section below, and be attached to the final report. Any limitations in carrying out the methodology should be explained. The evaluators have the responsibility to design, pilot, and implement the most appropriate evaluation tools as possible taking into account the limitations of the environment in Afghanistan, for example, limitations on travel due to security concerns. The evaluation approach should be participatory in design and implementation, and should include, but not be limited to, key informant interviews, focus group discussions, semi-structured questionnaires and/or surveys, desk analysis of existing data, and site visits/observation of health facilities, health workers, and community health workers.

The suggested methodology should include, but is not limited to:

- **Desk review:** Program documents, e.g., contracts, Mission and Project Performance Management Plans (PMPs), contractor reports on capacity building efforts, quarterly/annual reports, training materials and registers, and other documents mentioned below.

- **Key Informant Interviews:** Based on a sampling approach, individual and group interviews with USAID/Afghanistan project staff, relevant NTP staff, MSH senior
management, project beneficiaries, and any other stakeholders (e.g. donors) at central, provincial, district and community levels. BRAC, BPHS implementers; and the NTP staff at central and provincial levels.

- **Data analysis of available relevant datasets:** TB data were collected separately from the MoPH, and were not a direct part of the Health Management Information System (HMIS); however the data from the TBIS database (recently developed and implemented) flow into the HMIS.

- **Focus group discussions or surveys:** Semi-structured interviews using validated tools/instruments to collect qualitative information at the national, provincial and district levels with key stakeholders, particularly beneficiaries.

The evaluation team is required to meet with an appropriate sample of all stakeholders identified. In its work plan, the evaluation team will develop and present to USAID/Afghanistan a clear methodology of the sampling approach prior to implementation to ensure an adequate cross-section of qualitative and quantitative data is collected for analysis. The team should also provide USAID/Afghanistan with the opportunity to review tools prior to piloting or final implementation.

Due to the constantly changing security situation in Afghanistan, close coordination with USAID/Afghanistan will be necessary to ensure that the evaluation team selects methods, a sampling approach, and site visits suitable given the security environment. If security precludes application of certain evaluation methodologies, the USAID/Afghanistan implementing partner that hired the evaluation team will inform USAID’s Evaluation Officer and Health Team.

**VIII. EXISTING PERFORMANCE INFORMATION SOURCES**

The evaluation team will be expected to meet with USAID/Afghanistan health and evaluation staff; the MoPH at senior levels; NTP senior management and staff at central and provincial levels; TB CARE I staff; BPHS implementers; and a cross-section of local beneficiaries in communities including TB patients and community members. The evaluation team will review the following broad range of background and program documents including, but not limited to:

a) Program Descriptions and Modifications  
b) Work Plans  
c) Quarterly Reports  
d) Annual Reports  
e) PMP and other M&E documents  
f) Project performance data  
g) Project-generated assessments  
h) Relevant external evaluations from other sources (e.g., other donors)  
i) GIRoA performance data (if available)
IX. TEAM COMPOSITION

The evaluation team shall consist of one independent international expert, who will serve as the team lead and primary coordinator with USAID, as well as two Afghan experts, at least one of whom can also serve as an interpreter.

The international expert should be a senior-level evaluation analyst and will serve as the primary team lead and coordinator with USAID. The consultant should have the following qualifications:
- Advanced degree (MA or PhD) in Public Health, International Development, or a related discipline, or an advanced clinical degree (MD, or RN) in a relevant health field;
- Proven expertise in tuberculosis, communicable diseases epidemiology, and health systems strengthening;
- At least 10 years professional experience working in health and development;
- At least 3 years of experience and demonstrated success leading high-quality evaluations of health programs for international donors;
- Fluency in English as both written and oral communication
- Excellent writing skills
- A statement of potential bias or conflict of interest (or lack thereof) is required of each team member.

The Afghan experts should have the following qualifications:
- At least 7 years of experience working in communicable diseases in Afghanistan;
- Demonstrated expertise in tuberculosis control programs;
- Strong experience conducting evaluations of public health projects in Afghanistan, including demonstrated experience with donor-funded projects;
- Proficiency in English, Dari, and Pashto;
- A statement of potential bias or conflict of interest (or lack thereof) is required of each team member.

X. EVALUATION SCHEDULE

The estimated time period for undertaking this evaluation is 40 working days, of which at least 28 days should be spent in Afghanistan. The ideal arrival time is October 2014, however, the arrival date will be finalized between USAID/Afghanistan and the organization conducting the evaluation.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expat Team Leader</th>
<th>Afghan Evaluation Specialist(1)</th>
<th>Afghan Evaluation Specialist (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document review, work plan, draft questions, data analysis plan, suggested list of interviewees, finalized questions for the survey</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
The evaluation team is required to work six days a week. The team is required to travel to selected provinces in regions where program activities are being implemented. The team should plan to visit at least one of the four initial provinces for Community Based DOTS, and at least one province where CB-DOTS has been scaled up. At least 50% of the consultants’ time will be spent outside Kabul to conduct interviews with municipal officials, project staff, government officials, and the public.

XI. USAID MANAGEMENT

The evaluation team will officially report to the Office of Program and Project Development (OPPD) at USAID/Afghanistan. From a technical management perspective, the evaluation team will work closely with the member of USAID’s Health Team, in the Office of Social Sector Development, assigned to manage and oversee assistance for TB CARE I. In order to maintain objectivity, all final decisions about the evaluation will be made by OPPD’s M&E Unit.

XII. REPORTING REQUIREMENTS AND DELIVERABLES

a. DESCRIPTION AND TIMELINE OF DELIVERABLES

1. In-briefing: Within 48 hours of arrival in Kabul, the evaluation team, will have an in-brief meeting with USAID/Afghanistan’s OPPD M&E unit and OSSD for introductions; presentation of the team’s understanding of the assignment, initial

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Days</th>
<th>Weeks</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>Travel to/from Afghanistan</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>In-briefing with USAID</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Interviews in Kabul</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Interviews or survey work in provinces</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Mid-term briefing and interim meetings with USAID</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Data analysis, preliminary report and presentation preparation</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Draft evaluation report</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Final exit presentation to USAID (with PowerPoint presentation and draft evaluation report)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Finalize the evaluation report</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>One-page briefer preparation and translation</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>45</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>
assumptions, evaluation questions, public perception survey instrument (if required) discussion of initial work plan; and/or adjust SOW if necessary.

2. **Evaluation Work Plan:** The evaluation team shall provide a detailed initial work plan to OPPD’s M&E unit and OSSD and a revised work plan three days after the in-briefing. USAID will share the revised work plan with GIRoA for comment, as needed, and will revise accordingly. The initial work plan will include (a) the overall evaluation design, including the proposed methodology, data collection and analysis plan, and data collection instruments; (b) a list of the team members indicating their primary contact details while in-country, including the e-mail address and mobile phone number for the team leader; and (c) the team’s proposed schedule for the evaluation. The revised work plan shall include the list of potential interviewees, sites to be visited, and evaluation tools.

3. **Mid-term Briefing and Interim Meetings:** Schedule a mid-term briefing with USAID on the status of the assessment including potential challenges and emerging opportunities. The team will also provide the Contracting Officer’s Representatives for SUPPORT II and TB CARE I with periodic briefings and feedback on the team’s findings, field progress, and updates on any problems encountered through a weekly 30 minute phone call with OPPD’s M&E unit and the USAID Health Team.

4. **PowerPoint and Final Exit Presentation** to present key findings and recommendations to USAID. To be scheduled as agreed upon during the in-briefing, and five days prior to the evaluation team’s departure from Kabul. A copy of the PowerPoint file will be provided to the OPPD M&E unit prior to the final exit presentation.

5. **Draft Evaluation Report:** Shall be consistent with the following guidance: Length of the report: not to exceed 20 pages, exclusive of Annexes in English, using Times New Roman 12 point font, 1.15 line spacing, consistent with USAID branding policy. The report will address each of the issues and questions identified in the SOW and any other factors the team considers to have a bearing on the objectives of the evaluation. Any such factors can be included in the report only after consultation with USAID. **The draft evaluation report per the below format will be submitted by the evaluation team leader to OPPD’s M&E unit 24 hours in advance of the exit briefing for review and comments by USAID. USAID’s M&E unit and OSSD office will have ten calendar days in which to review and comment and OPPD’s M&E unit shall submit all comments to the evaluation team leader.**

6. **Final Evaluation Report with a 20 page limit will** incorporate final comments provided by the M&E unit. USAID/Afghanistan comments are due within ten days after the receipt of the initial final draft. The final report should be submitted by the evaluation team leader to the OPPD M&E unit within three days of receipt of comments. All project data and records will be submitted in full and
shall be in electronic form in easily readable format; organized for use by those not fully familiar with the project or evaluation; and owned by USAID and made available to the public, barring rare exceptions.

7. **One-page briefer** on key qualitative and quantitative findings for each municipality is included in the evaluation’s scope—to be given to the appropriate municipal government, provincial government, and/or GI RoA representative(s), so that they have the opportunity to review evaluation findings and share them with the larger community. Each briefer shall be translated in Dari and/or Pashto. Each briefer will be reviewed by the OPPD M&E unit and OSSD prior to distribution.

b. **Final Report Format**

The evaluation report shall include the following:

1. **Title Page**
2. **Table of Contents** (including Table of Figures and Table of Charts, if needed)
3. **List of Acronyms**
4. **Acknowledgements or Preface** (optional)
5. **Executive Summary** (1-2 pages)
6. **Introductory Chapter**
   a. A description of the project evaluated, including goals and objectives.
   b. Brief statement on purpose of the evaluation, including a list of the main evaluation questions.
   c. Brief statement on the methods used in the evaluation such as desk/document review, interviews, site visits, surveys, etc.
   d. Explanation of any limitations of the evaluation—especially with respect to the methodology (e.g., selection bias, recall bias, unobservable differences between comparator groups, etc.)—and how these limitations affect the findings.
7. **Findings:** This section should describe the findings, focusing on each of the evaluation questions.
8. **Conclusions:** This section should include value statements drawn from the data gathered during the evaluation process. It should also reference how any limitations affect the conclusions.
9. **Recommendations:** This section should include actionable statements for ongoing programming. It should also include recommended future objectives and types of activities based on lessons learned.
10. **Annex**
    a. Evaluation Statement of Work
    b. Places visited; list of organizations and people interviewed, including contact details.
    c. Evaluation design and methodology.
    d. Copies of all tools such as survey instruments, questionnaires, discussions guides, checklists.
e. Bibliography of critical background documents.
f. Meeting notes of all key meetings with stakeholders.
g. “Statement of Differences”
h. Evaluation Team CV’s

c. REPORTING GUIDELINES

- The evaluation report, excluding annexes, shall be limited to 20 pages.
- The evaluation report should represent a thoughtful, well-researched and well-organized effort to objectively evaluate what worked in the project over the given time period, what did not, and why.
- Evaluation reports shall address all evaluation questions included in the statement of work.
- The evaluation report should include the statement of work as an annex. All modifications to the statement of work, whether in technical requirements, evaluation questions, evaluation team composition, methodology, or timeline need to be agreed upon in writing by the OPPD M&E unit.
- Evaluation methodology shall be explained in detail and all tools used in conducting the evaluation such as questionnaires, checklists and discussion guides will be included in an annex in the final report.
- Evaluation findings will assess outcomes and impact on males and females, and data will be disaggregated by gender, age group, and geographic area wherever feasible.
- Limitations to the evaluation shall be disclosed in the report, with particular attention to the limitations associated with the evaluation methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.).
- Evaluation findings should be presented as analyzed facts, evidence, and data and not based on anecdotes, hearsay or the compilation of people’s opinions. Findings should be specific, concise and supported by strong quantitative and/or qualitative evidence.
- Sources of information, including any peer-reviewed or grey literature, will be properly identified and listed in an annex.
- Recommendations will be supported by a specific set of findings. They will also be action-oriented, practical, and specific, with defined responsible parties for each action.

References:


National Tuberculosis Strategic Plan (NSP 2014-2018), [Online available at]: www.moph.gov.af
ANNEX II: WORKPLAN

WORKPLAN

PERFORMANCE EVALUATION

OF

TB CARE I - Afghanistan

Submitted on:

November 17, 2014

Evaluation Team: Social Impact Inc./Checchi Consulting Company
1. Purpose of the Final Performance Evaluation

The purpose of this final performance evaluation is to assess the effectiveness of TB CARE I’s approach and activities in contributing to the project’s intended results, and to develop recommendations to promote the effectiveness of future TB programs. The evaluation should draw strong evidence-based conclusions that inform sound actionable recommendations to USAID, including other key stakeholders, e.g., WHO and the Afghan Ministry of Public Health in achieving the overall goal. The evaluation will identify the strengths and weaknesses of the project and will identify lessons learned and recommend options for future support of TB programs and projects in Afghanistan.

The specific objectives are:

3) To assess the performance of TB CARE I’s activities in Afghanistan.
4) To make evidence-based observations, draw conclusions, and provide substantive recommendations that may be used in future programs based on lessons learned.

2. Evaluation Questions

6) To what extent were the TB CARE I activities effective in achieving the project goal (increasing TB case detection and improving TB treatment outcomes in Afghanistan)?
   a. Are there significant differences in outcomes between provinces, and why?
   b. What factors hindered or helped achieve the project goal?
7) To what extent have the Community-Based DOTS and Urban DOTS packages been effectively scaled up?
   a. What challenges have these models faced in scaling up?
   b. What conclusions can be drawn about scaling up and replicating these models in the future?
8) How cost-effective have the Community-Based DOTS and Urban DOTS intervention packages been? [Significant financial data will be needed to answer this question. In the likely absence of financial data, training and staffing data may serve as a proxy for resource usage if available at the clinic level.]
9) How effective has TB CARE I been at working within government structures, and/or leveraging investments in TB from the Global Fund, JICA, and other donors? What conclusions can be drawn about the sustainability of TB CARE I’s interventions?
10) Based on these analyses, what recommendations can be made for future programming?

3. Methodology

The evaluation team will use a mix of methods to obtain the information and data needed to address the above questions.

**Desk Review:** The Evaluation Team (ET) will review reports related to the project that to obtain necessary background and progress information on the work of the project.
Although some quantitative details on the progress of the project are provided in the available quarterly and annual reports, additional information can be obtained through a review of documentation provided by TB CARE’s collaborating partners.

The following presents an initial listing of documents planned for review and study:

i. USAID TB CARE I quarterly and annual reports
ii. USAID TB CARE I PMP Plan and detailed data definitions and collection plans
iii. PMP plan and PMP data definitions and sources
iv. Proposals to the Global Fund.
v. Related recent publication on the subject matter.
vi. Other documents as requested and deemed necessary

**Key Informant Interviews:**

The evaluation team (ET) will design a survey instrument to address specific questions proposed in this evaluation. This survey/interview instruments will be utilized to help measure MoPH and collaborating partners perceptions of TB CARE I’s work. Private meetings with knowledgeable representative of TB CARE I’s collaborating partners will be utilized to capture partner sentiments. Minimally, a representative of the MoPH, MoPH/CDC/TB program, Provincial Health Authorities, Kabul Provincial Health Directorate, Clinic level staff, BRAC, WHO, JICA, and others will be interviewed on an anonymous basis. Depending upon available logistics, health systems representatives from a minimum of 5 provinces will be included in the survey. Available senior health officials at the provincial level will be interviewed using the same information collection form as that utilized for key informants. An effort will be made to separately conduct an open interview with a representative number of patients at each of the included Provinces to help assess public perception of TB CARE I’s and the National TB programs progress.

The interview/survey instrument will be designed to obtain the perceptions and suggestions of key informants on the following issues:

- The effectiveness of TB-CARE I in working with government structures.
- Suggestions on how TB-CARE I can improve its support to government structures for improved TB program performance.
- Suggestions on how MoPH and GOA support for TB care can be increased and its support further institutionalized.

**Written Questionnaires/Data Collection Forms:**

The key informant information collection form is attached.

Quantitative measures of TB CARE I’s outputs over time by Province and Gender are required to address questions on the success of the project and to explore variations between Provinces.

The implementing partner of TB CARE I will be requested to provide the following data covering the baseline time period up to the current date separately for each province included in the project and the national measures. The data source is the indicated Core Indicators:
Data Table 1. Quarterly measures of national success and by province (Source: Core Outcome Indicators) [indicators are not available by gender at the provincial level]

<table>
<thead>
<tr>
<th>Province Name:</th>
<th>Province Code:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarter</td>
<td>Number of cases notified (all forms)</td>
</tr>
<tr>
<td>2008/Q1</td>
<td></td>
</tr>
<tr>
<td>2008/Q2</td>
<td></td>
</tr>
<tr>
<td>…</td>
<td></td>
</tr>
<tr>
<td>…</td>
<td></td>
</tr>
<tr>
<td>2014/Q2</td>
<td></td>
</tr>
<tr>
<td>2014/Q3</td>
<td></td>
</tr>
</tbody>
</table>

The tables above will record the available data separately for all provinces in Afghanistan, especially including the 13 provinces included in TB CARE I. Time series data for each province and for the national measures will be examined for trends.

A comparison between and among the 13 TB CARE provinces and the remaining provinces in Afghanistan will be made. At the provincial and national levels, a statistically significant positive trend will be considered an indicator of success. Negative trends will be further examined to understand barriers to success.

Data Table 2. Status of CB-DOTS and Urban-DOTS treatment outcomes, case findings and supervisory visits (Latest Four quarter Data)

<table>
<thead>
<tr>
<th>Clinic Name/ province and Facility ID code</th>
<th>CB-DOTS or Urban-DOTS</th>
<th>Number of patients registered during the latest four quarters</th>
<th>Treatment Outcomes latest Four Quaters</th>
<th>Case Finding last 4 Quarters</th>
<th>TOTAL # of supervisory visits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Treatment Success Rate</td>
<td>De-faulted</td>
<td></td>
</tr>
<tr>
<td>…</td>
<td></td>
<td></td>
<td></td>
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<td>…</td>
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</tbody>
</table>

The data reported in the above table will be examined for provincial level differences and any possible relationship to supervisory visits.

Data Table 3. All MoPH TB Clinics—Date Started, Location and Case Finding Last Quarter (CB-DOTS, Urban-DOTSs and ALL Other TB Clinics)

<table>
<thead>
<tr>
<th>Clinic Name/Province, Facility ID code</th>
<th>Clinic TYPE [CB-DOTS, Urban-DOTS or Other]</th>
<th>Date Clinic Started**</th>
<th>Case Findings Last Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&lt;5 years of age</td>
<td>Males</td>
</tr>
</tbody>
</table>

…
** 999999 for “Other” MoPH TB clinics that existed at the start of the project

Data Table 4. Number of Supervisory Visits by Quarter for Kabul (URBAN-DOTS) and for the Provinces (CB-DOTS)

Data Table 5. Number of staff trained for URBAN-DOTS and CB-DOTS [Average per URBAN-DOTS and CB-DOTS site as a proxy for cost]

Data Table 6. Average number of hours of training provided to the average URBAN-DOTS and average CB-DOTS facility to facilitate their full operational status (Total hours of training provided per average facility).

Data Table 7. Case Notifications in excess of Kabul’s trend line by quarter as a result of URBAN-DOTS [Case Notifications in Kabul by Quarter prior to project implementation and Case Notifications in Kabul by Quarter after project implementation. (2009-2011 and 2011-2014)]

A statistically significant increase in the Kabul case notification trend line for quarters after program implementation can be supportive evidence of the success of URBAN-DOTS.

Description of the Sample Selection Methods:

All major TB CARE I implementing partners in Kabul will be surveyed. However, due to the existing security situation, it is not possible to undertake a truly random sample of Provinces or of clinics within provinces. A minimum of five provinces will be visited to interview representative health authorities, and representative clinic staff. Priority attention will be given to interviews at CB-DOTS clinics in the provinces. Five URBAN-DOTS sites will be visited.

Data Frame:

The following qualitative and quantitative data will be collected for analysis:

Methods, Data and Sources

<table>
<thead>
<tr>
<th>Method</th>
<th>Data</th>
<th>Sources</th>
</tr>
</thead>
</table>
| a. Desk Review | § Scope of Work  
§ Work plan(s)  
§ Performance Management Plan(s)  
§ Annual and Quarterly Reports  
§ Fact Sheet, Success Stories, Snapshots  
§ Copies of Abstract submitted for upcoming international meetings.  
§ Relevant USAID Strategy notes  
§ Other documents from the MoPH, WHO, JICA and others as requested | USAID, TB CARE I, MSH, WHO, JICA, & MoPH, UNDP |
<table>
<thead>
<tr>
<th>Method</th>
<th>Data</th>
<th>Sources</th>
</tr>
</thead>
</table>
| b. Trend analysis of TB notifications, case detection, and treatment success nationally and by gender/province by quarter from 2008 to the present. Assess CB-DOTS and URBAN-DOTS growth by province and there case finding value. | ▪ Data Table 1 above for national and provincial levels measures by gender for 2008-2014.  
▪ Data Table 2 for Community-Based TB and Urban TB DOTS programs  
▪ Data Table 3 above to establish a comparator, help assess trends and explore differences by clinic types. [The evaluation team will undertake the necessary statistical trend analysis and explore possible indications of differences in provincial level performance.] | MSH as the implementing partner. (to be made available in electronic form) |
| c. Cost effectiveness analysis of CB-DOTS and Urban DOTS | ▪ Financial data on the cost of establishing and operating CB and URBAN DOTS programs may not be available. MSH will provide details on the added cost of program support and training provided to facilitate the implementation of URBAN-DOTS. The incremental cost of an additional case notification can then be estimated.  
▪ If available, financial data on the cost of standard clinic based TB programs | MSH/MoPH  
Is it not yet clear that this data is available. [There is strong evidence presented in international literature in support of the cost effectiveness of CB-DOTS.] |
| d. Examine the possible added values of URBAN DOTS in excess of routine programs | Data Tables 4-7 may provide evidence of an increase in program results and quality. A trend line for URBAN DOTS in excess of historical levels can be considered possible evidence of its success in increasing case notifications and detections. | MSH |
| e. Tabulation of structured questionnaires given to Key Informants. Qualitative analysis of CB and URBAN-DOTS | ▪ A separate open survey instrument for clinic managers and staff will be employed to help measure perceived levels of support and training needs met.  
▪ The Key Informant survey form will be utilized to record the sentiments and observations of participating partners: MoPH, CDC/TBP, WHO, ET | All interviews will be done in person or by phone. |
<table>
<thead>
<tr>
<th>Method</th>
<th>Data</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>clinic staff open interviews.</td>
<td>JICA, UNDP, Kabul Hospital Association, provincial health authorities.</td>
<td></td>
</tr>
</tbody>
</table>
Hello, my name is _________________________________. I (we) are working for Checchi and Social Sciences, Inc. to understand the success and failures of the USAID funded program entitled TB CARE I implemented by Management Sciences for Health. This effort is at the request of USAID as part of their effort to improve their support to the Government of Afghanistan for tuberculosis control.

We have identified you and your organization as active leaders in the planning, management and implementation of tuberculosis control efforts in Afghanistan. We would like to obtain your insights along with those of your partner organizations in this effort.

Although your participation in this study is voluntary, we believe that your organization may have valuable insights into how USAID’s support for Tuberculosis control in Afghanistan can be improved and possibly how it can better take advantage of available synergies and collaborations.

Your insights and comments will not be attributable but will be anonymously included with those of others in the interview panel to help USAID make plans for its possible future support for TB Control in Afghanistan.

Please take your time with responses. We would like to get your best thoughts and insights.
Questions:

Q1. During the average month, how many times would you usually have encounters with MSH staff working on the TB CARE I project? ___________.

Q2. During your meetings with MSH on TB program, were you satisfied with the level of technical expertise offered to your organization and collaborating partners: YES/NO

Q3. What technical area(s) of Tuberculosis control in Afghanistan do you feel need to be strengthened? ______________________________________________________________________

Q4. Can you name one area of TB related technical support provided through TB CARE that you would like to see improved: NO/YES: If YES-name: ______________________________________________________________________

Q5. Do you have any suggestions on how Community Based DOTS can be improved? If yes, what ways can the existing or a future TB CARE project assist with these improvements? ________________________________________________________________________

Q6. Do you have any suggestions on how URBAN DOTS can be improved? If yes, what ways can the existing or a future TB CARE project assist with these improvements? ________________________________________________________________________

Q7. What suggestions do you have for support that can be provided to increase the Government of Afghanistan’s future commitment to and success in TB control? _______________________________________________________________________

______________________________________________________________________________
## 4. Deliverables and Activity Schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>LOCATION</th>
<th>ACTIVITY UNDERTAKEN</th>
<th>DELIVERABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>11/09</td>
<td>Kabul</td>
<td>ET Leader arrives</td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>11/10</td>
<td>Kabul</td>
<td>Document Review/ Prepare Work Plan [ET receives annual and quarterly reports from USAID]</td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>11/11</td>
<td>Kabul</td>
<td>[Veterans Day] Document Review/ Prepare Work Plan</td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td>11/12</td>
<td>Kabul</td>
<td>Initial work plan consultation with USAID</td>
<td>DRAFT WORK PLAN</td>
</tr>
<tr>
<td>Thursday</td>
<td>11/13</td>
<td>Kabul</td>
<td>Meet with USAID and MSH. Continue changes to Draft Work Plan</td>
<td>WORK PLAN DRAFT TO SOCIAL IMPACT AND CHECCHI FOR REVIEW.</td>
</tr>
<tr>
<td>Friday</td>
<td>11/14</td>
<td>Kabul</td>
<td>WEEKEND</td>
<td>WORK PLAN FINALIZED. USAID REQUESTED TO MAKE APPOINTMENTS</td>
</tr>
<tr>
<td>Saturday</td>
<td>11/15</td>
<td>Kabul</td>
<td>CONTINUE WORK ON KEY INFORMANT SURVEY INSTRUMENT AND PLANS</td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td>11/16</td>
<td>Kabul</td>
<td>SUBMIT SECOND DRAFT OF WORK PLAN WITH TRAVEL PLAN FOR KABUL AND PROVINCES INTERVIEWS. SECOND MEETING WITH MSH.</td>
<td>WORK PLAN FINALIZED. USAID REQUESTED TO MAKE APPOINTMENTS</td>
</tr>
<tr>
<td>Monday</td>
<td>11/17</td>
<td>9.00 AM</td>
<td>Kabul</td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>11/18</td>
<td>9.00 AM</td>
<td>Kabul</td>
<td></td>
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<td>DATE</td>
<td>TIME</td>
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<td>------------------------------------------------------------------------------------</td>
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<tr>
<td>Wednesday</td>
<td>11/19</td>
<td>Kabul</td>
<td>Visit Kabul based Key Informants and visit clinics (Community Based and Urban Based if possible)</td>
<td>USAID for formal approval]</td>
</tr>
<tr>
<td>Thursday</td>
<td>11/20</td>
<td>Kabul</td>
<td>AS ABOVE, CONTINUE VISITING KEY INFORMANTS AND KABUL AREA CLINICS.</td>
<td></td>
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<tr>
<td>Friday</td>
<td>11/21</td>
<td>Provinces</td>
<td>WEEKEND</td>
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<tr>
<td>Saturday</td>
<td>11/22</td>
<td></td>
<td>Continue visiting key Informants in Kabul and start travel to provinces for meetings with health authorities and visits to TB clinics. (preference given to CB and Urban TB clinics</td>
<td>[PROVINCES / CLINICS TO BE SELECTED LATER WITH SECURITY. FOCUS WILL BE ON CB-DOTS AND URBAN-DOTS</td>
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<tr>
<td>Sunday</td>
<td>11/23</td>
<td>Bamyan</td>
<td>THE ORDER OF PROVINCE VISITS WILL BE DEPENDANT UPON AVAILABLE FLIGHTS.</td>
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<tr>
<td>Monday</td>
<td>11/24</td>
<td>HERAT</td>
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<td></td>
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<tr>
<td>Tuesday</td>
<td>11/25</td>
<td>JAWZJAN</td>
<td></td>
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<tr>
<td>Wednesday</td>
<td>11/26</td>
<td>TAKHAR</td>
<td></td>
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</tr>
<tr>
<td>Thursday</td>
<td>11/27</td>
<td>BADAKHSHAN</td>
<td>Field Visits/Picture[Thanksgiving Day]</td>
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<td>FRIDAY</td>
<td>11/28</td>
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<td>WEEKEND</td>
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<tr>
<td>Saturday</td>
<td>11/22</td>
<td>Baghlan, Kandahar</td>
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<tr>
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<td>Provinces</td>
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<tr>
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<td>11/24</td>
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<tr>
<td>Wednesday</td>
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<td>Provinces</td>
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<tr>
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<tr>
<td>Thursday</td>
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<tr>
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<td>11/28</td>
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<td></td>
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<tr>
<td>Saturday</td>
<td>11/29</td>
<td>Kabul</td>
<td>MEETING WITH USAID</td>
<td>MID MISSION BRIEF WITH USAID</td>
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<td>Sunday</td>
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<td>Data analysis and Report preparation</td>
<td></td>
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<tr>
<td>Monday</td>
<td>12/1/2014</td>
<td>Kabul</td>
<td>Data analysis and Report preparation</td>
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</tr>
<tr>
<td>Tuesday</td>
<td>12/2</td>
<td>Kabul</td>
<td>Follow up meetings with Kabul and other collaborating partners in provinces</td>
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<tr>
<td>Wednesday</td>
<td>12/3</td>
<td>Kabul</td>
<td>Follow up meetings with Kabul and other collaborating partners in provinces</td>
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<tr>
<td>Thursday</td>
<td>12/4</td>
<td>Kabul</td>
<td>Follow up meetings with Kabul and other collaborating partners in provinces</td>
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<td>FRIDAY</td>
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<tr>
<td>Saturday</td>
<td>12/6</td>
<td>Kabul</td>
<td>Report writing</td>
<td>POWERPOINT SUBMITTED</td>
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<tr>
<td>Sunday</td>
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<td>EXIT BRIEF WITH USAID</td>
<td>EXIT BRIEF WITH USAID</td>
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<tr>
<td>Monday</td>
<td>12/8</td>
<td>Kabul</td>
<td>Report writing</td>
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<tr>
<td>Tuesday</td>
<td>12/9</td>
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<td>Report writing</td>
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<tr>
<td>Wednesday</td>
<td>12/10</td>
<td>Kabul</td>
<td>Depart Kabul</td>
<td>SUBMISSION OF DRAFT REPORT TO CHECCHI AND SOCIAL IMPACT FOR REVIEW</td>
</tr>
<tr>
<td>Thursday</td>
<td>12/11</td>
<td>U.A.E.</td>
<td>TRAVEL DAY KABUL-USA</td>
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<tr>
<td>FRIDAY</td>
<td>12/12</td>
<td>USA</td>
<td>ARRIVE USA (CHECK)</td>
<td></td>
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<tr>
<td>Saturday</td>
<td>12/14</td>
<td>USA</td>
<td>WEEKEND</td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td>12/15</td>
<td>USA</td>
<td>WEEKEND</td>
<td>SUBMISSION OF DRAFT REPORT TO USAID</td>
</tr>
<tr>
<td>Monday</td>
<td>12/16</td>
<td></td>
<td>FINALIZE DATA ANALYSIS AND REPORT</td>
<td></td>
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</tbody>
</table>
## Notes:

### Standardized indicators for ENGAGE-TB [Community-Based DOTS and Urban DOTS]

One of the main challenges of monitoring the implementation of community-based TB activities has been the lack of standardized indicators. The following are suggested core indicators to measure the implementation of community-based activities that need to be included in the TB monitoring system of all stakeholders and linked with the national monitoring and evaluation system of the NTP or its equivalent.

- **Indicator 1: Referrals and new notifications**
  - **Definition:** Number of new TB patients (all forms) diagnosed and notified with TB who were referred by community health workers and community volunteers expressed as a percentage of all new TB patients notified in the basic management unit (BMU) during a specified period.

- **Indicator 2: Treatment success**
  - **Definition:** New TB patients (all forms) successfully treated (cured plus completed treatment) who received support for treatment adherence from community health workers or community volunteers among all new TB patients (all forms) provided with treatment adherence support by community health workers or community volunteers (number and percentage).

For a detailed list of indicators and definitions please refer to the ENGAGE-TB Operational Guidance document.
ANNEX III: BIBLIOGRAPHY OF DOCUMENTS REVIEWED


A. Arshad et al, Community based interventions for the prevention and control of tuberculosis, *Infectious Diseases and Poverty*, 2014,


Bruce Baltas, *Letter of award to KNCV tuberculosis Foundation, Tuberculosis (TB) CARE RFA, Cooperative Agreement No. AID-OAA-A-10-00020, USAID Agreement Officer, 29 September, TB CARE I, 2010*


Floyd K et al, Cost and cost-effectiveness of increased community and primary care facility involvement in tuberculosis care in Lilongwe District, Malawi, *Pub Med*, Sept 2003,


Procedures (SOPs) on Case Detection and Diagnosis of Adult TB Cases in Afghanistan, March 08th 2009, pp. 118-127


Ministry of Health and Social Welfare, the United Republic of Tanzania, National Tuberculosis and Leprosy Program, *Community Based TB Care: Experience from Temeke, Tanzania Empowerment and involvement of former Tuberculosis patients in Tuberculosis control*, January 2010, pp. 1-27


Seddiq K et al, Implementing successful tuberculosis program within primary care services in a conflict area using the stop TB strategy: Afghanistan case study, *Confl Health- Pub Med*, Feb 2014


*TB CARE I Monitoring and Evaluation Plan*, USAID, July 2012


## ANNEX IV: SCHEDULE OF MEETINGS

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Organization</th>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11/11/2014</td>
<td>USAID</td>
<td>Nicholas Kaufman, Daryl Martyris and two other USAID staff</td>
<td>HDO/OSSD Officer M&amp;E/OPPD Officer</td>
<td>+93(0)702-626-220</td>
<td><a href="mailto:Nkaufman@usaid.gov">Nkaufman@usaid.gov</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+93(0)702-626-255</td>
<td><a href="mailto:DMartyris@usaid.gov">DMartyris@usaid.gov</a></td>
</tr>
<tr>
<td>2</td>
<td>11/13/2014</td>
<td>USAID and MSH</td>
<td>Nicholas Kaufman and two other USAID staff Mr. Quader</td>
<td>HDO Officer MSH Country Rep for TB CARE I and the M&amp;E Director.</td>
<td>+93(0)799-344-106</td>
<td><a href="mailto:Mrashidi@msh.org">Mrashidi@msh.org</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Mohammad Khakerah Rashidi and Mr. Quader</td>
<td></td>
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<tr>
<td>3</td>
<td>11/16/2014</td>
<td>MSH</td>
<td>Dr. Mohammad Khakerah Rashidi and Dr. Ghulam Qader from MSH. Mr. Hoppy, Hagan and Sayed Haroon</td>
<td>MSH Country Rep for TB CARE I and the M&amp;E Director.</td>
<td>+ 93(0) 729 344 106,</td>
<td>M <a href="mailto:rashidi@msh.org">rashidi@msh.org</a>, <a href="mailto:gqader@msh.org">gqader@msh.org</a></td>
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<td>4</td>
<td>11/17/2014</td>
<td>MSH</td>
<td>Dr. Mohammad Khakerah Rashidi and Dr. Ghulam Qader from MSH. Dr. Sayed Haroon and Dr. Kayan</td>
<td>MSH Country Rep for TB CARE I and the M&amp;E Director.</td>
<td>Ibid</td>
<td>Ibid</td>
</tr>
<tr>
<td>5</td>
<td>11/19/2014</td>
<td>GMS TB clinic in Kabul and Inder Ghandi Pediatric Hospital, TB clinic</td>
<td>Dr. Abdul Haq Dr. Abdul Fatah Dr. G. Jakob Illi Dr. Haji Akbar Robert Hagan Dr. Kayan Dr. Haroon</td>
<td>TB Specialist doctor/ GMS Head of GMS TB clinic GMS-Project Coordinator German Medical Service DOTS focal point Indraghandi Hospital</td>
<td>0773030383 0772104566 +93799665179 +93700380927</td>
<td><a href="mailto:abd.haque.kazemali@gmail.com">abd.haque.kazemali@gmail.com</a>, <a href="mailto:Gms.j.illi@gmail.com">Gms.j.illi@gmail.com</a></td>
</tr>
<tr>
<td>6</td>
<td>11/24/2014</td>
<td>Herat Public Health Department</td>
<td>Dr. Gh. Saeed Rashed Dr. Asef Kabir Dr. Javid Matin</td>
<td>PH director Deputy PHD and PTC</td>
<td>+93799141070 +93799065456 +93799202640</td>
<td><a href="mailto:Drsashed@gmail.com">Drsashed@gmail.com</a>, m <a href="mailto:ntpafghrt@gmail.com">ntpafghrt@gmail.com</a></td>
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<tr>
<td>No.</td>
<td>Date</td>
<td>Location</td>
<td>Contact Person(s)</td>
<td>Position/Role</td>
<td>Contact Details</td>
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<td>8</td>
<td>11/24/2014</td>
<td>DAC/ Guzara DH/Herat</td>
<td>Dr. Abdul Jabbar Sohail Robert Hagan and Dr. Haroon</td>
<td>Head of Guzara District Hospital</td>
<td>+93799401961</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>11/30/2014</td>
<td>WHO /Kabul Office</td>
<td>Dr. Moh. Reza Aloudal Robert Hagan and Dr. Haroon</td>
<td>National Professional officer / TB focal point</td>
<td>+93799302829 <a href="mailto:aloudalm@who.int">aloudalm@who.int</a></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>12/02/2014</td>
<td>Jowzjan PHD</td>
<td>Dr. Farid Azizi Dr. Abd. Ghafoor Saboori Dr. Aria Bawar Dr. Moh. Anwar Rasooli Dr. Haroon</td>
<td>Acting PHD PTC TB DOTS focal point/ SAF (NGO) PHSSC/ MSH Evaluation Specialist/ Checchi</td>
<td>+93799480581 +93799247032 +93785689580 +93799188056</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>12/02/2014</td>
<td>Aqcha DH/TB clinic Jowzjan Province</td>
<td>Dr. Najibullah Farhang Mr. Moh. Osman Dr. Haroon</td>
<td>Head of District Hospital DOTS room in</td>
<td>0799 102 742 0799 414 749</td>
<td></td>
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<tr>
<td>12</td>
<td>12/03/2014</td>
<td>Checchi Office, Kabul</td>
<td>Dr. Ahmad Ali, Dr. Ali Ahmad Osmani, Robert Hagan, Dr. Kayhan and Dr. Haroon</td>
<td>TB Drug Manager / BRAC +93076728281 +93794009227 <a href="mailto:Ahmad.momand@yahoo.com">Ahmad.momand@yahoo.com</a> <a href="mailto:Hassib.osmani@hotmail.com">Hassib.osmani@hotmail.com</a></td>
<td></td>
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<tr>
<td>13</td>
<td>12/07/2014</td>
<td>MSH</td>
<td>Dr. Khakrah Rashidi, Robert Hagan, Dr. Kayhan, Dr. Haroon</td>
<td>MSH Checchi Consulting Inc</td>
<td></td>
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<tr>
<td>14</td>
<td>12/07/2014</td>
<td>Ministry of Public Health</td>
<td>Dr. Ahmad Jan Naeem Acting Minister of MoPH, Robert Hagan, Dr. Kayhan, Dr. Haroon Rastagar</td>
<td>MoPH Checchi Consulting Inc</td>
<td></td>
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<td>15</td>
<td>12/08/2014</td>
<td>MSH office</td>
<td>Dr. Lutfullah Manzoor, Dr. Haroon Rastagar</td>
<td>ATLDS Checchi 0799039344</td>
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</table>
ANNEX V: METHODOLOGY DESCRIPTION

Introduction

The evaluation team paid field and office consultation visits to national, provincial, district and health facility directors during the last part of November and early December. National and international authorities were consulted. Discussions centered on the past successes, failures, challenges and the future prospects of TB CARE. This information is detailed in the attached summary notes (Annex VII) for each such consultation. Notes on important statements and observations are provided in the Findings section of the report.

Available data was obtained from the TB CARE I project implementation office. Although the available data sets did not include Quarter Three of 2014, near complete data from 2008 through Quarter Two of 2014 data sets were provided. MSH provided data in MS-EXCEL format with a tabbed table for each province. These MS-EXCEL tables were consolidated into two open source comma separated values file (CSV).

*It is important to emphasize that the robustness of following tables and conclusions can be significantly increased with the inclusion of tardy data for Q3, 2014.*

a. Data Sets employed for the evaluation of TB CARE I

The following tables present a snapshot of the three data sets utilized for this report.

1. Reports of consultations with national, provincial, district and clinic level TB officials.

Approximately 40 individuals representing approximately 30 institutions and TB activities were interview and consulted for information on their relationship with the TB CARE I project, their insights on the success and failures of this project and their suggestions for improvements if the project were to continue. Highlights of these discussions are contained in Annex VII. Annex VII serves as the source documents for information reported in the Findings, Conclusions and Recommendations sections of the report.

2. Number of New Cases, New Sputum Smear Positive Cases and the Treatment Success Rate by Province and Quarter from 2008 to Q3, 2014

The following list the variables and first row values of this data set.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
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<td>ProvEffect</td>
</tr>
<tr>
<td>Quarter</td>
<td>sequence</td>
<td>effect</td>
</tr>
<tr>
<td>AllCases</td>
<td></td>
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</table>

3. Clinic level New Sputum Smear Positive Cases by Gender and Age for Quarter Two, 2014

The listings below present the first row of this second data set with variable names and values for individual clinics for Quarter 2, 2014 only.

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<tbody>
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<td>Province</td>
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</tr>
<tr>
<td>District</td>
<td>M0_4</td>
<td>M15_24</td>
</tr>
<tr>
<td>ID</td>
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<td>F15_24</td>
</tr>
<tr>
<td>M5_14</td>
<td>M15_24</td>
<td>F15_24</td>
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<td>F25_34</td>
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<td>F45_54</td>
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<tr>
<td>M65up</td>
<td>F65up</td>
<td>Mtotal</td>
</tr>
<tr>
<td>M75up</td>
<td>TBCAREyn</td>
<td>Ftotal</td>
</tr>
</tbody>
</table>
b. Tools for Data Analysis

An open source statistical analysis package was employed for the following analysis. The statistical software package and libraries titled "R" published by the "r-cran-project" were utilized. The employed code is listed along with the resulting analytical outputs.

3. New Suspect Cases, NSSP cases and Treatment Success Rates

Semiannual sum of new suspected cases and NSSP cases for all provinces before and after TB CARE

The following two charts present evidence of TB CARE producing measurable increase in both new suspect cases and NSSP cases compared to the performance of non-TB provinces after the implementation of TB CARE. The dashed trend lines for suspect cases in TB CARE provinces show a significantly higher increasing trend after the implementation of TB CARE.

![Figure 11: Quarterly sums of New suspect Cases for TB CARE I and non-TB CARE I provinces](image-url)
Figure 12: Quarterly sums of NSSP Cases for TB CARE I and non-TB CARE I provinces

Box Plots of Quarterly Indicators of TB Program Success for TB CARE I and non-TB Care I Provinces before and after the implementation of TB CARE I

The following chart presents summary measures of new suspect cases, NSSP cases and the Treatment Success Rates (TSR) for each quarter during the indicated time periods. Overall, the improvement in indicators for TB Care I provinces compared to that of non-TB CARE provinces does not appear highly significant. However, there has been a positive increase in all three indicators for TB Care I provinces with no increase during the implementation of TB CARE in the non-TB CARE provinces. Aside from changes in median values, it is important to also notice the very significant reduction in the variability of quarterly indicators for TB CARE provinces during the implementation of TB CARE I. This reduction in variability for Treatment Success Rates can be attributed to higher levels of uniformity in supervision, training and monitoring.

In summary, although there has an unimpressive increase in indicator values for TB CARE I Provinces during the implementation of TB CARE I compared to that demonstrated by non-TB CARE I Provinces, TB CARE I Provinces now demonstrate a tighter grouping of TSR indicators that are a reflection of consistency, more uniform management practices and higher levels of supervision.

For possible future efforts, it will be much easier to improve a consistent process than the diverse processes in Non-TB CARE I provinces which continue to have a high number of outlier data points for its TSR.
Figure 13: Box Plots of Quarterly Indicators
For Urban-DOTS (i.e. Kabul only)

```
## data: NSSPcases by effect
## t = -3.1194, df = 24.915, p-value = 0.004535
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:  
##    -103.1602    -21.1035
## sample estimates:
##  mean in group prior_to mean in group TB_CARE_I
##  234.7143       296.8462
```

```
## data: TSR by effect
## t = -5.7457, df = 15.825, p-value = 3.14e-05
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:  
##    -21.86952    -10.07333
## sample estimates:
##  mean in group prior_to mean in group TB_CARE_I
##  54.92857       70.90000
```

There is a significant difference between average quarterly number of NSSP cases in Kabul for the time periods prior to and after the implementation of TB CARE I. This difference can be considered significant.

The Plot below presents reported New Sputum Smear Positive Cases in Kabul by quarter from 2008 to the second quarter, 2014.
Figure 14: NSSP cases in reported in Kabul by Quarter

Similarly, for all reported new suspect TB cases in Kabul we have:

```r
with(urban_dots, t.test(AllCases ~ effect))
```

```
##    Welch    Two Sample t-test
## data:  AllCases by effect
## t = -3.9635, df = 18.82, p-value = 0.0008459
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:  
##    -502.3271 -154.9916
## sample estimates:
## mean in group prior_to mean in group TB_CARE_I
## 582.5714    911.2308
```
The above t-test indicates that there has been a significant increase in All New Suspect TB CASES and in the number of New Sputum Smear Positive Cases as noted above. The quarterly average number of new suspect cases has increased from 582.6 to 873.5, and the average number of NSSP cases per quarter has increased from 234.7 to 293.5.

```
with(urban_dots, t.test(NSSPcases ~ effect))
```

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<th></th>
<th>Welch</th>
<th>Two Sample t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>data:</td>
<td>NSSPcases by effect</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>-3.1194</td>
<td>df = 24.915, p-value = 0.004535</td>
</tr>
<tr>
<td>alternative hypothesis:</td>
<td>true difference in means is not equal to 0</td>
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</tr>
<tr>
<td>95 percent confidence interval:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mean in group prior_to</td>
<td>mean in group TB_CARE_I</td>
<td></td>
</tr>
<tr>
<td>234.7143</td>
<td>296.8462</td>
<td></td>
</tr>
</tbody>
</table>

As with All New Suspect Cases, the average number of NSSP cases per quarter has significantly increased. The quarterly average rate in Kabul under URBAN-DOTS has increased from 234.7 to 293.5.

**Community Based-DOTS**

The data sets for Community Based Dots include all TB CARE I Provinces with the exception of Kabul.

**NSSP**

The following plot by itself does not encourage a conclusion of increased NSSP cases in Community Based Dots programs during the time frame of TB CARE I. _IF PROVINCIAL START DATES FOR CB-DOTS BECOMES AVAILABLE USE TO RECOMPUTE_
Although there has been remarkable success with Community Based DOTS in some provinces, on aggregate, evidence of success is limited. However and will be presented later,
increased treatment success rates and the increase in the number of provinces with a positive growth trend in case detection are very positive signs. CB-DOTS based suspect case identification at the project level shows a positive trend. The average quarterly number of NSSP cases increased from 122.2 to 123.4 while the average number of new suspect cases increased from 252.3 to 270.6.

c. Indications of TB-CARE I’s Progress during program implementation

**Trend lines for TB CARE I Provinces--NSSP cases prior to and during TB-CARE I**

The following plot presents trend lines for NSSP cases by quarter for the indicated time periods prior to and during the implementation of TB CARE I. Although CB-DOTS has not produced a significantly higher number of NSSP cases, eight of the remaining 12 CB-DOTS provinces present a steeper trend during the TB-CARE time period. Only two of the 12 CB-CARE I provinces have turned from a positive trend to a negative or decreasing trend during the implementation of TB-CARE I.

![Trend lines for NSSP cases by TB CARE I Province prior to/during TB-CARE I](image)

Figure 16: NSSP by quarter for TB CARE I provinces prior to and after start of TB-CARE I
The following Figure presents box plots which give a clearer visual indication of province level performance in the identification of NSSP cases.

**Box Plots of the Average Quarterly NSSP cases by Province, before/after TB-CARE I**

Figure 17: Box Plots NSSP cases by TB CARE I province prior to / after start of TB CARE I

Excluding Kabul, nine of TB-CARE I's remaining 12 CB-DOTS provinces present a higher mean number of NSSP cases per quarter during TB-CARE. It is interesting to observe that NSSP cases during TB-CARE I in Kabul(URBAN-DOTS) show significant growth yet also starting at a higher level prior to TB CARE I implementation.
Quarterly average of New suspect TB Cases by Province

Although the project wide growth in new suspect TB cases is not impressive, this chart documents an increase in the quarterly average in nine of TB CARE's 12 Community Based Dots provinces--excluding Kabul. This is the same observation as for the quarterly average number of NSSP cases before and after the implementation of TB-CARE. Thee provinces (Paktiya, Kabul and Hirat) show evidence of significant improvement in their identification of new suspect TB Cases. Only one province (Fayab) presents evidence of a possible decline in new suspect TB cases during TB CARE I's implementation.

Trend lines for TSR by Province prior to/after TB-CARE I start

This plot does not present any clear indication of a change in treatment success rates trends since the implementation of TB CARE I.
Figure 19: TSR Trend Lines by TB CARE I Province before and after the start of TB CARE I

Only Kabul (URBAN-DOTS) and Hirat appear to have a recent serious downward trend in their treatment success rates. The cessation of WFP's nutrition support to TB patients may be related to the overall decrease in treatment success rates. Although Kabul's average TSR remains high, it may be useful to explore the recent trend in Kabul's TSR.
Average Quarterly Clinic Treatment Success Rates by Province, before/after TB-CARE I

Although Kabul (URBAN-DOTS) has a downward trend in its Treatment Success Rate, its average rate during the implementation of TB CARE remains above the average levels achieved prior to TB CARE I.

Figure 20: TSR Box plots by TB CARE I Province prior/after the start of TB CARE I

Again, although many provinces now have a downward statistical trend in their Treatment Success Rates, only one (Khost) shows evidence of a real decrease in this rate. However, the indication in Figure 10 above of trends that are decreasing is cause for further study. The wide range of reported quarterly TSRs (excess outliers denoted by the red dots) is of additional concern. Security developments, drug outages or program management are suspect causes.
Average Clinic Quarterly Treatment Success Rates, before/after TB-CARE I

This highlights the improved consistency in the operation of TB clinics during the time period of TB CARE’ implementation. There has been a very significant reduction in the variability of TSRs and a slight increase in the overall treatment success rates for clinics in TB CARE I supported provinces. This improved consistency or reduced variability could be the result of improved security or better management and supervision.

![Box Plot of TSR for TB CARE I provinces prior to/after the start of TB-CARE I](image)

Figure 21: Box Plot of TSR for TB CARE I provinces prior to/after the start of TB CARE I

Although as previously noted, TB CARE I clinics demonstrate a recent decreasing trend in their Treatment Success Rates, the overall trend is clearly improved operations with reduced variability and a continuing slight increase in the overall average Treatment Success Rate.
There appears to be little change for non-TB CARE I provinces in the distribution of Treatment Success Rates since the implementation of TB CARES I (the first and third plots). Although the general range and outlier distribution appears unchanged, non-TB CARE I provinces have improved in terms of eliminating reported provincial level ZERO level Treatment Success Rates. The range of reported TSRs for TB CARE I provinces during the
implementation of TB CARE I is almost is close to half that of non-TB CARE I provinces (comparing the two right most plots). It is also interesting to note that Treatment Success Rates reported by TB CARE provinces prior to the implementation of TB CARE I appear to have a higher level of variability than that reported by non-TB CARE I provinces (the left two plots).

The following plots present quarterly NSSP data for non-TB CARE I provinces prior to and after the start of TB CARE I. Provinces "Sari pul" and "Nuristan" are omitted due to incomplete data.

The above plot of trend lines for NSSP cases in non-TB-CARE I provinces prior to and after the start of TB CARE presents mixed results. Approximately 4 of the 19 provinces depicted give evidence of a reversal in their positive trend to a negative trend in NSSP cases. However, six of these provinces appear to revert from a negative trend to a positive trend.

![Ten Non-TB CARE I Provinces Trend lines for NSSP cases by Province prior and during TB-CARE I](image)

Figure 23: Ten Non-TB CARE I provinces NSSP by quarter prior to and after start of TB-CARE I
Figure 24: Nine non-TB CARE I provinces NSSP by quarter prior to and after start of TB-CARE I

Comments on this plot figure 16 Check order of two provinces in the two data files to make sure they link.
Figure 25: Mean Quarterly Indicators after the implementation of TB CARE I by Province

Source: NTP through TB CARE I Only for Quarters after the start of TB CARE I
Figure 26: Distribution of Male and Female NSSP cases by age groups for all provinces Quarter 2, 2014

- Kabul ONLY

test for differences in TSR before and after TB CARE I’s start

```r
with(onlyTBCAREprov, t.test(TSR ~ effect))
```

```r
## Welch Two Sample t-test
##
## data:  TSR by effect
## t = -2.5392, df = 308.144, p-value = 0.0116
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -6.0416442 -0.7660907
## sample estimates:
## mean in group prior_to mean in group TB_CARE_I
##                85.81319                89.21705

with(urban_dots, t.test(TSR ~ effect))
```

```r
## Welch Two Sample t-test
##
## data:  TSR by effect
## t = -5.7457, df = 15.825, p-value = 3.14e-05
```
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -21.86952 -10.07333
## sample estimates:
## mean in group prior_to mean in group TB_CARE_I
## 54.92857 70.90000

KABUL Trend lines for TSR by Province prior to/after TB-CARE I start

![KABUL Average TB CARE I Quarterly TSR before/after TB-CARE I](image)

**Figure 27: KABUL TSR prior to/after the start of TB CARE I**

**Six provinces with full CB-DOTS implementation**

*Herat, Jowzjan, Faryab, Baghlan, Badakhshan, and Takhar* Explore a changed "effect" date

Although all clinics within each province did not start at the same time, the average CB-DOTS start dates are:

```r
# Welch Two Sample t-test
```
## data: TSR by xeffect
## t = -1.7128, df = 111.787, p-value = 0.08953
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -4.0540660 0.2948067
## sample estimates:
## mean in group Prior to Q3, 2012 mean in group Q3 2012 to latest
## 91.45370 93.33333
##
## Welch Two Sample t-test

## data: AllCases by xeffect
## t = -2.0334, df = 69.667, p-value = 0.04583
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -98.9921610 -0.9522835
## sample estimates:
## mean in group Prior to Q3, 2012 mean in group Q3 2012 to latest
## 274.9722 324.9444
##
## Welch Two Sample t-test

## data: NSSPcases by xeffect
## t = -0.8013, df = 94.879, p-value = 0.425
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -25.82506 10.97320
## sample estimates:
## mean in group Prior to Q3, 2012 mean in group Q3 2012 to latest
## 142.3148 149.7407
Figure 28: Six CB-Dots Provinces

Five of the six initial CB-DOTS provinces show an improvement in TSR after the start of TB CARE I.
Figure 29: TSR Box plots for six CB-DOTS provinces

Five of the six CB-DOTS early provinces show higher TSRs after the start of their programs.

Five of the six CB-DOTS early provinces have higher average new suspect cases.
Figure 30: TSR Box plots for six CB-DOTS Provinces

All six of the early CB-DOTS provinces report higher average quarterly NSSP cases.

Figure 31: CB-DOTS Average quarterly NSSP cases for six provinces
ANNEX VI: DATA COLLECTION INSTRUMENTS

TB CARE I Final Evaluation Anonymous Key Informant Survey Questions

November—December, 2014

Hello, my name is ________________________________________. I (we) are working for Checchi and Social Sciences, Inc to understand the success and failures of the USAID funded program entitled TB CARE I implemented by Management Sciences for Health. We have identified you and your organization as active leaders in the planning, management and implementation of Tuberculosis control efforts in Armenia. We would like to obtain your insights along with those of your partner organizations in this effort.

Although your participation in this study is voluntary, we believe that your organization may have valuable insights into how USAID’s support for Tuberculosis control in Afghanistan can be improved and possibly how it can better take advantage of available synergies and collaborations.

Your insights and comments will not be attributable but will be anonymously included with those of others in the interview panel to help USAID make plans for its possible future support for TB Control in Afghanistan.

Please take your time with responses. We would like to get your best thoughts and insights.

Q1. During the average month, how many times would you usually have encounters with MSH staff working on the TB CARE I project? ___________.

Q2. During your meetings with MSH on TB program, were you satisfied with the level of technical expertise offered to your organization and collaborating partners: YES/NO

Q3. What technical area(s) of Tuberculosis control in Afghanistan do you feel need to be strengthened?

___________________________________________________________________________  
___________________________________________________________________________  
___________________________________________________________________________  

Q4. Can you name one area of TB related technical support provided through TB CARE I that you would like to see improved: NO/YES: If YES-name: ________________________________________________.

Q5. Do you have any suggestions on how Community Based DOTS can be improved? If yes, what ways can the existing or a future TB CARE project assist with these improvements?

___________________________________________________________________________  
___________________________________________________________________________  
___________________________________________________________________________  

Q6. Do you have any suggestions on how URBAN DOTS can be improved? If yes, what ways can the existing or a future TB CARE project assist with these improvements?

___________________________________________________________________________  

__
Q7. What suggestions do you have on support that can be provided to increase the Government of Afghanistan’s future commitment to and success in TB control?
ANNEX VII: DETAILED MEETING NOTES

National Tuberculosis Control Program (NTP) Director

Date: Nov. 19, 2014
Venue: Offices of the National Tuberculosis Control Program

<table>
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<tr>
<th>Name</th>
<th>Position</th>
<th>Phone</th>
<th>Email</th>
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<tbody>
<tr>
<td>Dr. Khalid Seddiq</td>
<td>NTP Director /MoPH</td>
<td>+93700289410</td>
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</tr>
<tr>
<td>Manzoor</td>
<td>Kabul/MoPH</td>
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</tr>
<tr>
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<tr>
<td>Dr. Kayhan Natiq</td>
<td>Evaluation Specialist,</td>
<td>0729001683</td>
<td><a href="mailto:natiqk@gmail.com">natiqk@gmail.com</a></td>
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<tr>
<td>Dr. Haroon Rastagar</td>
<td>Evaluation Specialist,</td>
<td>0729001695</td>
<td><a href="mailto:hrastagar@gmail.com">hrastagar@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td>Checchi</td>
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</table>

Summary of Meetings
As planned, a meeting was held with NTP director and Urban DOTS Coordinator from MoPH on Wednesday Nov 19th at 1:15 P.M. All program aspects were discussed and information given from NTP director. Meanwhile, the team asked many questions including the questionnaire. First, he pointed out some achievements his team obtained in the last years of the program. For example; he pointed to NSP (National Strategic Plan of TB program 2014-2017), SOPs (Standard Operational Procedures) for Infection prevention and DOTS program. In addition, he described the program since the beginning with the support of all donors including USAID. At the meantime the Urban DOTS coordinator was present who answered the questions and added some points. However, the meeting lasted for one hour and half; the following is a summary of points and recommendations for the next phase of the program:

Challenges:
- In some places BPHS implementers still do not cooperate well with the program
- Case detection in some places is low (due to turnover of staff ….)
- Full package is not implemented in all areas. (Again BPHS implementer problem, or social and economic problem)
- The Budget allocated for TB is less
- Low level of cooperation of public and private hospitals to integrate TB program with their activities.
- Lack of enough equipment

Achievements:
- Development of NSP for TB, SOPs for DOTS program
- Development of new fund model by NTP
- Merging TB information system with Health Management Information System (HMIS)
- Urban and Community Based DOTS packages developed
- NTP Guidelines developed and distributed to all Health Facilities (HFs)
- X-Ray technicians trained in Iran by JICA
- Tests distributed to all clinics as well as medication

**Recommendations:**
- The NTP leadership seems to be happy with TB CARE 1 program, and they want the program to continue and expand to other provinces in the future as well.
- Regarding Urban DOTS, it is their idea to; at least, expand the program to 5 big provinces (Herat, Mazar, Nangarhar, Kandahar, Kunduz).
- The fund or the next program should be according to NSP 2014-2017 (increase the budget)
- Overall, the program should be continued and sustained
- Political commitment should get strengthened
- Pressure on Hospitals from MoPH high rank officials to integrate the program of TB within their activities.
- Increase the level of trainings, x-ray equipment, tests to further increase the case detection in children
- Urban DOTS should expand to other provinces
- Incentive, renovations, and equipment for the program
- Expand the TBCARE 1 in non-USAID supported provinces as well.
German Medical Services TB clinic

Date: Nov. 19, 2014  
Venue: Wazir Akbar Khan

<table>
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<tr>
<th>Name</th>
<th>Position</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Abdul Haq</td>
<td>TB Specialist/ GMS</td>
<td>0773030383.</td>
<td><a href="mailto:abd.haque.kazemali@gmail.com">abd.haque.kazemali@gmail.com</a></td>
</tr>
<tr>
<td>Dr. Abdul Fatah</td>
<td>Head of clinic/ GMS</td>
<td>0772104566</td>
<td></td>
</tr>
<tr>
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<td><a href="mailto:hrastagar@gmail.com">hrastagar@gmail.com</a></td>
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**Summary of Meetings / Visits**

Questions about Urban TB DOTS and the perspective of TB program were raised so that their ideas about the program were noted. According to interviewees some points are as the following:

- There was pharmaceutical problem/ delay in supply, receiving near expire medicine from NTP
- Transfer out problem/ some clients do not follow full package of the program and leave or being transferred out due to transportation, poverty, and other social problems.
- Food supplying program of WFP does not exist now
- Treatment intervention( there is another section for epilepsy patients next to TB section)
- Low detection rate in children due to lack of equipment such as micro film machine
  - On the other hand, they had positive points to consider as well:
    - Treatment Success rate of about 85%
    - Organized structure of the facility
    - Active and equipped laboratory for sputum smear
    - Complete and good registration system
    - IEC materials and health education
    - It is strongly suggested that this clinic with its high volume of patients be provided one of the GF Gene Expert Machine
Indra Ghandi (Pediatric Hospital) TB Clinic (TB CARE 1)

Date: Nov. 19, 2014

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Highlights of discussions:
- The structure of the TB ward was not organized (x-ray machine very far from DOTS room and doctor’s office)
- Sputum smear was examined in the same general lab (however sample taking place was separate)
- DOTS program was not implemented (patients do not cooperate according to doctor, ask for medication for one week, they are mostly transferred out)
- The clinic gives medicine for one week or less to patients to use by themselves.
- Low level of training taken by staff
- WFP food program does not exist
- Delay in supplying medication, Monteux test (Tuberculin Test)
- Delay in providing incentives to patients and doctors who refer patients
  - On the other hand:
    - Clinic was regularly monitored by MSH and NTP
    - Good procedure for diagnosis
    - Qualified medication
    - Presence of clinician and the staff

Recommendations:
- The number of trainings especially to detect TB in children should increase
- Supplying pharmaceutical on time
- Equip the clinics and hospital with micro film machine, Gene Expert Machine
- WFP program of food supply should re-start
- Increase in supplying Monteux test
- More health education and awareness program
- Urban DOTS should expand to other provinces to reduce the load of patients in Kabul

Bamyan Provincial Health Officials

Date: Nov 20, 2014
The Provincial Health Director expressed her gratitude for the assistance the USAID has provided towards improving the health services in Bamyan province. She mentioned that Bamyan is one of remotest provinces where the population is scattered and very poor. The population of Bamyan is at high risk of contracting the disease due to still very high prevalence of malnutrition (despite improvements in recent years) and living in small poorly ventilated and crowded houses. The annual target is to identify approximately 450 TB cases, however the case detection rate is low at around 50% due to low level of awareness, stigma and lack of follow up. Dr. Raihana mentioned that LEPCO, a German NGO, has been running TB treatment centers in Waras, Panjab and Yakawlang districts with substantial achievements attributed to mobile teams for active cases detection. In other districts suspected TB cases are identified from among the patients visiting the health facilities where their sputum samples are examined. There are approximately 30 TB centers across the province. The staff has received initial training and some refresher training Quarterly meetings are held regularly where the provincial health officials, the staff of health facilities working on TB control and a TB expert from MSH TB Care project review the achievements, discuss the challenges and develop action plans for improvement. It was highlighted that community DOTS has been implemented in Bamyan province and discontinuation of distribution of food rations to TB patients has badly affected the TB control program since Mar 2013

Suggestions for improving the TB control program:

- Establishment a dedicated TB treatment center in the provincial capital similar to ones run by LEPCO in three districts of Bamyan as the provincial hospital does not have a separate wing for TB patients;
- Replacement the old equipment and training of local technicians on the maintenance of equipment;
- Training the staff and CHWs on community DOTS and starting the community DOTS initiative in the province;
- Training of staff in Kabul;
- Allowance for nurses and lab technicians working in TB control program for the higher risk they are exposed to;
- Provision of means of transportation for supervision, mobile services, raising awareness, etc;
- Allocation of budget for sputum transportation planned by the NTP; and
- Renewal of food ration distribution to TB patients.
The provincial health team suggested to the consultants to visit the provincial hospital, LEPCO center, and health facilities run by AKHS and AADA (BPHS implementers) in Yakawlang and Foladi areas.
The consultants thanked the team for their time and suggestions and underlined that construction and establishment of dedicated centers are not recommended any longer. However, raising community awareness, starting community DOTS and establishing a system for sputum transportation could improve detection rate in the province.
Yakawlang District Hospital, Yakawlang District, Bamyan Province

Date: Nov 22, 2014

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**Visited by:** Mr. Robert Hagan and Kayhan Natiq

The hospital is run by AADA, a local BPHS implementer. The Director of the hospital is a surgeon from Tajikistan. He has been very proactive to improve the supplies and management of the hospital. However, high turnover of staff is a major challenge. Fortunately, this has not affected the TB unit which has a full time staff member. The TB lab unit is integrated with the general lab.

According to the in-charge of DOTS, Lepco, a German NGO providing services to TB and leprosy cases in three districts, absorbs all the patients. There is some collaboration between the district hospital and Lepco centers to make sure there is no shortage of medicine. However, Lepco has refused to hospitalize the patients referred by the district hospital. The TB focal point has received training and on-the-job training on TB and attends the quarterly review meetings. The unit is regularly supervised. Quarterly meetings with CHWs are held regularly and they have received training and orientation on TB. However TB detection rate is low and only 4 sputum positive cases have been under treatment this year.

The Community Health Supervisor and Community Health Workers do not receive any incentives for their work on TB.

The in-charge of DOTS thought that active case finding through outreach visits to villages similar to what Lepco is doing would improve case detection. He also thought the discontinuation of food rations by WFPH is also one of the contributing factors.

Lepco TB Center, Yakawlang District, Bamyan Province

Date: Nov 22, 2014

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<td>Mr. Ramazan</td>
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**Visited by:** Mr. Robert Hagan and Kayhan Natiq

The center is run by Lepco, a German organization. Lepco runs 3 clinics in Panjab, Waras and Yakawlang districts. It does active case finding though outreach visits to communities from a mobile unit that includes a lab. The cases identified are treated in the facilities for the first 2 months. Each clinic is treating 4-5 leprosy cases each year as well. The staff received training from NTP in 2006. They have also received refresher training from Lepco. They attend the quarterly meetings. The clinics are supervised by Lepco and provincial health directorate. The guidelines and medicine are also provided by Lepco and provincial health directorate. Recently, Lepco had to scale down its operation due to funding shortfall. The discontinuation of food rations has also negatively affected the services. That is why the facilities are not accepting as many patients as they used be. This year, 40 patients have
completed the treatment and 23 patients are currently under treatment. The staff do not know about TB Care.

The staff requested beds for patients, formal training from NTP, allowance for the risk they are exposed, and salaries comparable to those of other NGO’s staff members. Currently, the patients sleep on mattresses on the floor. They reported 5 TB cases among the staff in the past. The laboratory and patient rooms do not have ventilation.

Bamyan Provincial Hospital, Bamyan City, Bamyan Province

Date: Nov 23, 2014

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Visited by: Kayhan Natiq

The hospital is run by AKHS, an international BPHS implementer. The nurse working in the TB unit was actually trained by Lepco. The last refresher training he attended was in 2013 in the provincial health directorate. According to him, the other sections of the hospital are not fully cooperative in terms of case identification and referral and their staff members have not received training on TB. In 2013, the TB unit identified 65 sputum positive cases and treated 43 of them successfully. This year, 40 cases have been identified so far. Patients coming from remote areas are referred to health facilities close to their villages. However, the list of health facilities and their contact details is not available in the unit. The unit also does not have charts and graphs to display the annual target and level of performance. Since the unit is not linked with community health workers, it relies on patients’ family members and local contacts to trace the patients and their contacts.

Mr. Mashala proposed the following for improving the program: increasing community awareness through health posts, schools and mosques, provision of incentives to community health workers, distribution of food ration and better coordination and collaboration among health organizations and professionals.

AKHS, Bamyan City, Bamyan Province

Date: Nov 23, 2014

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Visited by: Kayhan Natiq

According to Dr. Mustamandyar, improving case detection in Bamyan has always been a challenge and the progress made is not satisfactory. It is discussed in every provincial health coordination meeting and specific quarterly review workshops are held. In the workshops the achievement and challenges are reviewed, the health facilities are given feedback and action plans are made, but the program is still not fully successful.

He mentioned that although Lepco runs only three health facilities in three districts, it accounts for 60-70% of the cases. He attributed Lepco’s success in having mobile clinic and lab technicians. He confirmed that the CHWs do not receive incentive for their work on TB.
Kamitee Sub-Center, Shah Foladi District, Bamy an Province

Date: Nov 24, 2014

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Visited by: Kayhan Natiq
The clinic is run by Shuhada, a local organization delivering health services to marginalized population of Bamy an. According to the head of the clinic, the health facility has OPD and maternal health sections. Immunization services are provided once per month by an outreach team from another health facility. The monthly immunization outreach visits stop during the long winter. The catchment population is 2756 and the clinic has 4 staff members including a nurse, midwife, guard and cleaner. The health facility is solely supported and supervised by Shuhada. However, the clinic submit its monthly reports both to Shuhada and Provincial Health Directorate.

The nurse has not received training on TB, but the midwife attended a training session at the provincial capital 8 months ago. There are no health posts linked to the health facility and the clinic does not have a community health committee. The clinic refers the suspected TB cases to the provincial hospital, but it has not had any referrals this year. Every day three cars take the villagers to the provincial capital and it takes 2 hours driving to get there. The head of the clinic does not attend any meetings in the provincial capital, but he attends the annual meetings organization by Shuhada.
Visited by: Kayhan Natiq

The clinic is run by AADA, a local organization implementing the BPHS in Bamyan province. The head of the clinic was on leave. According to Mohammad Ali, in-charge of DOTS and acting head, the clinic has a catchment population of 21,170 living in 56 villages, each with one mosque. Having OPD, MCH, nutrition, dressing, TB, EPI and pharmacy sections, the clinic tend to around 1,700 clients per month. The clinic has 16 staff members, but the post of the female MD is vacant. There are 36 health posts linked to the clinic.

The in-charge of the TB unit attended a refresher course organized by the NTP five years ago. He does not attend the quarterly review meetings, but he does attend the meetings once a year. The suspected cases are identified in the beginning of the day from among the clients. The referrals from health posts are low. The annual target is 84 suspected cases and 12 confirmed cases per year. So far, only one case has been identified. The clinic has been visited by the provincial TB focal points who left notes and recommendations in the visitor’s book several times this year. Despite encouraging the CHWs during their monthly meetings and two outreach visits, the clinic has not managed to identify more new cases. The CHWs do not receive any incentives for their work on TB. Distribution of food ration to TB patients was discontinued 2 years ago.

The lab technician received training on TB a while ago. The slides are sent for cross-check twice this year and no false positive or false negative case was reported.

The staff of the clinic attribute low detection rate to discontinuation of food ration and possible low incidence of TB cases due to improving living and nutrition conditions of the communities.
Herat Public Health Directorate

Date: Nov. 24, 2014
Venue: Herat Public Health Department

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Summary of Meeting/Meetings

As planned, a meeting was held with Herat Public Health Director in presence of deputy director who is also the provincial team coordinator for TB program and Heart Public Health Advisor/consultant. First the PHD was asked to have his general view about the program. He added that the program of TB CARE 1 under direction of NTP and the Herat Public Health Department has achieved much success. There are many improvements now compared to prior years; case detection in western parts of the country, especially, in Herat, for example, is much better than it was before. His views and those of the other meeting members are summarized as below:

Challenges:
- Shortage of drug in the past provided by Global Fund
- TB program is still not included in BPHS package which sometimes leads to difficulty in program implementation
- There are no enough lab technicians in the clinics (high turnover)
- Budget problem, sometimes (delay or allocation of less amount)

Achievements
- Herat PHD and the TB program have been awarded with appreciation letters from National TB Program and USAID/MSH for the best performance.
- Good achievements in case detection and success rate
- Capacity building programs have been conducted
- Almost 50% of treatment, particularly, in remote areas are performed by CHWs which is an achievement for community based DOTS (CB-DOTS)
- SOPs and guidelines distributed to all clinics
- Sputum transportation system existed in most of the CB-DOTS clinics
- strong Public Private Mix (PPM) program which can be substituted to Urban DOTS
- High political and other organizations’ support of the program
More than 85% cure rate

**Recommendations:**
- In general the continuation of TB CARE 1 program is needed to sustain the program and guarantee its achievements.
- Expansion of TB CARE 1 to other provinces
- All BPHS (Basic Package of Health Services) implementers should be involved in the project and to be supported, e.g. DAC (Danish Afghan Committee) is not supported by TB CARE 1, however, they implement DOTS program and have good achievements.
- Integration of the program to BPHS in the next round of the project
- The Government can implement the program without NGOs in Herat as well; however, the long process of procurement within government law is a challenge.
- Sputum transportation containers can be used for urine and blood samples transport if they are redesigned
- More incentives for Community Health Workers (CHWs) who detect cases, and fuel or transportation cost for carrying the samples from remote areas to the Health Facilities.
- Research and survey program should increase and the technical team of the Government should be included fully. While, they have good expertise, they will be more effective to the research.
- TB Associations in the districts should also be supported (cured patients make TB Associations in the districts).
- Awareness programs should be increased (media and telecommunication companies should be more involved, meanwhile, involvement of community leaders).
- Tele medicine (use of cell phones for awareness)

Herat BPHS implementer NGOs authorities

**Date:** Nov. 24, 2014  
**Venue:** Herat NTP Provincial office

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Summary of Meeting/Meetings

As planned, a meeting was held with BPHS implementer NGOs in Herat province to evaluate the situation of Community Based DOTS in their catchment areas, and the situation of TB CARE 1 project in general. The meeting was held at 11:00 A.M on Monday Nov 24th in Herat TB Reference Lab Building. Representatives from different NGOs attended the meeting while Herat Tuberculosis PTC (Provincial Team Coordinator) was also present. The evaluation team from Checchi asked many questions focusing mostly in challenges and the recommendations for betterment of the program. The meeting members described their statement of work and catchment areas first, and then explained the situation of TB program in their areas of focus. Many improvements, challenges and recommendations were proposed by the NGOs’ representatives that are listed below in summary:

Challenges:

1. **BDN (Bakhtar Development Network) organization’s representative**:
   - After beginning of TB CARE1 project in 2012 it has had a stop period of 7 to 8 months which affected the program negatively. (It was due to the fund delay)
   - 820 CHWs are involved in TB program out of 1580 CHWs working with BDN (according to design of the project which does not include all HFs. only 36 out of 103 HFs)
   - Allocation of no incentive for Community Health Supervisors(CHSs) to follow up the treatment program
   - No incentive for CHWs either

2. **DAC (Danish Afghan Committee) representative**:
   - DAC is not part of TB CARE1 project, while they have CB-DOTs in their area of focus
   - They cover 3 districts which is a vast area while they have only three diagnostic centers in the central part of the districts.
   - They do not have sputum transportation system in all of their clinics (3 out of 8)(more coordination with NTP needed to get them)

3. **AIL (Afghan Institute of Learning) representative**:
   - Shortage of drug sometimes during the year
   - Incentive problem for CHW and CHS
   - Lab technician problem (only in one health facility out of two HFs they cover)

4. **Cap-Anemur Organization's representative**:
   - Incentive problem for CHWs
Achievements

1. **BDN representative**:
   - So far awareness programs have been conducted appropriately involving the community leaders, religious leaders, school teachers and many more people which were successful according to their notes.
   - Improved case detection and treatment success rate
   - Conducting of routine quarterly report meetings
   - Capacity building programs

2. **DAC representative**:
   - Although not part of TB CARE 1 project, they have CB-DOTs program with good achievements.
   - More case finding by their mobile teams among scattered population and much underserved areas.
   - Incentive approach for CHWs motivation (3 USD for notification of cases by CHW and 4 USD for follow up of treatment is given to CHWs)
   - High case detection and treatment success rate

3. **AIL representative**:
   - Case detection was good in their catchment area
   - Conduction of awareness programs (e.g. Celebration of World TB Day)
   - Distribution of SOPs, guidelines
   - Getting trainings

4. **Cap-Anemur representative**:
   - Training received

Recommendations:

1. **BDN (Bakhtar Development Network) organization’s representative**:
   - Incentive for CHWs and CHSs to notifying the cases and for treatment of cases as well.
   - All CHWs working with their organization should be included in TB CARE 1 CB-DOTS program
   - Continuation and sustainability of the program (having no stop of the program)
   - Continuation of drug supply (no stock out or shortage in the future)
   - More training and awareness program in the future

   2. **DAC (Danish Afghan Committee) representative**:
   - Request for TB CARE 1 Project support for CB-DOTS of DAC org. in the future.
   - Sputum transportation system to areas they don’t have it.
   - Training of more lab technicians for the clinics.
   - Modify the step of diagnosis; establishing of smear making centers where the smear is kept for one week (for example) and then transferred
   - Training lab technician for BHCs

3. **AIL representative**:
   - More training for their staff
   - Request for Support of TB CARE1 project
   - Timely supply of drugs
   - Not receiving near expire medications in the future
   - Training of at least one lab technician to work in one out their two HFs.
- Fuel, transportation cost and incentive for CHSs

4. **Cap-Anemur representative:**
   - Not any recommendation

Note:
According to Provincial Tuberculosis Coordinator from NTP, the achievements and performances of DAC organization is better than other NGOs while DAC is not part of TB CARE 1 project. He thinks it stems in their expertise from the past since DAC has been working in the place for a long time.
Badakhshan Provincial Health Officials

Date: Nov 26, 2014
Venue: Provincial Health Directorate

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First of all, the provincial health officials acknowledged that with international support, particularly the support received from TB Care, the province would have not made the achievements it has in controlling TB. They specifically underscored the importance of quarterly review workshops, joint supervision, training of staff, distribution of guidelines and IEC material, replacement of faulty microscopes, celebration of TB World Day and initiation of community DOTS by TB Care in increasing TB case detection and treatment success rate. According to the officials, there are 1 Provincial Hospital, 2 District Hospitals, 34 Comprehensive Health Centers, 12 Basic Health Centers, 15 Sub-centers and 446 Health Posts throughout the province. AKHS is running 26 health facilities, CAF 34, SHDP 11 and Kinderberg 11. Out of these health facilities, 30 health facilities serve as TB diagnostic centers and 412 Health Posts participate in community DOTS. The provincial target for case detection is 234 for this year and so far 139 cases have been identified.

High staff turnover at health facilities, difficult terrain, insecurity, lack of female Community Health Supervisors, scattered population and high prevalence of malnutrition were mentioned as major challenges and risk factors. It was mentioned that due to distance, poor roads and road blockage during winter, on one from 6 border districts has ever participated in the quarterly review workshops nor any supervisory visits are carried out by the provincial health official there.

Suggestions for improving the TB control program:

- Increasing the number of diagnostic centers in Badakhshan, more specifically in Shahr-e-Buzurg and Keranomenjan due to high prevalence of TB, as slide and sputum transportation pilot-tested by JICA has not been successful due to poor roads and long distances;
- Training of staff from the province to carry out slide cross-checking (right now, cross-checking in Kunduz is time consuming and complicated);
• Increasing community awareness by further involving the education sector and mosques; and
• Renewal of food ration distribution to TB patients.

Baharak District Hospital, Baharak District, Badakhshan Province

Date: Nov 27, 2014

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<td>Ghulam Mohammad Shahiq</td>
<td>Nurse, in-charge of DOTS,</td>
<td>0793785834</td>
</tr>
<tr>
<td>Sayedullah</td>
<td>Lab Technician</td>
<td>He was absent during the visit</td>
</tr>
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**Visited by:** Mr. Bromand, Provincial TB Coordinator; and Kayhan Natiq

The hospital is run by AKHS, an International NGO implementing the BPHS and EPHS in Badakhshan. According to the DOTS focal point, the catchment population of the hospital is 56,536 according to the Catchment Area Census and approximately 36,000 based on CSO estimates. There are 9 Health Posts in the catchment area of the hospital. The remotest village is one day walking from the hospital. The TB unit has dedicated full time nurse and lab technician.

Community-based DOTS has fully been implemented with all Health Posts participating in raising community awareness, case finding and case referrals. The CHWs apply DOTS to those patients who live farm from the health facility. The CHWs regularly attend the monthly meetings in the hospital. They receive Afs250-400 per month for transportation costs and Afs200 per quarter for their work on TB. The latter is given to all CHWs regardless of the number of their referrals or patients under treatment. The Community Health Supervisor receives Afs 885 per month for his work on TB.

The DOTS focal point and community supervisor have proactively mobilized the CHWs, school teachers and mullahs for awareness and case referrals. The in-charge of TB unit has even talked several times on the local radio regarding the disease. As a result, the case detection rate is very high. The annual target is 36 sputum positive cases and the hospital has already identified 36 cases. Treatment success rate is 100%. Currently, 6 TB cases are under treatment in the Health Posts.

The concerned staff of the health facility attend the quarterly review meetings. Their unit is regularly supervised by officials from the provincial health department, AKHS and TB care. There has not been any shortage of medicine or lab supplies. The slides are sent to Kunduz for cross-checking. No false positive or false negative results have been reported.

The staff of the health facility proposed the following for further improvement of the program: 1) re-initiation of food distribution to TB patients; 2) training and on-the-job training for the lab technician; and 3) more incentives for CHWs and linking the payments with performance.

The Hospital Director was busy with a mission from the Ministry of Public Health and the Community Health Supervisor was in the field, so no discussions could be held with them. The nurse did not recommend visiting any health posts due to security concerns.
Kishm District Hospital, Kishm District, Badakhshan Province

Date: Nov 29, 2014

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<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>Abdul Jamil Sultani</td>
<td>Hospital Director</td>
<td>0700890900</td>
</tr>
<tr>
<td>Din Mohammad</td>
<td>In-charge of DOTS since 1999</td>
<td>0707453509</td>
</tr>
<tr>
<td>Mazidullah</td>
<td>Lab Technician</td>
<td>0772442352</td>
</tr>
<tr>
<td>Ehsanullah</td>
<td>Community Health Supervisor</td>
<td>0707776616</td>
</tr>
<tr>
<td>Naseema</td>
<td>Community Health Worker</td>
<td>0773706369</td>
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Visited by: Kayhan Natiq

The hospital is run by CAF, a local NGO implementing the BPHS. According to the Hospital Director, the catchment population is 63,408. The hospital has pediatric, internal medicine, surgery, malnutrition, mental health, physiotherapy, pharmacy, EPI, dental, X-ray, lab, emergency and TB sections. The hospital has limited autonomy in terms of staff and resource management. According to the structure, the hospital should have 50 staff members, but currently there are 44 staff members. The rest of the positions are vacant including those for female medical doctors. The salaries arrive regularly though they are lower compared to other districts. There are 12 health posts, 3 basic health centers and 2 sub-centers linked to the hospital. The TB unit has dedicated full time nurse and lab technician. The nurse received training on TB last year, but the lab technician has not received training on lab procedures. The in-charge of DOTS reported that the suspected TB cases are identified from among the clients in the morning. They are also referred by OPDs and CHWs. There are 3 BHCs and 2 Sub-centers without diagnostic centers referring suspected cases as well. The annual target is 72 positive cases and in 8 months of the year the clinic has identified 40 positive cases so far. One case is under treatment in one of the health posts. The total number of suspected cases has been 1400 since the beginning of the year.

The concerned staff of the hospital attend the quarterly review meetings where they receive feedback and advice regarding their performance. The provincial TB supervisor visited the hospital in the last quarter. Detailed reports are submitted to the Provincial Health Department on quarterly basis. Summary reports are sent through HMIS on monthly basis. The hospital building is still under construction, so the TB lab is not fully operational. The slides are prepared in a separate room and they are examined in the general lab. The lab does not have exhaust and safety box. The lab technician received training on TB 2 years ago, but he has not received training on lab procedures. No feedback has ever received from cross-checking unit in Kunduz.

The Community Health Supervisor has been working for 9 years now. He supervises the health posts once per month or two months depending on how far they are. He is using his own motorcycle. He used to receive Afs3,000 per month as transportation allowance, but the allowance was cut 3 months ago. The CHWs receive Afs190 per quarter for their work on TB and the incentive is not linked to the level of their performance. The community health supervisor accompanied the consultant during his visit to one of the health posts.
Sar Asyab Health Post (CAF), Kishm District, Badakhshan Province

Date: Nov 29, 2014

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<tr>
<td>Naseema</td>
<td>Community Health Worker</td>
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Visited by: Mr. Ehsanullah, Community Health Supervisor; and Kayhan Natiq
Ms. Naseema was trained as a community health worker 9 years ago. She could complete three grades of schooling and she does not have any other job. She received refresher training on TB referral a month ago. She has a lot of clients who are most pregnant women and sick children. She also refers suspected TB cases. This year, she has treated 3 TB cases and 1 patient is still receiving medicine from her. She receives Afs190 per month for her work on TB and Afs300 per month for attending the monthly meetings. She is working as a CHW because she wants to serve her community. Her medicine supply is not enough.
The officials requested more incentive for the CHWs and training for lab technicians on lab procedures. The PHS thought a motorcycle and money for fuel and maintenance would be extremely helpful. Although not directly linked to the TB program, the hospital director wants a solution to address the shortage of staff and high workload.

Samarqandi Basic Health Center (CAF), Kishm District, Badakhshan Province

Date: Nov 29, 2014

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<tbody>
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<tr>
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<td>Community Health Supervisor</td>
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Visited by: Kayhan Natiq
The clinic is run by CAF. The clinic has a catchment population of 15,941. The clinic has 7 staff members and 5 health posts. The clinic does not have a lab, so it either refers the suspected cases to Kishm district hospital or sends their sputum on weekly basis. The confirmed cases are receive their medicine from the hospital, clinic or nearby CHW. This year only one patient received the medicine from the clinic. The head of clinic was trained on TB 6 months ago. The health facility was supervised 2 months ago.
Although the Community Health Supervisor has not received formal training on TB, he helps with the collection of sputum and refresher training of CHWs during their monthly meetings in the health facility. In addition to health education and patient triage, he visits the health posts on monthly basis, compiles their reports on monthly basis, and distributes their kits on quarterly basis.
The staff members interviewed proposed provision of means of transportation for the CHS and performance-based incentives to CHWs for improving the program.
Guzara District Hospital TB clinic & Jabrail CHC TB Clinic (Herat)

Date: Nov. 24-25, 2014
Venue: Guzara District Hospital and Jabrail Comprehensive Health Center

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Summary of Meetings / Visits
As coordinated, the evaluation team visited Guzara District Hospital running by DAC (Danish Afghan Committee) an NGO working in Herat Province. The District Hospital is implementing Community Based DOTS within their structure. DAC community based DOTS program is not supported by TB CARE 1 project, thus it was of importance for the evaluation team to compare their approach and achievements to those of the TB CARE 1 supported clinics. The team along with TB regional coordinator from NTP departed at 1:30 and got the hospital at 2:00 p.m. First, the team held a meeting with the head of the hospital, and discussed the situation of TB /DOTS program in their catchment area. Then, TB clinic of the hospital was visited and the clinic staffs were interviewed as well. Meanwhile Jabrail Comprehensive Health Center (CHC) was visited on the following day (25th Nov). Jabrail CHC is run by BDN (Bakhtar Development Network). Below is the summary of their ideas about the program:

1. Guzara District Hospital:
   Challenges
   - Accessibility in some areas and low level of knowledge and awareness within people
   - Not adequate coordination within the system (sometimes transferred patients are not fully admitted and covered by clinics they are referred to)
Transportation problem (roads problem)
Problem in slide sending and case finding, sometimes (can be due to low level of training)
Sputum transportation and slide sending has been supported by JICA which will end soon in almost three months.
CHWs are not incentivized well
Some clinics do not have sputum transportation system yet

Achievements:
- So far case detection and treatment success rate have been good
- Staff have been trained for CB-DOTS
- CHWs have been trained, however, still need more
- Sputum transportation system have been in place for most of their clinics, however, some do not have any

2. Jabrail CHC:

Challenges:
- CHWs (Community Health Workers) are not well appreciated (incentive or appreciation letters). Some CHWs are very active in case finding and DOTS implementation while they are not incentivized
- Not any incentive is given to CHWs (only for review meeting workshops every 3 months which is about 3 USD). Some CHWs are working in very remote areas which transportation is a challenge for them to get patients to the clinic or to come for receiving drug
- The number of clients in Jabrail area is high. It is due to returnees.
- The number of TB cases is very high here as well; it is due to bad economic condition of people and their lifestyle which they live together mostly in a crowded area
- Sometimes there is drug supply problem (from Global Fund)

Achievements:
- Training have been taken by both CHWs and clinic staff
  - Case detection and treatment success rate have been good so far
  - High percentage of treatment by CHWs which is a success for CB-DOTS program
  - The clinic is regularly monitored by NGO and NTP

Recommendations:
1. Head of Guzra District Hospital:
- Support of TB CARE 1 for their program as well (since they are not part of TB CARE 1 project). Technical assistance particularly from TB CARE1 Project
- More coordination within the system to further improvements in case detection and treatment success rate
- Conduction of more awareness programs for people and trainings for staffs
- Support the sustainability of sputum transportation system and strengthening the system
- Training of more lab technician for the clinics and their hospital (at least two more people)
- Incentives for CHWs and CHSs

2. Head of Jabrail CHC:
- Incentive for CHWs and CHS (especially for active CHWs)
- More trainings for CHWs and staff
- If the project focuses more on this clinic, the number of cases detected will increase dramatically, because the number of suspected cases is high in this area due to returnees from Iran, people’s economic problem, their lifestyle (living together in a crowded place)

**Visiting a Community Health Worker (CHW)**
The evaluation team has also visited one female community health worker within the catchment area of the clinic. She surprisingly was giving treatment to more than 50 patients at the same time. She knew how to apply CB-DOTs; however, she needed more training. Considering the patients under her treatment, the number of suspected cases should be high in Jabrail area.
Takhar Provincial Health Officials

**Date:** Nov 20, 2014  
**Venue:** Provincial Health Directorate

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<td>Ahmad Wali Rasikh</td>
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<tr>
<td>Kayhan Natq</td>
<td>Consultant, Checchi</td>
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The provincial health officials gave an overview of the health services in the province. The population of the province is approximately 900,000. There are 73 health facilities, including 1 Provincial Hospital, 3 District Hospitals, 1 Comprehensive Health Center Plus, 12 Comprehensive Health Centers, 34 Basic Health Centers, 15 Sub-centers, 2 MCH clinics, 1 addiction treatment center, 1 physiotherapy center and 1 clinic run by the Red. Out of these, 56 health facilities are run by CAF, the BPHS NGO.
The TB diagnostic centers are functioning in the provincial hospital, 3 District Hospitals, 13 Comprehensive Health Centers, and 35 Basic Health Centers. There are 502 Health Posts throughout the province. Nine Basic Health Centers send the sputum and slides of suspected cases to the diagnostic centers.

According to the provincial health officials, the stakeholders involved in the TB control program and their areas of involvement are as follows: NTP (MOPH) – national authority; MSH (TB Care - USAID) - technical support and capacity building; BRAC (GF) – drugs and training; JICA – fellowships and training on slide cross-checking; WHO – drugs; and CAF (USAID) – BPHS and DOTS implementation.

The provincial health officials, particularly the Provincial TB Coordinator, appreciated the contributions of the TB Care project, the stability of its staffing and their transparency. The role of TB Care in capacity building, joint supervision, quarterly review meetings, celebration of TB World Day, strengthening of urban and community DOTS and distribution of IEC material was highlighted. Out of 502 Health Posts, around 320 HP participate in community DOTS and CHWs receive an incentive for referring the cases. No incentives are given when the treatment of a patient is completed. The urban center accounts for approximately 40% of the case detection in the province.

The province already achieved the national targets in terms of case detection and treatment success rate; however, the figures are lower this year compared to last year. The reduction was attributed to possible decrease in case load and discontinuation of food rations to TB patients.

Takhar’s Provincial TB Coordinator privately mentioned that the Provincial TB staff members receive around $400 per month in addition to their monthly salary of around Afs1000 from the Global Fund through BRAC. He hoped the payments will be continued under UNDP as Global Fund’s Principle Recipient.

He also mentioned that the general supervisors of the BPHS implementing NGO is not fully supervising the TB units. In other words, the TB unit checklist is not integrated with the general supervisory checklist of the health facilities.

Suggestions for improving the TB control program:

- Inclusion of remaining Health Posts in community DOTS
- Training particularly for lab technicians

The provincial health team suggested a visit to Baharak and Kalafgan CHCs.

Baharak Comprehensive Health Center, Baharak District, Takhar Province

Date: Nov 30, 2014

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<tr>
<th>Name</th>
<th>Position</th>
<th>Phone</th>
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<tbody>
<tr>
<td>Dr. Mohammad Akram</td>
<td>Head of Clinic, Medical Doctor</td>
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</tr>
<tr>
<td>Mr. Shah Mahmood</td>
<td>Nurse, in-charge of DOTS and dressing</td>
<td></td>
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<tr>
<td>Mr. Abdul Waseh</td>
<td>Community Supervisor Health</td>
<td>0700729896</td>
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Visited by: Dr. Amanullah Ahmadi; Provincial TB Coordinator; and Kayhan Natiq
All the health facilities visited in Takhar are run by CAF, a local NGO implementing the BPHS. According to the staff of the clinics, the catchment population of the health facility is approximately 48,000. The clinic has 16 staff members and there is no female medical doctor. There are 15 Health Posts; 5 of them refer TB patients and a few patients are under treatment in the HPs. The CHWs receive Afs150 per quarter for referrals and Afs200 per month to attend the monthly meetings. It is during the meetings that it is decided who should receive the Afs150 per quarter based on referrals. The CHS receives Afs860 per quarter as an incentive for his work on community DOTS. The concerned staff members received refresher training on TB last year and the CHWs received refresher training a month ago.

Suspected cases are identified from among the clients in the morning. The OPD and HPs also referral the suspected cases. This month, the HPs referred 6 suspected cases. The annual target is 36 cases and up to now 13 cases have been identified. There are 3 patients under treatment in HPs. The rest of the cases receive their medicine at the clinic on weekly basis.

Low case detection rate was attributed to discontinuation of food rations. The Provincial Lab Supervisor identified problems with sputum collection and slide preparation as contributing factors. The lab technician was last trained on TB in 2005. He mentioned that central cross-checkers never reported any false positive or false negative results after cross-checking his slides. There were no exhaust and safety cabinet for slide preparation in the laboratory. According to the Provincial TB Coordinator, the locally made safety cabinets are hazardous and that they are no longer recommended by the SOP guidelines.

The nurse has several responsibilities and it was mentioned that sometimes the TB (suspected) cases wait until the nurse is free from his other tasks; however, the nurse insisted that he always gives priority to TB patients.

The community health supervisor reported that he regularly holds meetings with the CHWs and visits the health posts on monthly basis. He also talks with community representatives, mullahs and teachers.

The staff of the clinic interviewed proposed involvement of all CHWs, more incentive for CHWs, redistribution of food rations and increasing community awareness via Health Posts, mosques and schools for strengthening the program. Although not directly linked to TB care, having a motorbike for the supervision of the Health Posts would be of extremely useful, added the Community Health Supervisor.

According to the staff, there are around 180 mosques and 32 schools in the area, but they are not directly involved in raising awareness and case detection.

Alam Gul Health Post (CAF), Baharaki District, Takhar Province
Date: Nov 30, 2014

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<th>Name</th>
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<tr>
<td>Haji Alam Gul</td>
<td>Community Health Worker</td>
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**Visited by:** Dr. Amanullah Ahmadi; Provincial TB Coordinator; and Kayhan Natiq

Mr. Alam Gul has been working as a CHW since 2003. He received his last refresher training a month ago. The demand for his services is very high. He gives health education, treats simple cases, and visits pregnant women. He distributes additional medicine from his own stock when he finishes his kit. He searches for TB suspected cases (or people coughing for over 2 weeks) although he has not found any for a long time. The clinic gives him Afs200 per month for transportation. He has received incentives for his work on TB two times. He asked for more medicine and formal remuneration.
Turoq Health Post (CAF), Baharak District, Takhar Province

Date: Nov 30, 2014

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<th>Name</th>
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<tr>
<td>Amanullah Khan</td>
<td>Community Health Worker</td>
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**Visited by:** Dr. Amanullah Ahmadi; Provincial TB Coordinator; and Kayhan Natiq

Mr. Amanullah Khan has been working as a CHW in the last 25 years. He was first trained by MSH. He is also a teacher. He received his last refresher training a month ago. He has over 100 clients per month. He gives health education, treats simple cases, and visits pregnant women. He distributes additional medicine from his own stock when he finishes his kit. He searches for TB suspected cases (or people coughing for over two weeks) although he has not found any for a long time. He also gives health education in the mosque. He is working out of a room in his house. He has only received a box to store his kit and equipment. He thought the Ministry of Public Health should have given him basic furniture including shelves and constructed a model toilet in his house.

Kalafgan Comprehensive Health Center (CAF), Kalafgan District, Takhar Province

Date: Nov 30, 2014

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<th>Name</th>
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<tr>
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<td>Acting Head, nurse, In-charge of DOTS, Dressing and OPD</td>
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**Visited by:** Dr. Amanullah Ahmadi; Provincial TB Coordinator; and Kayhan Natiq

According to Mr. Nawaz, the head of the clinic was recently appointed and he was away to attend some training. The health facility has 16 staff members, but there are no qualified female medical doctor and midwife. High staff turnover is a major problem. The health facility has a catchment population of approximately 28,000. There are 10 health posts and approximately 50 mosques in the villages covered by the clinic. The last refresher training on TB was organization by BRAC two months ago. The annual target for smear positive cases is 24 and by the end of 8th month of the year 14 positive cases have been detected. The in-charge of the DOTS and lab technician attend the quarterly review meetings in the provincial capital.

Suspected cases are identified from among the clients in the morning. The OPD and HPs also referral the suspected cases. The HPs have referred approximately 30 suspected cases. There are 3 patients under treatment in HPs. The rest of the cases receive their medicine at the clinic.

The CHWs receive Afs50 per referral.

Discontinuation of food ration by WFP is perceived as a demotivating factor for patients. According to the Mr. Nawaz more training is needed and provision of incentives to CHWs and patients is recommended. He thought the problem of high staff turnover needs to be tackled.
World Health Organization TB focal point in Kabul

Date: Nov. 30, 2014
Venue: Checchi Office, Kabul

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Summary of Meeting
Since WHO provides technical and somehow financial support to NTP and tuberculosis program in Afghanistan, the evaluation team decided to have their views as well. For this issue Dr. Reza, focal point of W.H.O for TB program was invited for a meeting. First, he described that W.H.O provides technical support to NTP in making guidelines, SOPs, plans, and also sometimes financial support. Then money W.H.O provides to NTP and TB program actually comes from other donors to W.H.O. He added that his organization supports supervisory visits to clinics, treatment of MDR (Multi Drug Resistance) patient and financial support to some training sessions and community events. His recommendation for betterment of the program in the future is as following:

- The TB CARE Project should continue, because the provinces with TB CARE 1 project have had better achievements compared to those of without the project.
- In the future project, the focus should be on diagnosis of the disease within children. Now we have difficulty in diagnosis of children’s TB.
- Treatment of MDR cases should improve. For this purpose one Gene Expert machine should be in each region.
- Capacity building program should be increased.
- The focus should also be in maternal TB
- WFP food program for TB patients which stopped is not that important for case detection. It does not matter if it does not resume.
- Coordination of future project with private sector (e.g Afghan TB and Lung Disease Society). E.g. providing them with seminars, trainings etc.
Jowzjan Public Health Directorate

Date: Dec. 2, 2014
Venue: Jowzjan Public Health Department (Sheberghan City)

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Summary of Meeting/Meetings

On Dec 02th a meeting was held with Acting Director of Jawzjan PHD, PTC, CB- DOTS coordinator of implementer NGO (SAF) in presence of PHA from MSH. From the TB CARE project evaluation team, Dr. Haroon attended the meeting. The Acting PHD described his idea about the project’s perspective. He added that two implementer NGOs (SAF and BDN) are implementing the program in Jawzjan. According to him insecurity, difficult access, poor transportation condition and geographical problems impede fully conduction of the project.

Challenges:
- Low incentive for CHWs and CHSs
- Conduction of review meeting every three months while it was every month before (according to them every month better refreshed staff)
- Low budget for supervision program (transportation cost, fuel, etc)
- Failure in implementation of PPM (Public Private Mix) approach due to no budget for supervision of PTC and no budget for conducting review meetings with private sector.

Achievements
- Treatment success rate of over 90% and detection rate of over 80% (according to PTC)
- Conduction of training to staff of clinics and distribution of guidelines, SOPS and other needed documents.
- Regular monitoring of HF
- Regular conducting of review meetings
- Availability of drug and IEC materials in all TB clinics
- Renovation of DOTS clinics in the past by TB CARE project
- Conduction of awareness programs (community events and TB World Day)
- Integration of TB IS to HMIS
- Existence of active sputum transportation system
Recommendations:
- Continuation of the project in the future
- Increasing CHWs incentives
- Increasing the number of trainings
- Increasing the budget for supervision visits
- SAF representative wanted the budget to be directed to them from TB CARE project
- Increase active role of NTP and PTC in the province according to PTC (e.g. NGO should share their reports, plans etc)
- Renovation of DOTS clinics, IP procedures
- More awareness programs especially media programs

Note:
Finding by evaluation team: CHWs have not taken any training since the beginning of the project. They justify that CHWs do not need any training since they are coming to review meetings every quarter and that is somehow a training session for them, because many issues regarding TB and CB-DOTS program are discussed.
Date: Dec. 2, 2014  
Venue: Aqcha DH TB clinic

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Summary of Meeting/Meetings
According to the evaluation team plan in coordination of Jawzjan PHD, Aqcha District Hospital and its TB clinic and DOTS room was visited. During the visit many questions were asked from head of the hospital, DOTS room in charge and lab technician as well as the OPD doctor. They claimed improvements since the beginning of the project.

Challenges:
First, head of the hospital and the DOTS in charge pointed to shortage of staff. DOTS room in charge had to work as lab technician as well. No training has been offered to lab technician and other staff since four years ago (according to our finding from lab technician). Only they rely on review meeting to discuss the issues.

Achievements
On the other hand, they had some achievements including the case detection and treatment success rate was high( according to them), private sector were cooperating with them in referring the cases, and the clinic was regularly monitored by NTP, NGO and other concerned authorities. CHWs were also cooperating with the program. Meanwhile, they had sputum transportation system. Organized structure of DOTS room and lab, and availability of drug, guideline and regular registration system were among the others.

Recommendations:
- More trainings for the staff
- Recruitment and training of DOTS room in charge and
BRAC TB team

Date: Dec. 3, 2014
Venue: Checchi Office, Kabul

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Summary of Meeting/Meetings
Because BRAC (Bangladesh Rehabilitation Assistance Committee) is core partner in implementation of TB program in the country, so their ideas are valuable for the evaluation
team to have. On Dec 03th 2014 at 02:00 PM, Representatives of BRAC TB program attended a meeting with evaluation team in Checchi office Kabul. Many questions were asked by the team. According to Dr. Ahmad Ali from BRAC, TB CARE one project has been very successful, especially, the CB –DOTS program which directly reach the community. He believes that through community involvement, the case detection and treatment success rate will dramatically increase.

**Challenges:**
When asked about Jowzjan CHWs for not having taken training in the past, he pointed that the approval of training plan by GF came late, and the number of people who should be trained in the country is less included in the plan. (Out of 22000 CHWs in the country only 10000 will be trained according to the plan).

Meanwhile, the awareness program is not at the level of HF. For example, World TB Day is not celebrated in the clinics. If it happens it has a strong effect for people awareness.

Turnover of staff causes problems. When asked about the number of sputum positive case and case detection rates in Takhar and Paktiya which decreased, he pointed to turnover of skilled PTC.

PPM approach was only successful models in two provinces. (Khost and Kunar). Due to no follow up and no motivation of private sector the project could not succeed in this issue.

**Recommendations:**
- Continuation of the project. According to him; provinces with TB CARE project achieved more, especially, through community based program.
- Comprehensive awareness program (for example celebration of TB DAY in the level of clinics)
- Include all lab technicians for future trainings. (now a small proportion is included)
- Expansion of Urban DOTS to at least five large cities. According to him it is cost effective because it only needs some trainings and supervision.
- More training and incentive for CHWs.
Dr. Ahmad Jan Naeem, Acting Minister of Public Health

Date: Dec. 7, 2014
Venue: Ministry of Public Health

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<tr>
<td>Dr. Ahmad Jan Naeem</td>
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HE Dr. Ahmad Jan Naeem emphasized that while he does not know all the details of the TB Care project, he has always received positive feedback about the project from MOPH concerned staff. He appreciated the role of urban-DOTS and community-based-DOTS in increasing case detection and treatment success rate in recent years. HE also mentioned that Afghanistan has been added to the USAID TB Challenge Program.

Then the following recommendations were discussed during the meeting:
1) The MOPH strongly supports the expansion of urban-DOTS to other major cities and full implementation of community-DOTS if resources become available.
2) The MOPH supports the distribution of food rations or conditional cash transfer to TB patients as TB hits the poorest families suffering from food shortage and malnutrition as well. Conditional cash transfer would encourage the contacts of the patients to appear for the tests as well.
3) For future programing, the MOPH recommends presence of full-time advisers in NTP offices.
4) Since TB is a national priority, it is recommended to include TB questions in the upcoming DHS conducted by the MOPH and CSO with funding from the USAID in 2015.

Afghan TB and Lung Diseases Society

Date: Dec. 8, 2014
Venue: MSH office, Conference Hall

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Summary of Meeting

The TB evaluation team of Checchi was informed about existence of a society of doctors who work for tuberculosis and lung disease patients. Therefore, a meeting was arranged with general secretary of this society on Monday 08 Dec 2014. The meeting was held in MSH conference Hall as an attachment to Quarterly Review Meeting Conference where Dr. Manzoor
the general secretary of this society attended. Questions about the structure and potential capacity within the society to help program of TB control was raised and Dr Manzoor responded as the following:

Afghan TB / Lung Disease Doctors’ Society (ATLDS) is a non- government, non- profit organization registered in Afghanistan in 2009. At the moment, it has 60 active members in Kabul who are mostly doctors working in the field of tuberculosis and lung disease treatment. The main goal of this society is to improve capabilities of doctors working for TB and lung disease patients, and to assist TB and chest hospitals. The society holds conferences with other 40 health societies in the country from time to time. The society has publication which is a magazine being published twice a year. TB CARE and W.H.O support the conferences. Within the management structure a general secretary, one finance officer and one public relation officer work. They have an office located in Kabul. W.H.O used to pay their rent for two years, but now the society pay for it. The running cost mostly come from membership revenue. Their challenge to expand to other provinces is mostly lack of facilities and budget. But, the publication are sent to provinces for cardiovascular and TB/lung doctors. They have a meeting every 15 days. In the meeting they discuss difficulties doctors face in the work field, schedule for conferences and review the situation of TB and lung diseases. The recommendations are as below:

 Through strengthening and supporting this society we can have more case detection of TB. The members will be more advocated for supporting DOTS program in the country. ( e.g. doctors refer cases to the program and speak up for the program in the media)
 PPM program can achieve more through this society
 The society should be supported (financially and technically) by TB CARE in the future.
 The support can be in conducting research program, awarding scholarships to members, awarding attending in international conferences, building capacity and support for the publication.
ANNEX VIII: DISCLOSURE OF ANY CONFLICTS OF INTEREST

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<thead>
<tr>
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<tbody>
<tr>
<td>Title</td>
<td>Team Leader</td>
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<tr>
<td>Evaluation Position?</td>
<td>☑ Team Leader ☐ Team member</td>
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<tr>
<td>Evaluation Award Number (contract or other instrument)</td>
<td>TB CARE I, MSH,</td>
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<tr>
<td>USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s))</td>
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I have real or potential conflicts of interest to disclose. [ ] Yes [ ] No

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

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