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# NIGERIA TB SUPPORTIVE SUPERVISION PILOT EVALUATION



September 2012

This publication was produced for review by the United States Agency for International Development. It was prepared by Elizabeth Ohadi, Leah Ekbladh, Anthony Okwuosah, Alison Comfort, and Alexandra Hulme for Health Systems 20/20 Project.

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## September 2012

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# ACRONYMS

<b>DOTS</b>	Direct Observed Treatment – Short Course
<b>HIV</b>	Human Immunodeficiency Virus
<b>LGA</b>	Local Government Authority
<b>NTBLCP</b>	National TB and Leprosy Control Program
<b>PDA</b>	Personal Digital Assistant
<b>TB</b>	Tuberculosis
<b>USAID</b>	United States Agency for International Development





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# EXECUTIVE SUMMARY

According to the WHO, Nigeria ranks 13<sup>th</sup> out of the top 22 high burden Tuberculosis (TB) countries in the world, and there is a need to improve the TB-DOTS and TB-HIV services in Nigeria's public sector facilities. Weak supportive supervision at health facilities has been linked to limited program performance and treatment outcomes.

In March 2012, key stakeholders in Nigeria expressed a desire to explore new and innovative ways to strengthen supportive supervision at public sector facilities. As a result, the Health Systems 20/20 project in collaboration with the National TB and Leprosy Control Program (NTBLCP), proposed to pilot an activity strengthening supportive supervision at the facility level in Nigeria. The activity involved the implementation of a tool that aims to assist in the supervision, assessment and creation of action plans for quality improvement in facilities where TB is diagnosed and treated. The pilot was implemented from October 2010 to September 2011 in 16 facilities in 4 states - Abia, Kano, Lagos, and Rivers – across 8 LGAs.

After one year of implementation, the TB Supportive Supervision pilot received positive feedback for its potential to strengthen program performance and treatment outcomes. The NTBLCP expressed the desire and intention to scale up nationally. Before doing so, an assessment to determine whether the model is working as intended is useful to address the challenges with implementation found at this early stage. Therefore, the Health Systems 20/20 team conducted a process/implementation evaluation from November 2011 to March 2012 to better understand the experience of implementing this pilot and to be able to use the results to inform the design of potential modifications to the model as scale-up continues.

This evaluation was a process/implementation evaluation consisting of surveys at all 16 intervention facilities. The structure of the surveys was in-depth, qualitative interviews with key informants at the facilities, LGA supervisors, and state supervisors at the intervention facilities, as well as, key stakeholders at the national level.

The content of a supportive supervision visit should be comprehensive to the extent that it allows the supervisor to identify the strengths and weaknesses of the facility impacting the quality of TB care and treatment provided and gather the necessary statistics to allow for monitoring and evaluation of the TB program. Implementation of the supportive supervision tool and its automated checklist did have an effect on the content of supervision visits in most pilot facilities. Eighteen of 26 respondents (69.2%) noted an increased number of questions or level of detail during visits with the pilot tool's checklist.

With the previous method of supportive supervision in Nigeria using a paper-based checklist, the amount of time from the actual supervision visit to facilities' receiving the feedback from the visit varied greatly and could be as long as four weeks or, in some LGAs, not at all. The supportive supervision tool's generation of rapid results allows problems to be immediately identified and the solutions discussed during the supervision visit.

While changes in frequency of supportive supervision visits at the pilot facilities as a result of the implementation of the tool varied across states and LGAs, a majority of the key informants at facilities, supervisors, and state supervisors responded that the duration of supervision visits increased following implementation of the tool. Both increases and decreases in the frequency of visits were attributed to the thoroughness of the tool in that visits increased to ensure that the improvements or changes recommended during the visits with the tool were being implemented and visits decreased because

supervisors were able to see a more complete and accurate picture of the facility on each visit thereby decreasing the need to return as often to evaluate. Five of the 8 respondents found the increase in the duration of visits to be a positive change as the supervision was perceived to be more meticulous and effective.

When discussing their overall experience with the tool, key informants found the effectiveness of the supportive supervision visits with the tool to be largely positive. Respondents perceived a higher quality of supportive supervision with the tool primarily due to the thoroughness of the questionnaire and the rapidly generated results. The questionnaire encompasses all aspects of TB care and treatment at the facility, and this level of detail ensures that supervisors are identifying and addressing any problems.

A majority of the supervisors for the pilot facilities did not feel sufficiently trained on using the tool – specifically, supervisors were often unable to troubleshoot technological issues with the PDA that arose during visits in the field.

The supportive supervision tool produces a rapid results table with indicator calculations and an action plan for areas needing improvement. The problems identified were both large and small and some are easily solved while others are longstanding issues with barriers to their resolution, of which the most significant is a lack of resources.

The supportive supervision tool improved the ability of all respondents to track critical TB indicators because the tool automatically calculates the statistics for each indicator at the facility during the visit. All respondents were aware of the database created to track and analyze these critical TB indicators, however, a significant majority of respondents had not utilized the database beyond the training. It was our expectation based on stakeholder meetings and the training that supervisors as well as those higher up in the national TB program would both approve data after it was uploaded as well as review troublesome areas identified in the data.

Based on the findings of this evaluation, the project should build on the success of the pilot and scale up incrementally; first to cover all of the pilot states and then strategically to new states. In order to better accommodate scale, Smartphones should replace the PDAs with an application platform that is more user-friendly to making changes over time and to adding new forms. In collaboration with the national TB training center in Zaria, state trainers, TB control program officers, monitoring and evaluation programmers and local government supervisors, should be trained in the use and maintenance of the Smartphones as well as the monitoring and support of the web-based database.

# I. INTRODUCTION

According to the WHO, Nigeria ranks 13<sup>th</sup> out of the top 22 high burden Tuberculosis (TB) countries in the world, and there is a need to improve the TB-DOTS and TB-HIV services in Nigeria's public sector facilities. Weak supportive supervision at health facilities has been linked to limited program performance and treatment outcomes (Kombe et al, 2009).

**TABLE 1: NIGERIA TB INDICATORS**

Global rank	13th
Estimated incidence (all cases/100,000 pop/year)	133
Estimated incidence (%)	56
TB Mortality (all cases/100,000 pop/year) (Excluding HIV)	21
% MDR-TB among new cases	2.2
% MDR-TB among previously treated cases	9.4
Estimated TB/HIV+ Cases (adult aged 15-49, %)	25

Source: World Health Organization. 2012. *WHO Tuberculosis Profile: Nigeria*.

TB can be effectively treated and eliminated but requires an extensive treatment regimen that must be followed with strict adherence. The WHO protocol for treatment of TB is a 6 month regimen of antimicrobial chemotherapy with supervision and support to encourage adherence. Direct Observed Treatment – Short Course (DOTS) is the preferred method for TB treatment and incorporates supervision and counseling for the patients to encourage adherence to the treatment program. The WHO identifies DOTS as a 5-point package that includes: political commitment and sustained financial support, early case detection/diagnosis, standardized treatment with patient supervision and support, effective drug supply and management, and monitoring and evaluation of performance and impact (World Health Organization 2012).

The supportive supervision approach to TB care and treatment reinforces the relationship between the TB program supervisors and the TB focal points at the facilities they oversee. Supervisors provide continuous guidance, feedback and encouragement to the facilities as they strive to provide the highest quality of care for their patients. Supportive supervision is an innovative approach to strengthening primary health care provision, inclusive of treating tuberculosis patients and incorporates each of the elements of the 5-point package. By standardizing and streamlining the expectations of supportive supervision practices at the facility level, workers will be more prepared and ready to address the challenges of their jobs. Supportive supervision builds on the relationships of the health workers at different levels (national, regional, local) and allows individuals to work together to set standards, assess facility performance and develop action plans to improve those results. As a result, the leadership and skills of health workers at facilities is expected to increase, improving the quality of care delivered to patients. By strengthening the relationship between all workers and increasing their role and ownership

of services provided, supportive supervision is intended to lead to improved health outcomes (Kwik-Skwiz #15 1998).

### **Supportive Supervision in Nigeria**

In March 2010, key stakeholders in Nigeria expressed a desire to explore new and innovative ways to strengthen supportive supervision at public sector facilities. As a result, the Health Systems 20/20 project in collaboration with the National TB and Leprosy Control Program (NTBLCP), proposed to pilot an activity strengthening supportive supervision at the facility level in Nigeria. The activity involved the implementation of a tool that aims to assist in the supervision, assessment and creation of action plans for quality improvement in facilities where TB is diagnosed and treated.

A major trend in efforts to improve the efficacy of supportive supervision has been to shift the focus of supervision visits away from simply inspecting facilities and gathering service statistics to focusing on the performance of clinical tasks, resolving the problems experienced by the health worker, and increasing supervisor feedback. Health Systems 20/20, with the NTBLCP and the Zaria Training Institute, developed an innovative supportive supervision tool that immediately diagnoses problems and generates a proper course of action for resolving identified problems.

Based on a previous experience in Ethiopia, this approach is best implemented using simple technologies, such as PDAs and online databases. The supportive supervision tool implemented in Nigeria was a PDA with an automated checklist of items ranging from the TB reporting statistics captured during each supervision visit to the functionality of laboratory equipment in the facility. Once the supervisor has gone through the checklist and inputted the requested information, the tool immediately returns a priority list of issues in the facility and generates an action plan for addressing these problems for the supervisor to discuss and share with the facility. When an online connection is available, the data collected during the supervision visit is uploaded into an online database allowing policymakers immediate access to the results from each supervision visit and the data needed for decision making. The results can also be used to track the progress of facilities over time.

Prior to implementation of the tool, supervisory visits were conducted with a paper-based checklist, and, following the visits, supervisors wrote a report detailing the problems discovered and recommend and action plan. With this previous method of supportive supervision in Nigeria using a paper-based checklist, the amount of time from the actual supervision visit to facilities' receiving the feedback from the visit varied greatly and could be as long as four weeks or, in some LGAs, not at all. When facilities received the information from the supportive supervision visits, it was already dated and was received simply as a formality rather than plan of action. The use of technology has the following additional benefits:

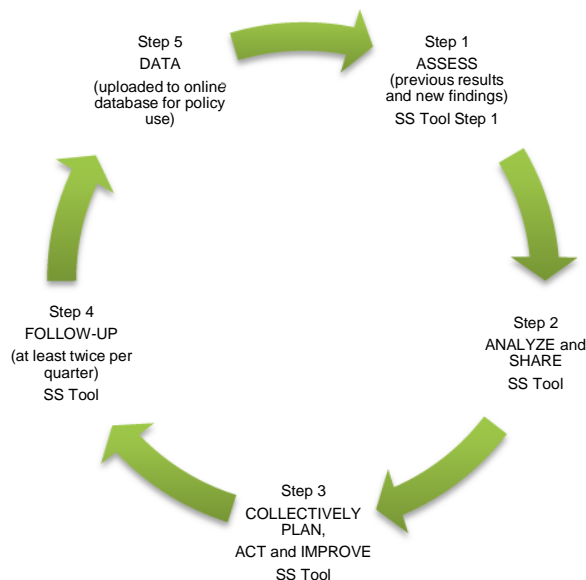
- Minimizes human error in the repetitive data entry of large amounts of supportive supervision data.
- Reduces the lag time in the availability of supportive supervision data to policymakers and managers at the LGA and state level.
- Automates the calculations and analysis as the data input formats will be fixed thereby reducing input errors which in turn reduces the need for validation. The automated analysis can be augmented with decision-support software which is suited for the Nigerian TB program context.
- Allows for scalability. PDAs can be reused quarterly across facilities.
- Enhances sustainability as the cost of these devices is continually declining.

Execution of the supportive supervision process, using the tool, involves following the methodology outlined below.

- **Step 1:** Assess and **monitor actual performance** through a series of observations and questions recorded on a Personal Digital Assistant (PDA). This is done quarterly by the supervision team at each facility.
- **Step 2:** Rapidly **assesses the results** of the observations and questions in Step 1. For each question, the response is recorded as red, yellow or white based on preset standards. Red responses require immediate action, yellow responses require less urgent interventions and white responses indicate that the facility is meeting performance expectations for that specific question. These red, yellow and white responses can be translated into an overall performance score that can be monitored over time.
- **Step 3:** The supervision team reviews the rapid results table in Step 2 and works with the facility to **create plans for corrective action**. These plans detail what should be done, by whom and by when. These plans are then closely monitored and supported between the quarterly supervision visits.
- **Step 4:** After the facility is assessed, the supervisor **conducts follow-up visits** twice during each quarter. The supportive supervision team (or member of the team) will either call or visit the facility again to support the activities needed to fulfill the action plan in Step 3.
- **Step 5:** Data from facility-level supportive supervision visits are compiled and disseminated to LGA DOTS managers, the state TB program and the NTBLCP for overall monitoring and corrective action. The use of PDAs for supportive supervision will allow for timely and frequent updates of the data to an online database allowing **policymakers to review and utilize the data for decision-making**. The online database will be augmented with decision-support tools which clarify, collate, and present the supportive supervision data so as to clearly identify trends in facility-level TB diagnosis and treatment.

Figure 1 below depicts the approach. It is critical to note that Steps 1-3 happen while the supportive supervision team is on site at the facility. This process fostered collective action planning and among all key stakeholders.

**FIGURE 1: SUPPORTIVE SUPERVISION PROCESS**



A stakeholder meeting on the TB Supportive Supervision pilot for Nigeria took place in Abuja, 15 March 2010. The meeting began with a presentation on the concept of supportive supervision and an example of implementation of the IT Supportive Supervision tool from outside Nigeria, followed by situation analysis of the current status of TB supervision in Nigeria. The situation analysis included the following recommendations:

1. Keep the supervision system and structure.
2. Use one national checklist at all supervision levels.
3. Add targets, linked to National Strategy.
4. Focus on strengthening at the supervision at the state, zone and FMOH levels.
5. Implement IT Supportive Supervision tools at the state level and above.
6. Establish a database at the NTBLCP capturing all the supervision reports in a timely manner..
7. Strengthen the feedback of Supportive Supervision at all levels through standardized forms
8. Establish a formal feedback mechanism from quarterly zonal meetings.
9. Strengthen communication of supervision data at the FMOH level.
10. Establish an M&E advisory group for FMOH on issues raised through SS.

A working group of 10 people was created to draft a work plan, budget, the process for establishing a national checklist, and clinic selection for pilots. The group included two members from NTBLTC, one member from NTBLCP, 2 State TB controllers, one member from WHO, 3 representatives from implementing partners (JSI, ILEP, and TB CAP), and a consultant from Abt Associates.



A pilot of the supportive supervision tool was implemented in September 2010 in 16 facilities in 4 states - Abia, Kano, Lagos, and Rivers – across 8 LGAs.

The selection criteria for participation in the pilot project were as follows:

- *States*: The pilot states, Abia, Kano, Lagos, and Rivers, were selected by the National TB Coordinator. The selection was purposeful, taking into consideration geographical distribution, population, case notification, and unfavourable outcomes.
- *LGAs*: Of the 2 LGAs per state, one was an “enabled” LGA (i.e., with internet connection and a functional computer). The remaining LGAs were selected based on: number of TB clients; number of new smear positive TB cases; number of retreated TB cases; default rate; number of deaths. The parameters of each LGA were ranked against the parameters of other LGAs in the state, and the LGAs with the highest combined score were chosen.
- *Clinics*: Following the selection of LGAs, 1 DOTS centre with microscopy and another without, were chosen from each LGA. The selection process was as with the LGA selection.

A detailed table with the selection criteria can be found in Annex A.

The tool was used during all quarterly supervision visits to each of the pilot facilities for one year.

## 2. STUDY OBJECTIVES

After one year of implementation, the TB Supportive Supervision pilot received positive feedback for its potential to strengthen program performance and treatment outcomes. Preliminary reports showed improved ability to pinpoint issues and create improvement plans as well as independent initiatives from the facility managers for quality improvement. The NTBLCP expressed the desire and intention to scale up nationally. Before doing so, an assessment to determine whether the model is working as intended is useful to address the challenges with implementation found at this early stage. Therefore, the Health Systems 20/20 team conducted a process/implementation evaluation to better understand the experience of implementing this pilot and to be able to use the results to inform the design of potential modifications to the model as scale-up continues.

The question as to whether this supportive supervision intervention results in changes in longer-term outcomes (such as case detection and treatment success rates) is also of interest. However, answering this question requires a rigorous impact evaluation that accounts for the counterfactual (what would have happened to these indicators over time in the absence of the intervention) and that involves a well-functioning intervention model (i.e. a model which has its early implementation challenges already “fixed”). For these reasons, an impact evaluation to measure changes in long-term outcomes is not part of the evaluation of the pilot.

This implementation evaluation addressed the following questions:

- How closely does implementation of the TB supportive supervision tool resemble the original design? Do any components of the original design need modification or restructuring?
- What are the initial strengths of the tool’s implementation? Are there any barriers to implementation of the TB supportive supervision tool?
- How does implementation coincide with the pilot activity’s goals? How do both of these coincide with improving the quality of TB care at the facility?
- To what extent has there been any change in the behavior of supervisors and/or facility staff as a result of implementation of the TB supportive supervision tool? Why or why not?

The evaluation activity for this pilot, as described above, is in line with the USAID Evaluation Policy 2011.

### 3. METHODOLOGY

This evaluation was a process/implementation evaluation consisting of surveys at all 16 intervention facilities. The structure of the surveys was in-depth, qualitative interviews with key informants at the facilities, LGA supervisors, and state supervisors at the intervention facilities, as well as, key stakeholders at the national level. A total of 37 interviews were conducted over a six month period from November 2011 to March 2012. A key informant at each of the 16 intervention facilities, typically the TB DOTS focal person, was interviewed. Eight LGA supervisors and 3 state supervisors were interviewed. Initially, 38 interviews were scheduled. However, one interviewee, the Lagos state supervisor was not available for an interview despite several attempts by the interviewer to schedule a time for the interview. Finally, 10 stakeholders at the national level were interviewed.

Three questionnaires, consisting primarily of open-ended questions, were developed – one for each type of key informant (facility or DOTS manager, LGA and state supervisors, and national level stakeholders). The questionnaires can be found in Annex B. Prior to data collection, the questionnaires were pre-tested and then amended according to the pre-test results. All questionnaires were administered and transcribed by one experienced qualitative interviewer to maintain consistency and increase the objectivity of the study.

The questions asked the informants to:

- Describe supportive supervision at their facility before and after the implementation of the supportive supervision tool,
- Describe the revised system that is designed to be action-oriented, and
- Explore how/whether the use of the tool had an effect on the effectiveness of the supervision conducted.

The transcribed responses to the questionnaires were then entered into NVivo, a qualitative data analysis software, where the data was coded and analyzed.

## 4. MAIN FINDINGS

All 16 pilot facilities were TB clinics within a larger health center or hospital offering a wide range of services. Only two facilities identified their location as rural. The remaining 14 facilities are located in urban areas. Eleven of the 16 (69%) facilities indicated that the average income of their catchment population included both those from higher and lower income levels, however, of these facilities, just under half (7) of the facilities indicated that while the population may be mixed income, the patients who seek care at the facility are generally low income. Four of the 16 (25%) facilities are in predominantly low income areas, and one facility is located in a middle income area. The TB DOTS focal point in 7 facilities indicated that, to the best of their knowledge, the TB prevalence of their catchment population was increasing while 6 facilities indicated that the prevalence was decreasing.

The number of staff in the TB clinics ranges from one to 22 with an average of 9.1 staff members with an average of 1.4 doctors, 3.3 nurses, and 2.1 laboratory technicians in each facility. The TB DOTS focal persons interviewed for this evaluation have been working at their facility for an average of 7 years and serving in their current position for an average of 3.9 years. Fourteen of the 16 (87.5%) focal persons have at least a bachelor's degree. The duties and responsibilities of the TB DOTS focal point include:

- Receiving and observing patients
- Administering DOTS treatment
- Defaulter tracing
- Screening TB and HIV patients
- HIV counseling
- Health education
- Drug stock maintenance
- Following up on patients referred to another facility
- Maintaining patient register and patient records
- General management of the TB program
- General administrative duties

### **Content of Supportive Supervision Visits**

*“Supportive Supervision... is a way of helping the worker to grow in the work and know the job.” – Facility manager, Abia State*

*“Supportive Supervision trains and encourages [the] worker to solve challenges in the work environment.” – Facility manager, Kano State*

A strong supportive supervision program should establish desired performance, assess performance, help establish plans for corrective action, and monitor progress over time. Supportive supervision is a continuous, corrective process providing on-the-job training and guidance to improve the performance of TB facilities. Areas for improvement are identified during the supervision visit and supervisors offer advice and solutions to reach desired performance standards. Facility focal points are encouraged to ask questions and offer their own suggestions and solutions. Subsequent supervision visits to the facility will follow-up to ensure that the previous visit's recommendations were implemented.

The content of a supportive supervision visit should be comprehensive to the extent that it allows the supervisor to identify the strengths and weaknesses of the facility impacting the quality of TB care and treatment provided and gather the necessary statistics to allow for monitoring and evaluation of the TB program. When asked to describe the content of a supportive supervision visit, respondents most commonly identified the following tasks undertaken by the supervisor:

- Evaluate treatment cards for defaulters, smear positive, smear negative, HIV status, HIV co-infection, drug dispensation, and outcomes
- Examine and verify patient and suspect registers
- Inquire about defaulter tracing
- Check drug and commodity stock inventory
- Discuss challenges facing the facility and complications with patients
- Consider additional training opportunities for facility staff

Implementation of the supportive supervision tool and its automated checklist did seem to have an effect on the content of supervision visits in most pilot facilities. Eighteen of 26 respondents (69.2%) noted an increased number of questions or level of detail during visits with the pilot tool's checklist. A facility manager in Rivers State responded:

*“Before they just go through the records, they don't ask me any question[s]. [After implementation of the tool], they cover ventilation, waiting room, drug storage, infection control, weighing scale, forms and register availability, [and] stock cards.”*

Similarly, a facility manager in Lagos responded that the content of the supervision visit went from staffing numbers, staff challenges, staff training, and drug stock with the original checklist to a visit inquiring about suspect registers, the HIV status of patients, outcomes, and defaulters. A supervisor in Kano State responded that the questions asked during a supervision visit at a facility depended on the problems encountered at that particular facility. And finally, a supervisor in Abia State responded:

*“Before the tool we didn't know that these things were necessary, the checklist didn't cover it.”*

The three question areas mentioned most often by respondents as included in supervision visits only after implementation of the tool were: TB/HIV (34.6%), treatment outcomes (26.9%), and proper ventilation in the facility (23.1%). There was a slightly different response from 19.2% of respondents who felt that the content of the visits following implementation of the tool covered the same general thematic areas but with increased thoroughness.

The supportive supervision tool does not allow the supervisor to skip any questions ensuring that all questions are addressed during each visit. Increasing not only the comprehensiveness of supportive supervision visits but also the uniformity of the content across facilities may improve the monitoring of the TB program at all levels of government and, as a result, the quality of data used for decision making.

### ***Frequency and Duration of Supportive Supervision Visits***

Whether or not there was a change in frequency of supportive supervision visits at the pilot facilities as a result of the implementation of the tool varied across states and LGAs, and the perception of changes in the frequency of visits also differed between facilities, LGA and state supervisors. Prior to implementation of the tool, the frequency of LGA TB supportive supervision visits was weekly to monthly. The state supervision visits ranged from monthly to annually, and many facilities noted that these visits were irregular. In Abia, the facilities and one LGA supervisor noted no change in the frequency of supervision visits, while the state supervisor and the other LGA supervisor noted an increase in the number of visits. In Kano, the facilities and LGA supervisors noted no change in the frequency of LGA supervision visits, but one facility indicated that the number of state supervision visits increased while the state supervisor noted that their visits had decreased overall. In Rivers, the facilities and one LGA supervisor indicated that supervision visits had increased while the other LGA supervisor noted a decrease in the number of visits. The state supervisor indicated that there was no change in the frequency of visits. In Lagos, three of four facilities and one LGA supervisor felt that frequency of visits had increased, and the remaining facility indicated no change. The other LGA supervisor noted a decrease in supervision visits. Overall, eight facilities felt the number of visits increased while the other eight facilities felt there was no change in the total number of visits. According to the supervisors, four felt the number of visits increased; three felt visits decreased; and three felt there was no change.

An increase in the frequency of supervision visits was primarily attributed to ensuring that the improvements or changes recommended during the visits with the tool were being implemented. Also noted was the increased number of issues or problems identified by the tool which prompted the supervisors to visit the facilities more to follow-up on these issues or problems and assess the progress being made to address them. Decreases in the frequency of visits were also attributed to the thoroughness of the tool in that supervisors were able to see a more complete and accurate picture of the facility on each visit thereby decreasing the need to return as often to evaluate.

A majority of the key informants at facilities, supervisors, and state supervisors responded that the duration of supervision visits increased following implementation of the tool. Of the 21 responses, 5 indicated that the duration of the visit was shorter. The duration of supervision visits before and after the implementation of the tool ranged from one to three hours. Visits typically increased by one hour after implementation. In a few instances, the duration initially increased by two to three hours following implementation, but this was reduced after supervisors had more practice and familiarization with the tool.

Explanations for the increased duration include: increased thoroughness through a greater number of questions and requests for data review, and questions cannot be skipped; the size of the supervision teams increased at the pilot facilities, possibly due to the increased visibility of these facilities; previously, the supervisor did not take the time to write the report of the supervision visit at the facility; and the supervisor spent more time to correct mistakes and resolve issues that were discovered during the visit. Decreases in the duration of the visit were attributed to eliminating the writing component associated with the paper-based checklist which could be extensive and time consuming and the tool's elimination of the need for supervisors to manually calculate the facility's statistics. While shorter supervision visits

are desirable as they allow the facility to return to clinic duties, when asked whether the change in duration was desirable or undesirable, five of the 8 respondents found the increase in the duration of visits to be a positive change as the supervision was perceived to be more meticulous and effective.

### ***Introduction of Technology***

The supportive supervision tool does not replace the principles of supervision but is a device to aid in supervision. When discussing their overall experience with the tool, respondents highlighted the tool's ability to ensure a thorough supervision visit due to the methodical and detailed questionnaire and the tool's ability to immediately provide feedback and a report of the visit. The tool's questionnaire is more detailed than the paper-based questionnaire and requires a response to all questions. While many facilities and supervisors feel that many of the questions could be eliminated, the questionnaire provides a complete and accurate picture of the quality of TB care and treatment provided by the facility and indicates where and when improvements are necessary. Following the initial introduction of the tool, the supervisors met at the Zaria Institute and responding to their concerns at the time, the number of questions was reduced, and questions were grouped into thematic categories.

Supervisors no longer need to spend large amounts of time writing the results of the visits, and the tool can store the results of supervisions carried out over the year and recall these data whenever they are needed. Through the administration of the questionnaire, the tool immediately calculates the results of the supportive supervision visit. The results include a score and color coded results in red, yellow, and green to evaluate the performance of a facility and show where improvements are necessary. Because the tool performs the assessment and highlights the challenges at the facility, supervisors and facilities feel that the results are more objective and thus received more positively by the facility.

During the pilot, trainers from the NTBLCP were trained to then train state and LGA-level supervisors. Once that was completed, two trainings were held to train state and LGA-level supervisors on how to implement SS using the new paradigm and the technology. Finally, select staff members from the Zaria Institute and NTBLCP were trained on how to create forms on the PDA and scripting forms in Pendragon. Table 2 below shows a list of the TB SS pilot trainings.

**TABLE 2: LIST OF TB SUPPORTIVE SUPERVISION PILOT TRAININGS**

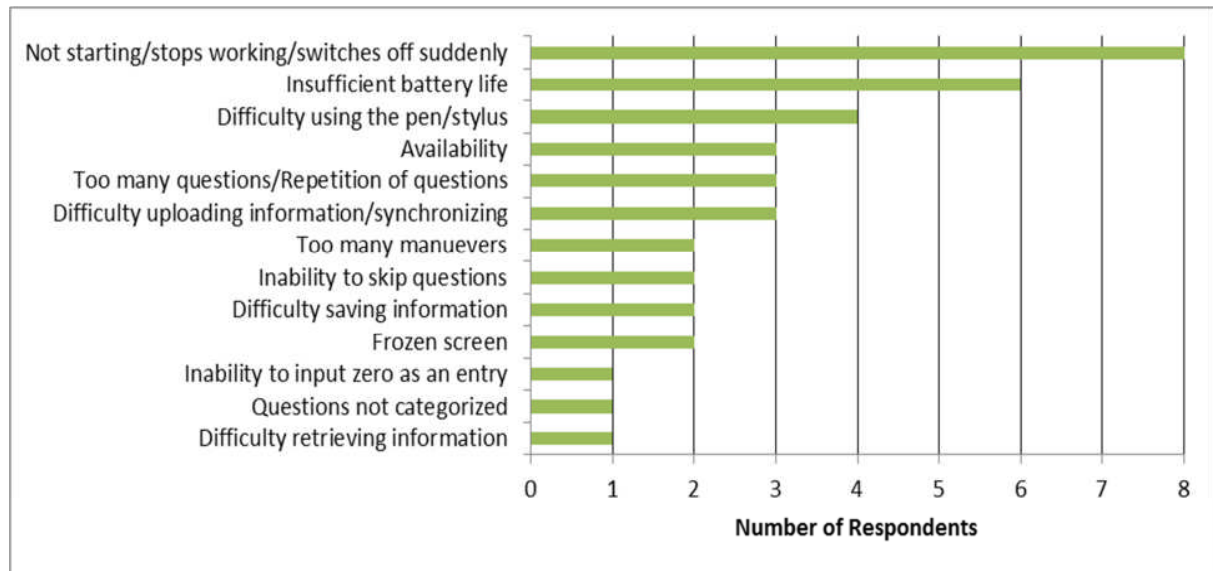
Date	Location	Type of Training	Number of People Trained	Type of People Trained
13th to 15th September 2010	Kaduna State	1. To develop skills in preparing for supervision, conducting supportive supervision and developing agreed upon plans for follow-up action 2. To agree on a set of standards for the functioning of the supervisory system 3. To familiarize participants with the supportive supervision tool on PDAs	15	Training of a core team of Trainers (at the Federal level – NTBLCP & NTBLTC)
16th to 17th September 2010	Kaduna State (National Tb & Leprosy Training Centre Zaria)	1. To develop skills in preparing for supervision, conducting supportive supervision and developing agreed upon plans for follow-up action 2. To agree on a set of standards for the functioning of the supervisory system 3. To familiarize participants with the supportive supervision tool on PDAs	19 (including participants from Zaria, facilitators and Health Systems 20/20 staff)	First State level training at NTBLTC for Abia and Rivers States pooling 6 participants per state (1 State TB Control officer, 1 M&E Officer, 1 lab.focal point, 1 state TB Supervisor, and 2 TB supervisors at local government level).
20th to 21st September 2010	Kaduna State (National Tb & Leprosy Training Centre Zaria)	1. To develop skills in preparing for supervision, conducting supportive supervision and developing agreed upon plans for follow-up action 2. To agree on a set of standards for the functioning of the supervisory system 3. To familiarize participants with the supportive supervision tool on PDAs	22 (including participants from Zaria, facilitators and Health Systems 20/20 staff)	Second State level training at NTBLTC for Kano and Lagos pooling 6 participants per state (1 State TB Control officer, 1 M&E Officer, 1 lab focal point, 1 state TB Supervisor, and 2 TB supervisors at local government level).
22nd September 2010	Kaduna State (National Tb & Leprosy Training Centre Zaria)	Training for data managers to develop skills in developing forms using Pendragon.	7 (including some Zaria staff and staff from the NTBLCP)	
30th November to 1st December, 2010	Kaduna State (National Tb & Leprosy Training Centre Zaria)	Participants were taken through the process of generating excel based questionnaire, and using it to develop questions and script / programme using pendragon language.	7	M&E officers at the central level at the NTBLTC

A majority of the supervisors for the pilot facilities did not feel sufficiently trained on using the tool – specifically, supervisors were often unable to troubleshoot technological issues with the PDA that arose during visits in the field. While the supervisors in Lagos and the state supervisor in Abia felt that the level of training was adequate, they indicated that more training or experience with the tool was needed. Supervisors in Abia, Kano, and Rivers and the state supervisors in Kano and Rivers did not feel sufficiently trained. The specific type of training requested most often related to troubleshooting technical issues that arose when using the PDA. A supervisor in Rivers commented on his difficulty in understanding the American trainers and requested local trainers. The state supervisor in Rivers noted during the interview that he did receive support services from the national level when he called while experiencing technical difficulties with the tool.

Experiencing technical difficulties with the introduction of a new technology is somewhat inevitable. Figure 2 below outlines the supervisors’ issues and concerns with tool. The top problems experienced while using the tool include: the PDA suddenly ceasing to function or shutting off entirely, insufficient battery life, and difficulty using the PDA’s pen/stylus. The battery life was often unable to last through two separate site office visits. The unavailability of the PDA beyond the quarterly visit was frequently commented upon, as many supervisors would have preferred to use the tool during all supportive supervision visits.



**FIGURE 2: SUPERVISORS' ISSUES AND CONCERNS WITH SUPPORTIVE SUPERVISION TOOL**



When key informants at the facility were asked about their chief concerns with the tool, they too perceived supervisors having the same technical issues as those outlined by the supervisors – insufficient battery life, the PDA suddenly switching off, and the unavailability of the tool for all supervision visits.

### **Results of Supervision Visits**

The supportive supervision tool produces a rapid results table with indicator calculations and responses to questions coded in red, yellow, or green. A response coded in red requires immediate attention, and, conversely, a satisfactory result will be coded in green. Reducing the amount of time between the supervision visit and the facility’s receipt of the results from the visit should result in the problems identified being remedied in less time.

The amount of time between supervision visits and the facilities’ receiving feedback from the visit prior to implementation of the tool varied across the four states. In Abia state, facilities received the results of the visit an average of 2.6 days later. In Kano state, one facility reported receiving immediate feedback while the other three pilot sites in the state never received any feedback before implementation of the tool. All facilities in Lagos state reported receiving immediate feedback of the results of the visit. In Rivers state, half of facilities received results one to two weeks after the visit while the other half received results immediately. While the supportive supervision tool generates rapid results and an action plan immediately following the visit, many facilities still receive a written report from their supervisor one to two days after the visit.

Many supervisors and facility managers alike did not seem to find the reports sent to facilities following supervision visits prior to implementation of the tool to be very helpful in addressing the challenges of the facility. Often these reports identified challenges and put forth recommendations to the facility without a clear plan of action. But after the tool was put on the PDAs and the results of the visit automatically summarized, the reporting back to facilities resulted in positive improvements.

*“Before implementation of the tool, we generally just file the report until the next visit. But with the tool, [we] keep referring to it to make sure we make the changes to improve our score. [For example], we did not use the suspect register but when they care and found out, they encouraged us to. Now we are filling it very well.” – Facility Manager, Kano State*

*“Before [the] supportive supervision tool, we shared reports with facilities which contained recommendations for corrections. When we come back we check if they have made corrections. With [the] supportive supervision tool, we give more detailed plan of action with steps, including what is already done and follow-up steps. An example is about stock card usage and recording was a problem. We battled with the challenges. We finally solved it.” – Supervisor, Rivers State*

The state supervisor in Kano noted that the quality of the written reports prior to implementation of the tool were highly dependent upon the skills and thoroughness of each individual supervisor. The tool’s checklist automatically generates the items needing improvement and a course of action. A facility in Kano state even noted that the supervisor would come back to the facility after the visit and make changes to the report if something was missed during the visit.

The generation of rapid results allows problems to be immediately identified and the solutions discussed during the supervision visit. The problems identified were both large and small and some are easily solved while others are longstanding issues with significant barriers to their resolution. Facilities feel empowered to immediately address those problems within their means to solve, such as:

- Accurate completion and filing of treatment cards and registers
- Documentation of treatment categories
- Sputum conversion and follow-up testing
- Tracking treatment of patients
- HIV testing and following up with co-infected patients to ensure they being an ART regimen
- Providing counseling for TB patients
- Displaying SOPs

Long-standing problems became more visible through the use of the tool. These include:

- Defaulter tracing
- Drug and commodities stock outs
- Dedicated TB clinic staff
- Dilapidated infrastructure
- Infection control
- Capacity of staff
- Staff attrition

According to the respondents, barriers to making these improvements did exist, of which the most significant is a lack of resources. Defaulter tracing requires resources to pay for transportation and phone cards. Drug and commodities stock outs are often the result of national or state drug shortages. One facility consistently receives feedback to have a dedicated TB clinic staff member, but there is simply no space available. To fix a leaky roof or build a patient waiting room that is adequate for the control of infection requires funding beyond the facility's reach. Facilities seem motivated to remedy these problems, but they do not feel empowered with the means to do so.

### **Effectiveness of Supervision Visits**

The key informants found the effectiveness of the supportive supervision visits with the tool to be largely positive. These visits were described as helpful, supportive, useful, not stressful, productive, and more convenient than visits with the paper-based checklist. They remarked that supportive supervision visits with the tool have facilitated improvements in the TB care and treatment their facility provides.

*“The tool has really assisted me. The tool has been very helpful in improving my work. It is not a barrier. It helps me work more efficiently and to track patients. It has made me to come on weekends to assist patients especially Category 2 patients.” – Facility manager, Lagos State*

While the responses were largely positive, the key informant at a facility in Kano noted the visits were often stressful but did acknowledge that they are helpful in the end. Similarly, the key informant at a facility in Lagos found the visits frustrating at times as the same issues seem to come up at each of the visits and the facility's improvement seems to be slow.

Respondents perceived a higher quality of supportive supervision with the tool primarily due to the thoroughness of the questionnaire and the rapidly generated results. The questionnaire encompasses all aspects of TB care and treatment at the facility, and this level of detail ensures that supervisors are identifying and addressing any problems.

*“...An example is the issue of the waiting area. The issue was that [the TB clinic] shares a waiting area with children and pregnant women. Everybody, including the national people made suggestions including having clinics at different times and also keeping our own clients in the corridor.” – Facility manager, Rivers State*

*“There was a time that they were charging patients for admission. I went with the DOTS staff and state control officer, and we paid an advocacy visit to the management and the admission fee was drastically reduced.” – Supervisor, Abia State*

The quality of the visit and the results are further ensured by the inability of supervisors to skip questions, enter data incorrectly, or miscalculate statistics. The results from the supportive supervision visits are generated immediately in a concise and explicit format. The quality of the results and feedback is perceived to be more modern and scientific as it is less reliant upon the individual supervisor's judgment.

Facility key informants repeatedly mentioned that they find supervision visits to be an educational experience. The greater detail and increased thoroughness of the supervision tool has improved the quality of this aspect of supervision. They study the recommendations and rapid results report.

*“We use the feedback to improve our work. On the issue of defaulters, the last time [the supervisors] said if we call about three times and patient did not come we should visit. If that fails, we fill in a form. This has easily decreased the rate of defaulting. We have a plan of action created now to use to improve our work. We get the feedback immediately.” – Facility manager, Rivers State*

*“I use the reports given to me by my supervisor to make corrections on my own. I study it and look at the challenges and recommendations and try to improve them. For example, they identified that I couldn’t differentiate between Category 1 and Category 2<sup>1</sup>. They explained to me, now I know the difference. – Facility manager, Abia State*

### **Tracking of Performance Indicators**

The supportive supervision tool improved the ability of all respondents to track critical TB indicators such as sputum conversion rate, cure rate, defaulter rate, death rate, failure rate, and relapse rate. Because the tool automatically calculates the statistics for each indicator at the facility during the visit, facilities are able view their performance on these indicators through the tool’s display of the percentage and a color code. Many facility key informants indicated that this has improved their understanding of the indicators and their measurements. Over several visits, facilities and supervisors are able to track whether the indicators are increasing, decreasing, or static.

It was our expectation based on stakeholder meetings and the training that supervisors as well as those higher up in the national TB program would both approve data after it was uploaded as well as review troublesome areas identified in the data. All respondents were aware of the database created to track and analyze these critical TB indicators. However, at the time of this study, only two respondents – the state supervisors from Abia and Kano – had utilized the database beyond the training. The respondents who had not yet used the database remarked the following on their expectations for its utilization:

- *Increasing the accessibility of the TB data collected during the supportive supervision visits.* Supervisors looked forward to being able to access the data remotely and seeing the results for one facility over any period of time.
- *Increasing the transparency of TB data collected during the supportive supervision visits.* Respondents expressed satisfaction knowing that the results of visits would be available to a wider audience. Facilities look forward to others seeing their progress and results, and supervisors felt that this visibility would motivate facilities to improve.
- *Improved monitoring and evaluation.* The database will allow monitoring and analysis at all levels – facility, LGA, state and national – and provide the information to policy makers to make informed, evidence-based decisions.

### **External Events and Influences**

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<sup>1</sup> According to the World Health Organization, Category 1 TB patients are generally the highest priority as they are new smear-positive cases or seriously ill smear-negative cases or those with extra-pulmonary disease. Category 2 patients are of lower priority than Category 1 patients. Category 2 patients include re-treatment cases including patients with relapse, treatment failure and those who return to treatment after default. Such patients are generally sputum-positive. These patient classifications are critical knowledge for those charged with delivering quality treatment to patients with TB.

Conducted concurrently with the TB SS pilot were other interventions also targeting a reduction in the TB burden. In an effort to better understand the other potential influences on TB-related outcomes during the time period when the pilot was implemented, the survey questionnaire asked respondents to note any other programs or events implemented during the same time period which could have potentially affected these same critical indicators. In subsequent evaluations that may include an assessment of the impact of TB supportive supervision, these other factors should be taken into account given their own potential impact on TB-related outcomes.

**TABLE 3: EXTERNAL TB ACTIVITIES IMPLEMENTED CONCURRENTLY WITH THE SUPPORTIVE SUPERVISION PILOT**

Africare	Provided rechargeable phone cards to track defaulters, a microscope, and rapid HIV test kits
Enhanced Prevention in Couples (EPIC)	Provided training
German Leprosy and TB Relief Association (GLRA)	Provided lab equipment, reagents, and training
Ghain	Provided training and funding to track defaulters, purchase supplies, renovate buildings, and set up laboratories
NTBLCP	Introduced new treatment supporter cards allowing facilities to distribute drugs weekly which helps to reduce defaulters and decrease workload
Other NGOs	Updated referral forms and provided to training community volunteers in case detection
TB Care	Provided training and funding for transportation and supervision

Other external events or programs noted were the unrest resulting from the Movement for the Emancipation of the Niger Delta's militant activities in Rivers state from 2008-2009 which increased the number of defaulters as the TB clinics were not functioning, and in Kano, the supervisor explained that the TB program is generally more organized and has increased the number of DOTS sites. As a result, there have been no drug shortages since October 2010 and fewer stock-outs due to improved logistics management through the use of stock cards.

## 5. SUMMARY OF MAIN FINDINGS

The following is a summary of the main findings of this evaluation.

- Implementation of the supportive supervision tool and its automated checklist did seem to have an effect on the content of supervision visits in most pilot facilities. Eighteen of 26 respondents (69.2%)

noted an increased number of questions or level of detail during visits with the pilot tool's checklist.

- While changes in frequency of supportive supervision visits at the pilot facilities as a result of the implementation of the tool varied across states and LGAs, a majority of the key informants at facilities, supervisors, and state supervisors responded that the duration of supervision visits increased following implementation of the tool. Both increases and decreases in the frequency of visits were attributed to the thoroughness of the tool in that visits increased to ensure that the improvements or changes recommended during the visits with the tool were being implemented and visits decreased because supervisors were able to see a more complete and accurate picture of the facility on each visit thereby decreasing the need to return as often to evaluate. The general increase in duration was accepted by 5 of the 8 respondents as the supervision was perceived to be more meticulous and effective.
- When discussing their overall experience with the tool, respondents highlighted the tool's ability to ensure a thorough supervision visit due to the methodical and detailed questionnaire and the tool's ability to immediately provide feedback and a report of the visit.
- A majority of the supervisors for the pilot facilities did not feel sufficiently trained on using the tool – specifically, supervisors were often unable to troubleshoot technological issues with the PDA that arose during visits in the field.
- The supportive supervision tool produces a rapid results table with indicator calculations and an action plan for areas needing improvement. The problems identified were both large and small and some are easily solved while others are longstanding issues with barriers to their resolution, of which the most significant is a lack of resources.
- The key informants found the effectiveness of the supportive supervision visits with the tool to be largely positive. Respondents perceived a higher quality of supportive supervision with the tool primarily due to the thoroughness of the questionnaire and the rapidly generated results.
- The supportive supervision tool improved the ability of all respondents to track critical TB indicators because the tool automatically calculates the statistics for each indicator at the facility during the visit.
- All respondents were aware of the database created to track and analyze these critical TB indicators, however, a significant majority of respondents had not utilized the database beyond the training.

## 6. RECOMMENDATIONS

Based on the findings of this evaluation, the following recommendation should be considered for scale up:

1. Scale up trainings should include a more intensive training for state-level supervisors on technology troubleshooting. They can then serve as a content as well as a technology resource for supervisors at the LGA-level, who during the pilot felt they needed more tech support.
2. During scale up, the PDAs should be abandoned and Smartphones introduced. With Smartphones, a platform called Episurveyor can be utilized which is much more user-friendly and flexible than the Pendragon platform used on the PDA.
3. Scale up should be deliberate and incremental. Given that there is still limited in-country resources for technological trouble shooting and limited use of the database, scale up should proceed at a moderate pace to ensure that any troubleshooting necessary can be done before getting to far too fast. This deliberate pace is especially important given the introduction of new technology.
4. The online database needs to be more user-friendly and more training/outreach done with primary users.
5. Continued work with designated programmers and database managers at the NTBLCP is necessary to ensure long term sustainability of technological inputs.
6. Begin to explore ways to improve supervisory problem solving skills to help resolve action plan items in a more timely fashion.

Given the pilot's success, the project team scaled-up the supportive supervision initiative and expanded into an additional 32 LGAs in Lagos and Abia in the final year of the project.

As part of this scale-up effort, the project team invested in new smartphone devices that provide more functionality (compared to PDAs) such as improved tech support and connectivity (Wi-Fi, 3G, 4G, SMS Text) to ease data transfer. While the PDA device was "best in breed" when first selected in 2006, it is now an antiquated technology with little support and or development. This means it is not a long-term or scalable option for Nigeria's supportive supervision initiative.

Upon testing the new smartphone devices, the project team discovered the need to replace the Pendragon software, the survey application used on the PDAs to collect TB data. When deployed on smartphones, Pendragon can't collect data in an offline capacity. After consulting with Pendragon on development options, it became apparent that the company doesn't have the capacity to address the offline issue as required. Collecting data in an offline capacity is a mission critical component for the overall process given Nigeria's connectivity issues.

Based on the revised requirements referenced above, the Nigeria supportive supervision project team researched alternative survey software applications (decision matrix available upon request). The goal was to find a solution that could replicate Pendragon's surveying capabilities, including automated calculations and skip logic functionality. The chosen survey solution also had to be compatible with smartphones and capable of collecting data in an offline capacity. Based on the project team's research,

it appears that, with some custom development related to calculated fields, DataDyne's EpiSurveyor application should meet all of the project's requirements.

Methodology for further scale-up included:

- Procure new SmartPhones for scale-up (Abt Associates);
- Deploy new EpiSurveyor platform (DataDyne) and develop forms for deployment on SmartPhones (Abt Associates) ;
- Incorporate additional fields into online database;
- Supportive supervision in pilot LGAs; direct data upload into database; quarterly meeting using database (Zaria) ;
- Training materials revised (Abt Associates /Avid) ;
- Training on Smartphones for existing (pilot) new (scale up) supervisors (Abt Associates) ;
- Training on EpiSurveyor for database managers (Abt Associates) ;
- Supportive supervision in pilot and new LGAs using Smartphones;
- Direct data upload into database and quarterly meeting using database (Zaria) ;
- Ongoing support on Smartphones, EpiSurveyor, Database and Help Desk (Team);
- Endline implementation evaluation (Abt Associates)



# ANNEX A: SELECTION CRITERIA FOR PILOT STATES, LGAS AND FACILITIES

As part of the selection criteria for a visit in the TB clinics, the project focused on mid-level clinics that perform AFB microscopy, with dedicated management and staff for detecting and treating TB. To further refine the selection criteria we examined the following:

1. Number of TB clients
2. Number of new smear positive TB cases
3. Notification rate (all notified TB cases divided by the population of the catchment area)
4. Number of retreated TB cases
5. Number of TB cases defaulted and default rate
6. Number of TB deaths

For example, in Table A1, you will see highlighted selections for LGAs for Lagos State based on the aforementioned criteria:

**TABLE A1: LAGOS STATE LGAS 2009**

Name of LGA	New	Relapse	Failure	RAD	Sm -ve	EPTB	Others	Total	Default %	Death %
Agege	274	27	4	23	155	8	67	558	20.9	0.4
<b>Ajeromi</b>	<b>588</b>	<b>28</b>	<b>7</b>	<b>27</b>	<b>392</b>	<b>9</b>	<b>76</b>	<b>1127</b>	<b>23.1</b>	<b>0</b>
Alimosho	237	15	1	16	131	4	30	434	32.1	0.9
Amuwo-Odofin	184	21	13	15	64	1	1	299	18.1	0
Apapa	140	18	8	9	77	0	55	307	23.8	0.9
Badagry	125	12	2	6	112	0	17	274	9.8	2.7
Epe	61	2	5	0	80	1	5	154	15.2	3.8
Eti-Osa	169	7	1	14	117	7	2	317	31.1	0.8
Ibeju-Lekki	12	0	0	0	7	0	0	19	0	0
Ifako/Ijaiye	233	26	1	9	140	5	66	480	7.6	1.5
<b>Ikeja</b>	<b>196</b>	<b>25</b>	<b>1</b>	<b>6</b>	<b>253</b>	<b>6</b>	<b>9</b>	<b>496</b>	<b>39.2</b>	<b>0</b>
<b>Ikorodu</b>	<b>276</b>	<b>21</b>	<b>5</b>	<b>23</b>	<b>256</b>	<b>2</b>	<b>0</b>	<b>582</b>	<b>36.5</b>	<b>0</b>
Kosofe	95	7	2	0	179	3	58	344	27.3	0
Lagos Island	329	23	4	22	347	26	33	784	8.8	1.1
<b>Lagos Mainland</b>	<b>825</b>	<b>60</b>	<b>16</b>	<b>24</b>	<b>996</b>	<b>21</b>	<b>77</b>	<b>2019</b>	<b>12.4</b>	<b>6.2</b>
Mushin	94	15	8	9	115	9	10	260	22.2	0
Ojo	196	14	23	0	109	2	19	363	29.8	0
Oshodi/Isolo	169	13	1	17	174	12	34	420	14.3	2.4
Shomolu	40	4	1	0	36	1	3	85	12.5	0
Surulere	203	15	4	16	116	5	1	360	27.1	0
<b>TOTAL</b>	<b>4446</b>	<b>353</b>	<b>107</b>	<b>236</b>	<b>3856</b>	<b>122</b>	<b>563</b>	<b>9682</b>		

In Table A2, you will see the facility selection for Lagos State's selected LGAs.

**TABLE A2: LAGOS FACILITIES 2009**

Name of LGA	Facility	Location of Lab	New	Relapse	Failure	RAD	Sm -ve	EPTB	Others	Total	Default %	Death %
Ajeromi	St. Theresa's MPHC	St. Theresa's MPHC,	282	17	4	18	85	1	31	438	25.8	0
	Tolu PHC		88	5	0	4	74	0	17	188	35.7	0
Ikeja	<b>Lasuth</b>	<b>Lasuth, Ikeja</b>	<b>162</b>	<b>22</b>	<b>1</b>	<b>5</b>	<b>208</b>	<b>6</b>	<b>9</b>	<b>413</b>	<b>34.4</b>	<b>0.47</b>
	Ikeja PHC		34	3	0	1	45	0	0	83	10.25	0
Ikorodu	Ikorodu General Hospital	Ikorodu GH, Ipakodo	140	4	2	12	130	2	0	290	30.7	2.36
	Emmanuel PHC		132	17	3	11	120	0	0	283	23.98	0
Lagos Mainland	<b>Mainland Hospital</b>	<b>Mainland Hospital, Yaba</b>	<b>404</b>	<b>31</b>	<b>8</b>	<b>11</b>	<b>448</b>	<b>0</b>	<b>32</b>	<b>934</b>	<b>12.58</b>	<b>4.48</b>
	Otto-Simpson PHC		97	4	6	10	71	2	12	202	18.55	1.03
<b>TOTAL</b>			<b>1339</b>	<b>103</b>	<b>24</b>	<b>72</b>	<b>1181</b>	<b>11</b>	<b>101</b>	<b>2831</b>		

# ANNEX B: QUESTIONNAIRES

The data collection included three questionnaires, one for each respondent types – facility, supervisor, and national stakeholder.

## FACILITY QUESTIONNAIRE

### I. Interviewee Data

- a. Name
- b. Position
- c. Education/Qualifications
- d. Brief description of their role overall.
  - i. Brief description of their role during supervision visits.
- e. How long has the interviewee worked at the facility.
  - i. How long in current position.

### II. Facility Data

- a. Facility Name
- b. Location (*urban/rural*)
- c. General Population Income (*high/low*)
- d. TB/HIV Prevalence in the overall population (*Please ask the interviewee to gauge the trend in cases presenting at the facility, such as how many TB patients are seen on the average day or an estimate of the percentage of patients seen each day at the facility that are TB patients*).
- e. How many people work at the facility? (*Please ask the interviewee to provide numbers for staff working in DOTS clinic.*) Is the number of staff sufficient – why or why not?
  - i. Doctors?
  - ii. Nurses?
  - iii. Lab Technicians?
  - iv. Other Support Staff?
- f. Types/Number of Services offered by the facility

### III. Interview Questions

- a. Ask the interviewee to describe Supportive Supervision (SS) in general.
  - i. Follow up with a request for the interviewee to describe the SS process at facility.

- b. How long have the SS visits been taking place at facility?
- c. When was the SS tool implemented at facility?
- d. Ask the interviewee to describe his/her experience with the tool?
- e. Frequency of these visits before and after the implementation of the SS tool?
  - i. If there has been an increase or decrease in the frequency of the SS visits, why did this occur?
- f. Length of SS visits before and after the implementation of the SS tool?
  - i. If there has been a change, why?
  - ii. And is that change desirable or undesirable in his/her opinion?
- g. What was typically covered in the SS visits before and after implementation of the SS tool?
  - i. If there was a change in the information covered by the supervisor's checklist during the visit, why?
- h. Does the facility find out the results of the SS visit – before and after implementation of the tool?
  - i. Was the information from the SS visit recorded prior to the implementation of the SS tool? If yes, request to see documentation.
    - 1. If yes, how is this information kept over the long term?
    - 2. Is there a way to look at the results of previous SS visits from previous quarters? If yes, request to see documentation.
  - ii. What is the usual amount of time between visits and when feedback or results are given – before and after implementation?
  - iii. How does the facility use the information from the SS visit for improvement? Is a plan for corrective action created and shared with the facility? Is there a difference before and after implementation?
    - 1. Ask interviewee for an example.
    - 2. Request to see documentation of an action plan if available.
- i. Describe the supportive supervision feedback that arises when using the SS tool.
  - i. How are the results/feedback from the supportive supervision visit explained to you? How does this compare to visits prior to implementation of the SS tool?
  - ii. Please name some of the key issues that came up for improvement in the feedback.
    - 1. Is/was it possible to make these improvements? Why or why not?
    - 2. Were there barriers to making these improvements? If yes, please provide examples.
    - 3. Are the improvements needed generally smaller or larger issues? How does this compare to visits prior to implementation of the SS tool?

4. Are the improvements easily solved or long-standing problems? How does this compare to visits prior to implementation of the SS tool?
5. Do you feel like this is an important issue that needs to be addressed in this facility? How does this compare to visits prior to implementation of the SS tool?
  - iii. Do you feel empowered to make the improvements/changes arise during supportive supervision visits?
- j. Do the SS visits impact their work before and after the implementation of the SS tool?
  - i. Is/was the SS visit a help or a hindrance to their job?
- k. How do you perceive the quality of the supervision you receive now and before the implementation of the TB SS tool?
  - i. Is the supervision more punitive or supportive?
  - ii. Is the visit useful?
  - iii. Does the visit cause added stress?
- l. Does the TB SS tool improve your ability to track performance indicators, *such as: sufficient stock of drugs and supplies; treatment completion; cure rate; defaulter rate; proper lab procedures.*
- m. Has anything else happened with the TB program that could produce an impact on the critical indicators being tracked in the quantitative component of this study? *(If needed, provide examples such as changes in population or quality, other donor programs, etc.)*
- n. In the interviewee's opinion, what are top problems/issues with the SS tool? *(Note: Throughout the discussion with the interviewee, problems or issues with the SS tool may have come up in conversation. The purpose of this question is to understand the problems or issues of greatest importance to the interviewee.)*
  - i. Ask the interviewee for his/her suggestions for improvement.

**IV. Thank the interviewee for his/her time.**

*Thank you (NAME OF INTERVIEWEE) for taking the time to speak with me. We appreciate the input that you provided about your experience with the supportive supervision tool. This information will be helpful to us as we plan for the scale-up of supportive supervision in Nigeria. Would it be possible to follow-up with you if we have further questions, once we write the report? YES/NO*

**V. Final data for Interviewer to Note**

- a. Length of interview
- b. Perceived knowledge of the key informant/supervisor in the interview.

## SUPERVISOR QUESTIONNAIRE

### I. Interviewee Data

- a. Name
- b. Position
- c. Education/Qualifications
- d. Brief description of their role overall.
  - i. Brief description of their role during supervision visits.
- e. How long the interviewee has supervised at the facility.
  - i. How long in current position.

### II. Interview Questions

- a. Ask the interviewee to describe Supportive Supervision (SS) in general.
  - i. Follow up with a request for the interviewee to describe the SS process at facility.
- b. Ask the interviewee to describe his/her experience with the tool?
- c. Frequency of these visits before and after the implementation of the SS tool?
  - i. If there has been an increase or decrease in the frequency of the SS visits, why did this occur?
- d. Length of SS visits before and after the implementation of the SS tool?
  - i. If there has been a change, why?
  - ii. And is that change desirable or undesirable in his/her opinion?
- e. What was typically covered in the SS visits before and after implementation of the SS tool?
  - i. If there was a change in the information covered by the supervisor's checklist during the visit, why?
- f. Does the facility find out the results of the SS visit – before and after implementation of the tool?
  - i. Was the information from the SS visit recorded prior to the implementation of the SS tool?
    1. If yes, how is this information kept over the long term?
    2. Is there a way to look at the results of previous SS visits from previous quarters?
  - ii. What is the usual amount of time between visits and when feedback or results are given – before and after implementation of the tool?
- g. Is a plan for corrective action created and shared with the facility – before and after implementation of the tool?
  1. Ask interviewee for an example.

- h. Describe the supportive supervision feedback that arises when using the SS tool.
  - i. How are the results/feedback from the supportive supervision visit explained by you? How does this compare to visits prior to implementation of the SS tool?
  - ii. Please name some of the key issues that came up for improvement in the feedback.
    - 1. Is/was it possible to make these improvements?
    - 2. Are the improvements needed generally smaller or larger issues? How does this compare to visits prior to implementation of the SS tool?
    - 3. Are the improvements easily solved or long-standing problems? How does this compare to visits prior to implementation of the SS tool?
    - 4. Do you feel like this is an important issue that needs to be addressed in this facility? How does this compare to visits prior to implementation of the SS tool?
- i. How do you perceive the quality of the supervision you deliver now and before the implementation of the TB SS tool?
  - i. Is the supervision more punitive or supportive?
- j. Does the TB SS tool improve your ability to track performance indicators?
- k. Do you feel sufficiently trained in using the TB SS tool?
- l. Have there been any technical issues during use of the TB SS tool?
  - i. If yes:
    - 1. Please identify the issues.
    - 2. Were these issues resolved? If yes, how was it resolved and how long did it take to resolve the issue?
- m. Are you aware of the new database created to track the results of all supervision visits?
  - i. If yes, have you used the database?
    - 1. If no, do you anticipate using the database in the future?
  - ii. If yes, how useful is the database or what is your perception of the usefulness of this database?
  - iii. If yes, what are/were your expectations for the database?
- n. If yes, have you experienced any problems or challenges while using the database? Has anything else happened with the TB program that could produce an impact on the critical indicators being tracked in the quantitative component of this study? *(If needed, provide examples such as changes in population or quality, other donor programs, etc.)*
- o. In the interviewee's opinion, what are top problems/issues with the SS tool? *(Note: Throughout the discussion with the interviewee, problems or issues with the SS tool may have come up in conversation. The purpose of this question is to understand the problems or issues of greatest importance to the interviewee.)*
  - i. Ask the interviewee for his/her suggestions for improvement.

**III. Thank the interviewee for his/her time.**

Thank you (NAME OF INTERVIEWEE) for taking the time to speak with me. We appreciate the input that you provided about your experience with the supportive supervision tool. This information will be helpful to us as we plan for the scale-up of supportive supervision in Nigeria. Would it be possible to follow-up with you if we have further questions, once we write the report? YES/NO

**IV. Final data for Interviewer to Note**

- a. Length of interview
- b. Perceived knowledge of the key informant/supervisor in the interview.

## **NATIONAL STAKEHOLDER QUESTIONNAIRE**

**I. Interviewee Data**

- a. Name
- b. Position
- c. Education/Qualifications
- d. Brief description of their role overall.
  - i. Brief description of how supportive supervision relates to their role.
- e. How long in current position.

**II. What are your perceptions of the supportive supervision tool and database?**

- a. How do your initial expectations compare to the actual implementation?

**III. What is your perception of the pilot of the TB supportive supervision tool implementation?**

**IV. What (if any) was your role in helping to pilot and/or implement the TB supportive supervision tool?**

**V. In your opinion, what is the level of government support for the pilot of the supportive supervision tool?**

- a. What feedback (if any) have they received regarding the implementation of the TB supportive supervision tool?

**VI. What are your views about scaling-up the pilot implementation to the national level?**

- a. Do you foresee any barriers to scale-up? If so, what are they? (Please probe to ensure that this goes beyond the financial). How might these barriers be overcome?

**VII. In your opinion, would it be useful to broaden this effort to other disease areas?**

**VIII. Would it be useful to link the SESAME database to the national HIS or HMIS at the State level? If yes, what would be some initial steps in pursuing this?**



**IX.** How confident are you that the supervisors are using the data to support quality improvements at facilities? How do you plan to monitor this? Do you have any evidence that this is happening? Ask interviewee to share a story or situation.

**X. Thank the interviewee for his/her time.**

*Thank you (NAME OF INTERVIEWEE) for taking the time to speak with me. We appreciate the input that you provided about your experience with the supportive supervision tool. This information will be helpful to us as we plan for the scale-up of supportive supervision in Nigeria. Would it be possible to follow-up with you if we have further questions, once we write the report? YES/NO*

**XI. Final data for Interviewer to Note**

- a. Length of interview
- b. Perceived knowledge of the key informant/supervisor in the interview.



## ANNEX C: BIBLIOGRAPHY

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