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PERFORMANCE MANAGEMENT IN TUBERCULOSIS AND LEPROSY CONTROL PROGRAMME IN OYO STATE, NIGERIA, 2017.

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfillment of the requirements for the degree of Masters in Epidemiology (Implementation Science)

Johannesburg, November 2017

DECLARATION

I Oluyinka Motunrayo Dania declare that this Research Report is my own, unaided work. It is being submitted for the Degree of Masters in Epidemiology (Implementation Science) at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



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Oluyinka Motunrayo Dania

Signed on the 9th day of November, 2017

Conference Presentation

Oluyinka Dania, “Assessing Fidelity of Implementing Performance Management within the Tuberculosis and Leprosy Control Programme in Oyo State, Nigeria”, Global Implementation Conference, 19th June, 2017, Toronto, Canada.

ABSTRACT

Performance management (PM) has been shown to improve organisational performance and tuberculosis case detection rate. Despite the utilisation of PM within the tuberculosis and leprosy control programme (TBLCP) in Nigeria, the country's tuberculosis case detection rate is amongst the poorest globally. This research therefore aimed to examine the fidelity with which PM is being implemented within the TBLCP.

A mixed method approach was adopted, where quantitative questionnaires and semi-structured interviews were conducted. Quantitative data was primarily analysed using summary statistics and differences were assessed using the Wilcoxon Sign Rank test. Thematic analysis of the qualitative data was done.

TBLCP staffs are responsive to PM but adherence is poor in the standards setting and implementation component of the PM system. The major reasons for the identified gaps were lack of local stakeholder involvement, lack of budget implementation and inadequate human resources.

Implementation strategies need to be developed to address the gaps in the early stages of the PM process. If the identified gaps can be bridged, PM implementation will be optimised.

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NOMENCLATURE

DOTS: Directly Observed Treatment Short-course

LGAs: Local Government Areas

MDT: Multidrug Therapy

PM: Performance Management

PMS: Performance Management System

SIPOC: Supplier Input Process Output Customer

TB: Tuberculosis

TBL: Tuberculosis and Leprosy

TBLCP: Tuberculosis and Leprosy Control Program

WHO: World Health Organisation

CHAPTER 1

1.1 INTRODUCTION

This chapter provides a detailed introduction to the key concepts of the study. Performance management system (PMS) was described and the different constructs explained. The Tuberculosis and Leprosy Control Program (TBLCP) in Nigeria was also described with relevant details to their operations. The PMS was thereafter explained in relation to its deployment within the TBLCP. The theory of implementation fidelity and its interplay with the effectiveness of PMS was explained. A review of relevant literature was documented. The problem statement coupled with justification for the study was highlighted. The chapter was concluded with the research objectives and the research questions.

1.2 PERFORMANCE MANAGEMENT SYSTEM

Performance management (PM) concept is broad with applicability in all fields of human endeavour. It is a tool which focuses on managing the individual and work environment in such a manner that an individual and team can achieve set organizational goals. PM is defined as a systematic process for improving organisational performance by developing the performance of individuals and teams (1). PM is the foundation for employee performance and engagement (2). PM includes setting performance standards, measurement of performance indicators, quality improvement process and the complete reporting of this process (1).

PM helps healthcare managers and executives make a transition from making decisions solely on intuition and experience to fact-based and analytic management (3). PM can be assessed in five areas of health care: health care financial strength, health care operations, health care people development, health care marketing and patient service and satisfaction (4). Assessment of PMS within the healthcare system in Switzerland revealed almost all the health care organisations defining business goals as well as key performance indicators (4). Although very few used customer related and process related performance indicators and the performance planning task is still underdeveloped (4). Assessment of performance management within the health care

system in the European Union revealed a focus on enhancing performance as the most successful approach because it places emphasis on positive supervision and staff development (5).

PM has been deployed in various health setting in high income countries but remains largely unexplored in Sub Saharan Africa and the evaluation of its impact in the health sector is limited (5,6). It has however been deployed as a component of management structure of vertical programmes in Sub-Saharan Africa (7). Tuberculosis and leprosy control is one of such vertical programs in Nigeria.

1.3 TUBERCULOSIS, LEPROSY AND THE CONTROL PROGRAM

Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis, usually transmitted via airborne droplets. It primarily affects the lungs but it can affect other parts of the body such as kidney, spine and brain (8). Symptoms of tuberculosis include cough, fever, night sweats or weight loss (9). These symptoms may be mild for many months resulting in delay in seeking care and transmission to others with 10 – 15 people being infected over the course of a year (9). Tuberculosis is preventable, treatable and curable (9). Leprosy is an infectious disease caused by Mycobacterium leprae transmitted via airborne droplets. It primarily affects the skin and nerves (10). Symptoms include discoloured skin patches, skin nodules, dry skin, ulcers and loss of eyebrows or eyelashes (10).

The global TB control has evolved over the years from Directly Observed Treatment Short-course (DOTS) through DOTS-Plus to Stop TB strategy and presently the End TB strategy. The DOTS strategy however remained an essential part of all the control strategies because it is proven, cost effective with a combination of technical and managerial components capable of quickly breaking the cycle of transmission (11). DOTS was officially adopted in Nigeria in 1993, rolled out in 2002 and expanded to all the 36 states of Nigeria at the end of 2004 (12). The fifth component of the Directly Observed Treatment Short-course (DOTS) for tuberculosis involves some components of PM (13). PM is also one of the areas of intervention of the WHO Human Resource for Health Action Framework for Stop TB strategy (14).

The global control of leprosy has evolved over the years from the discovery of dapsone in the 1940s to the recommendation of Multidrug Therapy (MDT) by a WHO Study Drug in 1981. Provision of free MDT to all leprosy patients worldwide was launched by WHO in 1995. The global elimination of leprosy as a public health problem was achieved in 2000. This is defined as a registered prevalence of less than 1 case per 10 000 population. WHO launched Global Leprosy Strategy in 2016 to accelerate efforts towards a leprosy-free world. The strategy focuses on avoiding disabilities especially among children.

The National tuberculosis and leprosy control program (TBLCP) was officially launched in Nigeria in 1991 with the goal of coordinating tuberculosis and leprosy control activities in the country (15). It is structured along the three tiers of government: Federal, State and Local government (16). The federal level is the central coordinating unit responsible for policy development and provision of technical support to the state programmes while the state TBL programmes coordinate TB and leprosy control activities with provision of secondary care and technical management to programme implementation which takes place at the level of the local government (16). The management structure of the programme ensures devolution of authority from the federal through the state to the operational level which is the local government. The state collates information from the local government level serving as a linkage between the Federal and the Local government. Hence the TBLCP staff at the state and local government level is responsible for TB control program implementation.

The general objectives of the program are to reduce the prevalence of tuberculosis and Leprosy to the level at which they no longer constitute public health problems in the country. And also to prevent and reduce the impairments associated with leprosy as well as provide appropriate rehabilitation for persons affected by the diseases. The stated strategies by which this is to be accomplished include early case finding and proper case management, comprehensive management of the long term physical and socio-economic effects of the diseases, integration of TBL services into the general health services, promoting Public-Public-Private partnerships (PPP), behavioural

change communication, collaboration with bilateral and multi-lateral partners, ensure functional commodities management system and human resource development.

The targets for TB control in Nigeria is to detect at least 70% of the estimated all forms of TB cases by 2020, to achieve a treatment success rate of at least 90% for all new bacteriologically confirmed TB cases by 2020 and to eliminate TB as a public health problem (<= 1/1,000,000 population) by 2050. The national elimination target for leprosy was however achieved by 1998 but endemic pockets at sub-national levels persists with the greatest challenge in rehabilitation of ex-leprosy patients with disabilities (17).

1.4 PERFORMANCE MANAGEMENT AND TUBERCULOSIS AND LEPROSY CONTROL PROGRAMME

PM is embedded in the management structure of the TBLCP as shown in Figure 1.1. The Supplier Input Process Output Customer (SIPOC) diagram is used to explain the interrelationship. The SIPOC diagram was adapted from six sigma (18). The international partners and TBLCP leadership at the national level design the policy documents, the standards and targets for the program. They also plan the training for human resource development. These serve as inputs for the PM process. The output is in the form of quarterly review reports coupled with improvement in the program. The beneficiaries of the entire system include the funding organizations, the state control programme and the patients.

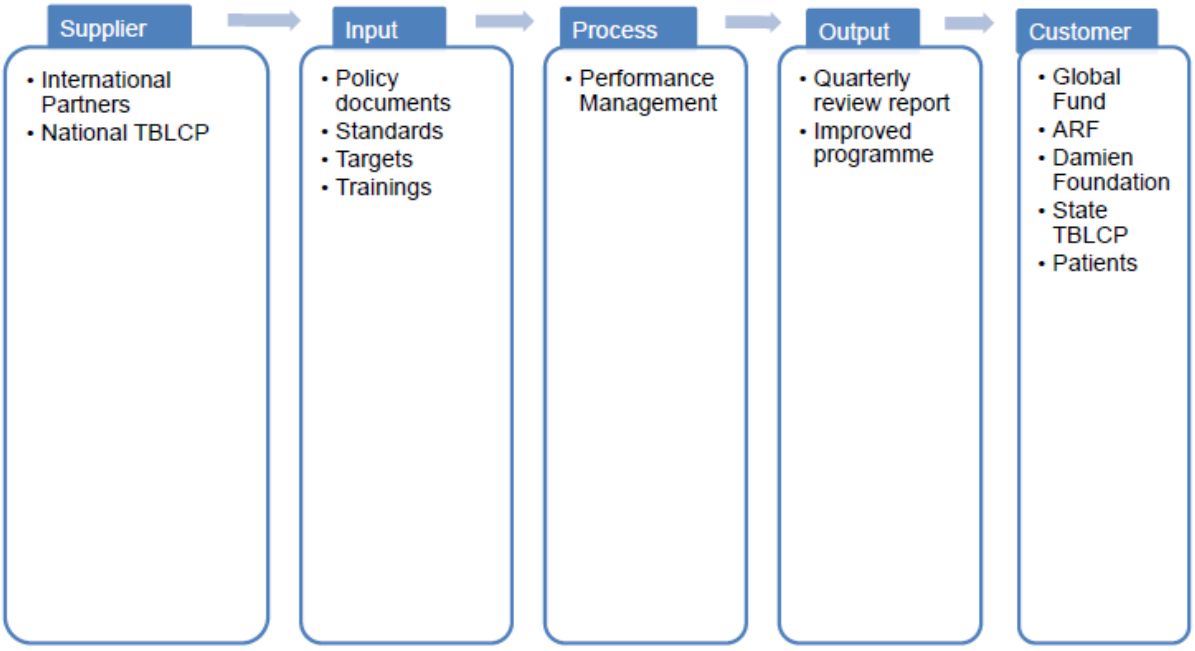


Fig 1.1 SIPOC STRUCTURE REVEALING PM WITHIN THE TBLCP (18)

The detailed steps of PM within the TBLCP should therefore entail setting of performance standards by the TBLCP leaders at the national level to measurement of specific indicators by the staff at the local government level. The measured performance is expected to be reported on a quarterly basis and the quarterly report is expected to serve as the fulcrum for programme improvement.

To ensure effectiveness of programme implementation, the National TBLCP has put in place a number of programme review exercises to help provide periodic evaluation and objective assessment of programme progress against intended objectives. There are quarterly programme review meetings at all levels (Planning cell meeting at the national level, Programme zonal and State level review meetings) with the singular purpose of providing periodic opportunity to review all planned programme activities, its progress towards set targets and use the result to inform key programme decisions where necessary (16). Data from these various review meetings are also important source of information to aid improvement in programme management (16).

The implementation of PM is therefore expected in all the 36 states of Nigeria. However for PM to yield expected results, it must be implemented with fidelity.

1.5 IMPLEMENTATION FIDELITY

Implementation fidelity is a major determinant of intended outcomes of interventions (19). Implementation fidelity refers to the degree to which an intervention or program is delivered as intended (19). It comprises of five measures: adherence, exposure, quality of delivery, participants responsiveness and program differentiation (19). Adherence refers to the extent to which program components are delivered as prescribed by the model (20). Program exposure (i.e. dosage) is the amount of program delivered in relation to the amount prescribed by the program model (20). Quality of delivery reflects the manner in which a program is delivered which can include provider preparedness, use of relevant examples, enthusiasm, interaction style, respectfulness, confidence, and ability to respond to questions and communicate clearly (20). Participant's responsiveness refers to the manner in which participants react to or engage in a program (20). This can include participant's level of interest, perception about the relevance and usefulness of the program, their level of engagement, enthusiasm and willingness to engage in the activity (20). Program differentiation is the degree to which the critical components of a program are distinguishable from each other and from other programs. (20). However for the purpose of this study, adherence, program exposure and participants responsiveness measures were assessed. The quality of delivery component was not assessed because it would require the researcher's engagement with critical sessions of the TBLCP activities, some of which would not be holding within the time allotted for data collection. The program differentiation component was not assessed because PM components are quite unique and the proposed tool has no ambiguity.

Studies have shown the degree of program efficacy to be highly dependent on implementation fidelity (20,21). A PMS that will achieve all stated objectives must therefore be implemented with fidelity. A PMS that is deployed with fidelity will have all the stated components of the PM Framework (adherence). These components must be engaged with at the prescribed dose (exposure) and the manner of engagement must reflect responsiveness (participant's responsiveness). PM therefore relies on fidelity to be effective in yielding expected outcomes.

1.6 LITERATURE REVIEW

PM was introduced into the world of commerce in order to improve productivity and performance effectiveness (22). PM was introduced into the health care industry in response to managed care organisations thirst for quality (23). PM has been shown to reduce cost while improving quality of health care (24). PM is a multi-level conceptual construct consisting of three levels which are the macro level, the meso level and the micro level (25). Performance can be measured at these three levels. The macro level PM measures performance of governance systems while the meso level PM measures performance of the organisational system and the micro level PM measures performance of individual employees (25). PM at the micro level is a familiar concept but this study focuses on the meso level which is uncommon in literature. Effective PM should focus on the three levels and recognise the dynamic interaction between them (25).

The major aims of PM are accountability, strategic planning and improvement (26). These ensure transparency, attention to priority areas and continuous improvement (26). There are varied forms of PM system, with all having the required components of measuring results, with regular feedback into decision making for continuous improvement (27). The PM systems that are commonly used include the Plan-Do-Check-Act model (PDCA), the balanced scorecard strategic management approach, the stat model and the turning point model (27,28). The PM system was designed to solve the problem of inefficiency thus the primary function of all the models are the same albeit they utilize various terminologies and strategies.

Fig 1.2 shows a pictorial representation of the turning point framework. The performance standard quadrant explains the step of identifying relevant standards, selecting indicators, setting appropriate goals and targets coupled with communication of expectations. The performance measurement quadrant speaks to the step of refining the set indicators, defining the measures, developing data systems and the actual collection of data. The quality improvement quadrant focuses on use of derived data for decisions to improve policies, programs and outcomes. It also encompasses managing

the resultant change as well as creating a learning environment. The reporting of progress quadrant focuses on data analysis and interpretation; reporting of results and the development of a regular reporting cycle. The PMS is embedded on the platform of right leadership and culture without which it is not sustainable. The arrows on the cycle are multidirectional depicting PM as a process that can be initiated from any of the stated quadrants and progress accordingly.



Source: Public Health Foundation (29)

Fig 1.2 PERFORMANCE MANAGEMENT FRAMEWORK

The Plan-Do-Check-Act PM framework aligns with the turning point framework as shown in Fig 1.3. The Plan and Do components align with the setting of performance standards while the Check component aligns with the measurement and reporting of performance. The Act component is sometimes referred to as improve as it aligns with the quality improvement step. The PDCA framework can therefore be used to assess PM.



Fig 1.3 Alignment of the PDCA and the Turning Point Framework

PM assessment evaluates organisation's productivity and effectiveness by engaging all workers resulting in increased responsibility and functions of leaders and personnel (30). The key principles of PM assessment include result orientation, customer focus, process management, system approach, people development, partnership development, leadership with constancy of purpose, continuous learning, improvements and innovation (30). PM provides opportunity for continuous improvement via its structured approach to assess performance and identify improvements (31). The PM assessment being employed in this study will focus on three components of fidelity: adherence, program exposure and participant's responsiveness. It will therefore provide evidence for advocacy efforts for improving TBLCP by optimising PM.

A survey of 1,200 hospitals in seven countries shows that hospital management practices which include two core PM activities (performance monitoring and target setting) correlate with clinical outcomes and patients' satisfaction (32). The influence of PM on the health system is multi-pronged and is the key to achieving the stewardship functions of the health system (33). It involves a feedback loop between the respective

actions of measuring performance, taking corrective action and achieving an outcome response (33) and therefore incomplete without the achievement of specified health system goals. PM in Organisation for Economic Co-operation and Development (OECD) health systems is a large, diverse and evolving subject with important similarities and some differences across countries. All OECD have licensing systems that confers monopolies on certain health care professions (34) but they differ on account of the level at which the PM agenda is being developed; some private, public, centralized or decentralized.

A SWOT analysis of the hospital PM systems in Hong Kong revealed six success factors which are position in the policy process and defined objectives, process of development, indicator validity, reliability, responsiveness and feedback. Hong Kong public hospital system was said to have partially incorporated these factors but a structured PM system is lacking for the private sector (35).

Most developing countries do not have a comprehensive PMS and those for which it forms a part of a system , the tools are either out-dated or poorly understood with managers lacking the skills for appropriate implementation(20,(36). A review of performance intervention studies in low-resource settings revealed ineffectiveness of simple dissemination of written guidelines and shows the general effectiveness of supervision and audit with feedback (37). An assessment of PM in Uganda revealed some extent of PM implementation with loopholes such as inadequacies in setting performance targets, feedbacks and PM planning was hardly done (38). A similar assessment done in Mali, revealed suboptimal implementation of PM with absent or inappropriate job descriptions, inadequate supervision and feedback (39).

A realist review of seven Quality Improvement (QI) Interventions revealed that Quality Improvement intervention improved performance of tasks and case management. Critical implementation aspects of the interventions contributing to success in the reviewed papers included involving staff, communities and local health authorities in setting standards; receiving support from the management of the facility and senior officials and using available funds and developing feasible plans for local teams. The stated contributing factors are within the core PMS.

PM assessment done as part of the Nigeria health system assessment in 2008 addressed job description, performance planning, review and integrated supervision. It revealed availability of job descriptions for health workers at the national level. Job description is said to be updated regularly (79%) and shared with employees (90.9%). The north central zone and Ekiti state differed in this regard. Four of the six zones have formal mechanisms for individual performance planning and review. Integrated supervision planned and conducted at the national level varied between 50% and 80%. It is weak in the North Central, North East and South South zones (40).

PM of TB services was instituted by the London TB group as one of the major drivers for service provision (41). Implementation of PM in Cape Town TB control programme resulted in active management of TB programs by sub-district managers (42,43). Assessments of tuberculosis and leprosy programmes are often done in a holistic manner with a focus on programme indicators as it relates to targets. Hence assessment of performance management as a TBLC programme component is hardly seen in literature.

The assessment of implementation fidelity is said to be crucial to understanding program effectiveness and hence recommended to be a part of evaluation plans (20). It is the link between innovation effectiveness and implementation effectiveness. Implementation fidelity is synonymous to treatment integrity within the clinical setting (44). It is said to be the most fundamental of all the identified factors influencing treatment efficacy (44). It is termed curious double standard as researchers has identified the variation between rigor of assessing a dependent variable which is often lacking for the independent variable (45). This has resulted in different conclusions emanating from varying combination of fidelity and outcome results (45,46). Some of the conclusions include program termed as meeting intended outcomes when fidelity results are high and outcome results are good (45,46). When fidelity results are low and outcome results are poor, the conclusion states that no claim can be made about the planned program because the planned program was not implemented and there must be no claim about the planned program being ineffective (45,46). However, when the fidelity results are high but the outcome results are poor, the conclusion rules out low

implementation fidelity and stakeholders should therefore make informed changes to planned program. When fidelity results are low and outcome results are high, the program was not implemented as planned hence the planned program cannot be credited with the desired outcome and there must be no claim of program effectiveness (45,46). A clear assessment of fidelity measures is a prerequisite for correct interpretation of an outcome.

Evaluation of implementation fidelity is said to assist achievement of improved outcomes as it provides details of the implementation process allowing for ease of replication or detection of error in the implementation process (19).

In measuring implementation fidelity, there are two distinct views on how it should be measured. One view states each of the five elements as an alternative way to measure fidelity i.e. fidelity can be measured by either adherence or dosage or any one of the other three. While the second view states that all five elements need to be measured to capture a comprehensive picture of the process (19). Adherence is said to be the essential bottom line measurement for implementation fidelity because if an intervention adheres completely to content, duration, frequency and coverage then fidelity can be said to be high (19). Dose is sometimes said to be a component of adherence termed coverage while participant's responsiveness is argued by some as a moderator of fidelity (19).

Measurement of implementation fidelity assists understanding of program intervention and proper evaluation of deviation from program model (20). It also aids researchers to test the relative importance of different program components in relation to outcome as well as providing corrective feedback for quality improvement (19,20). Fidelity assessment provides information for implementation and dissemination efforts as well as address research to practise gaps (47). It also provides information for practitioner training and supervision (47).

A review of human resource management practises which include PM revealed that the fidelity with which the management practise is implemented is related to its efficacy

(21). Most studies do not focus on implementation practises therefore posing difficulty in explaining a weak or no relationship between practice and intended outcome (21).

Fidelity can be assessed using indirect, direct or hybrid strategies (48). Indirect assessment includes quantitative or qualitative self-reports. Direct assessment include observations while hybrid strategies include indirect and direct measures of fidelity (48). The different types have pros and cons. The direct method is labour intensive and prone to reactivity where one behaves differently because of an on-going observation (48). The indirect method is prone to social desirability bias where reports of fidelity can be inflated (48). Social desirability bias is however stated to be of lesser concern when confidentiality is assured and when participants are reporting on less sensitive or taboo topics (48). This study utilised the indirect method of assessing fidelity.

1.7 PROBLEM STATEMENT

Tuberculosis is one of the top ten causes of death worldwide (9). Nigeria is one of the six countries with the largest number of TB incident cases in 2014 (49). The first Nigeria TB prevalence survey conducted in 2012 revealed a prevalence of 524 per 100,000 population (50) which is almost four times the global average of 133 cases per 100,000 people (49). TB is one of the ten leading causes of death among people in the reproductive age group (15 – 49 years) (51). It is also a major cause of hospital admission (51).

Leprosy is a disease of public health importance in Nigeria with over 3500 people diagnosed yearly and about 25% of patients with some degree of disability (52). The grade 2 disability rate of leprosy in Nigeria is 12% and nearly 10% child ratio among new cases (53). There is a declining budgetary allocation to leprosy control and a widespread loss of expertise (53).

The conventional indicators of TBLCP performance include case detection and treatment success rate (54). These two indicators are the global program outcome targets set at 70% and 85% respectively (55). Nigeria has a poor case detection rate of less than 17% signifying majority of TB cases in the community are undetected with risk of TB transmission (56). The treatment success rate is 84% almost the WHO treatment

target rate of 85% (57). Leprosy control is persistently plagued with endemic pockets at subnational level (17). Hence the major problem of the TBLCP in Nigeria is case detection.

Quality improvement initiative coupled with real time monitoring and evaluation have been shown to substantially increase case detection rate (58). Monitoring performance coupled with quality improvement are core components of PM thus the case detection rate in Nigeria may be a signal of a defective PMS.

1.8 JUSTIFICATION

The efforts to improve case detection in the country has focused on improving laboratory diagnosis and utilisation of active case finding (56). Active case finding have been shown to be effective albeit it can only be implemented in selected places suspected to be high risk like urban slums. However passive case finding should also be strengthened as it promises a sustainable approach to improve case detection. The indicators of passive case finding are included in the international standards of tuberculosis care (58). The poor case detection rate of tuberculosis and leprosy in Nigeria therefore requires an assessment of the presence of these indicators, their measurement, reporting and use for continuous quality improvement.

Oyo State is one of the three states with the highest prevalence of TB in Nigeria (59). Hence its choice as the study site. The assessment of fidelity will provide great understanding of the strengths of the program and areas in need of improvement (20).

In conclusion, PM has been shown as a tool for program effectiveness and its engagement within the TBLCP explained. The fidelity of its implementation has also been described as a major determinant of its effectiveness. Hence this research project was designed to identify gaps if any in the fidelity of its implementation.

1.9 THE RESEARCH OBJECTIVE

The objective of this research is to assess the fidelity of performance management implementation by Oyo State Tuberculosis and Leprosy Control Program staff. In assessing the fidelity, the specific objectives of the study involve three components of fidelity viz adherence, exposure and participants' responsiveness of the Oyo State

Tuberculosis and Leprosy Control Program staff. The specific objectives are to assess the TBLCP adherence to PM components; to assess the TBLCP exposure to PM components and also to assess the TBLCP staff's responsiveness to the PMS.

In attempting to achieve the research objective, the core question of the research was: "Is performance management being implemented with fidelity by the Oyo State Tuberculosis and Leprosy Control Program?"

1.10 CONCLUSION

This chapter provided the introduction of the research by giving a detailed explanation on the key components of the research, from the PMS and its role in the TBLCP to their relatedness with the concept of implementation fidelity. The research problem, justification, objectives, and questions that the research has addressed are also highlighted in this chapter. The next chapter considers the methodology that has been employed in examining the fidelity of implementing PM within the TBLCP.

CHAPTER 2
METHODS AND MATERIALS
2.1 INTRODUCTION

This chapter describes the methodology that was adopted for this research. A brief description of the study design and the study site was provided. The population from which respondents were drawn and the sampling procedure used was provided. A detailed description of the data collection and analysis procedure was also given. The limitations and ethical considerations of the research were also specified.

2.2 STUDY DESIGN

The study utilised a mixed method approach comprising of a quantitative and a qualitative component. Mixed methods research is gaining relevance in the field of implementation research to develop a science base for understanding and overcoming barriers to implementation (60). The mixed methodology focus on collecting, analysing and merging both quantitative and qualitative data into one or more studies (60). This design utilises the strength of both studies: the qualitative aspect provides the opportunity to explore depth of understanding of underlying reasons for implementation outcome while the quantitative aspect provides the breadth of understanding of predictors of implementation outcome (60). Assessment of fidelity and dose was done using a questionnaire with both quantitative and qualitative component. The qualitative component provides in depth explanation to the responses in the quantitative sections. Assessment of participant's responsiveness was done using a quantitative instrument.

2.3 STUDY SITE

The study was carried out in six selected tuberculosis and leprosy control clinics in Oyo State, Nigeria. Oyo State is one of the 36 states of the country. It is located in the south west geopolitical zone with 33 Local Government Areas (LGAs) and covers a land mass

of 27, 249 kilometres (61). Oyo State has a population of 5.5 million people (62). All the 33 local government area has a tuberculosis and leprosy control clinic in their secretariat.

2.4 STUDY POPULATION AND SAMPLING

2.4.1 Study Population

The PM being assessed is at the meso level hence the inclusion criteria for the study participants comprised the managerial staff of the TBLCP program at the selected local government areas (LGAs). The managerial staff included the medical officer of health of the selected LGAs, TBL supervisors of the selected LGAs and their assistants.

2.4.2 Sampling

The six study sites were selected using a stratified random sampling. Stratified random sampling is a probability sampling method in which the population is divided into two or more groups or strata according to one or more common attributes (63). The stratified random sampling ensures identification of relevant strata and ensuring their actual representation in the study population (63). The 33 LGAs were stratified into urban, semi-urban and rural area according to the statutory allocation of the state local government council (64). There are 9 rural, 18 semi urban and 9 urban LGAs (64). Three LGAs were selected from the rural and urban local government areas each using simple random sampling. The semi urban areas were not considered because they are neither rural nor urban. The simple random sampling was done using a table of random digits.

There were six LGAs selected for the study and three TBLCP staff were selected per LGA. This gives a sample size is 18 comprising of six medical officers of health, six TBL supervisors and four assistant TBL supervisors. There were two LGAs with no assistant TBL supervisor but the sample size of 18 was made up with the two of the four TBLCP officers at the state level. They were included for the purpose of data triangulation.

2.5 METHODS OF DATA COLLECTION

2.5.1 Assessment of Implementation Adherence and program exposure

This was done using a PM assessment tool. The questionnaire has both quantitative and qualitative sections. The quantitative section allowed the respondents to provide a graded score to the questions while the qualitative section provided the opportunity for the respondents to provide detailed explanations underlying their responses. The PM assessment tool is structured to measure PM at the meso level. The tool is attached as appendix G. The tool was adapted from a PM assessment questionnaire developed by the Public Health Foundation, an organisation with a focus on strengthening the quality and performance of public health practise (65). The tool has four sections with each section focusing on a component of PM. The tool was validated with a Cronbach's Alpha score of 0.6, 0.7, 0.7, and 0.7 for the plan, do, check and act components respectively. A pilot test was conducted at two LGAs not selected for the study to ascertain the appropriateness of the tool within the context of TBLCP. The responses from the pilot test were used to adapt the tool in order to fit the local context. The pilot test revealed that participants were answering the question bearing only the early case finding and proper case management objective of the program in mind. Hence the 8 strategic objectives of the program were added to the questionnaire in order to get an equal representation of their responses. The other adaptation made was replacing generic terminologies with specifics like tuberculosis control, local government and state government where appropriate. The questionnaire was completed by the staff of TBLCP in the selected LGAs using the interviewer assisted technique.

2.5.2 Assessment of Participant's Responsiveness

This was done using a readiness tool adapted from the $R=MC^2$ instrument for organizational readiness (66). The tool has fifteen questions targeted at assessing participant's responsiveness. The questionnaire was validated with a Cronbach's Alpha score of 0.9. The questionnaire is attached as appendix H. The questions that elicited responses on participant's engagement, interest, enthusiasm and their perception of relevance and usefulness of the program were retained while questions with no relevance to research question were deleted.

2.5.3 Data Triangulation

Data triangulation refers to the use of multiple data sources in research to develop a comprehensive understanding of phenomena (67). It is a research strategy to test validity through convergence of information from different data sources (67). This was done by interviewing two of the four officers at the state level and by document analysis of the national strategic plan for tuberculosis control and TBL management and control guidelines. The officers at the state level were given the same questionnaires in order to verify the data provided by the supervisors concerning state level processes. The national strategic plan for tuberculosis control and the TBL management and control guidelines were thoroughly analysed with a focus on all the four components of the PMS. This is also to verify the data provided by the participants.

2.6 DATA PROCESSING AND ANALYSIS

2.6.1 Data Processing

Data from the adherence assessment was collected with the PM assessment tool. The questionnaire was assessed for completion. Data was entered into Excel spread sheet in preparation for analysis. Data derived from the key informant interview sessions was tape recorded and verbatim transcription into text was done. Reflection memo of the researcher was recorded immediately after each session. Accurate transcription was ensured with inter transcriber reliability check. This was done by asking two people to transcribe 10% of the audio sessions. Their transcripts were then compared to check for accuracy. Once the quality of the transcribed data is ensured, each transcript was used to develop a codebook for thematic content analysis.

2.6.2 Data Analysis

2.6.2.1 Assessment of Implementation Adherence and program exposure

The average rating of adherence for each PM component was derived. The lowest average rating of 1 indicates No adherence, the average rating of 2 or 3 indicate poor adherence and a maximum average rating of 4 indicates good adherence.

Radar charts were derived for each LGA. The radar chart is derived automatically once the data is entered on the excel spread sheet. Two radar charts were derived for each LGA. The first radar chart shows the overall adherence scores while the second radar chart shows the gap between the current adherence score and the ideal. This gap is shown as room for improvement on the radar chart with proposed recommendation that the component with the largest room for improvement will be the first to benefit from improvement efforts. Overall radar charts were derived for the state using the average scores from the LGAs. PM scores comparison was done using Wilcoxon signed-ranked test between rural and urban LGAs to identify any rural-urban disparity. The Wilcoxon signed-ranked test was used because it is a non-parametric test appropriate for the PM scores which are not normally distributed. The level of significant was set at 5%. The analysis was done using STATA 13 software.

The qualitative component was analysed using the transcripts. A thematic approach was used for the analysis. The framework method was used to identify commonalities and differences in the data resulting in descriptive or explanatory conclusions clustered around themes (68). The framework method is an excellent tool for thematic analysis support because it provides a systematic process for managing and mapping the data (68). This was done by familiarisation with the interview followed by generating a code book with broad codes, fine codes and their definitions to reflect and describe the resulting themes. Inter coder agreement check was done by asking two other skilled

colleagues in the field of qualitative research to code a section of the transcripts. The team then came together to verify their understanding of the theme.

2.6.2.2 Participant's Responsiveness Assessment

The participant's responsiveness score for each respondent was derived. The five Likert scale items were scored by giving a score of 1 to 5 to the options from strongly disagree to strongly agree in that order. The maximum possible score is 75 and the minimum possible score is 15. A score of 45 and above show good responsiveness while a score of between 15 and 44 show poor responsiveness. The cut off score was set using the 50^{th} percentile. Wilcoxon signed-ranked test was used to check for differences in responsiveness scores between medical officers of health and TBL supervisors and also for rural urban disparity in responsiveness.

2.7 ETHICAL CONSIDERATION

The researcher was given ethical approval from the Witwatersrand Human Research Ethics Committee and also from the Oyo State Ethics Committee. The approval letters are attached as Appendix I and J respectively. A permission letter was also obtained to conduct research at facility level. This is attached as Appendix K. The researcher ensured voluntariness by explaining to the eligible participants that their participation would be appreciated but not enforced. The eligible participants if willing had the informed consent form explained to them and were asked to append their signature. Confidentiality and anonymity was ensured by de-identifying all research materials using numerical codes. Consent forms and interview forms were stored separately in a secured manner and would be destroyed after 5 years. The data will be used only for the research purpose for which it was collected. Dissemination of results will ensure anonymity of participants by ensuring that name of clinic or localities are not mentioned. If there will be need to quote reflecting participants view, pseudonyms will be used. There are no anticipated risks to participating in this study. But some participants offered to complete the survey after regular work hours. This would have put some demand on participants' time. **2.8 CONCLUSION**

This chapter comprised of the methodology that was applied in this study. It highlighted the research design and approaches that were selected including the justifications for selecting the said approaches. The chapter also provided details of data collection, data processing as well as analysis techniques and procedures. The chapter provided a detailed explanation of measures used in order to have a clear understanding of how the results were generated. The results are presented in the next chapter.

CHAPTER 3

RESULTS

3.1 INTRODUCTION

This chapter presents the research findings according to the methodology detailed in the previous chapter. The sociodemographic characteristic of respondents was highlighted. The details of the adherence results were presented with relevant quotes from the qualitative component. The dose and participants' responsiveness results were also presented. Details of all the analysis were clearly presented.

3.2 DESCRIBING THE SAMPLE

The total number of participants and interviews in this study is eighteen, made up of six medical officers of health, ten TBL supervisors and assistants and two state level officers for data triangulation. Table 3.1 shows the sociodemographic characteristics of the respondents. Mean age (SD) was 49.7yrs (6). Majority were males (61.1%), married (94.4%) and Christians (77.8%). More than half of the respondents had tertiary or postgraduate education. Table 3.2 shows the sociodemographic characteristics of the respondents by region. This provides a baseline comparison of rural and urban participants.

Table 3.1 Sociodemographic Characteristics of Respondents

Variables	Frequency(N=18)	Percentage (%)
Age group		
41-45	5	27.8
46-50	5	27.8
51-55	5	27.8
56-60	2	11.1
61-65	1	5.5
Mean(SD)	49.7 (6)	
Sex		
Male	11	61.1
Female	7	38.9
Occupation		
State TBL Officers	2	11.1
Medical Officers of Health	6	33.3
TBL Supervisor	6	33.3
Assistant TBL Supervisors	4	22.2
Marital Status		
Single	1	5.6
Married	17	94.4
Religion		
Christianity	14	77.8
Islam	4	22.2
Tribe		
Yoruba	18	100
Highest Educational Attainment		
Secondary	1	5.5
Diploma	5	27.8
Tertiary	7	38.9
Post graduate	5	27.8

Table 3.2 Sociodemographic Characteristics of Respondents (By Region)

Variables	Frequency (%) (N=7)	Frequency (%) (N=11)
	Rural	**Urban**
Age group		
41-45	2 (28.6)	3 (27.3)
46-50	1 (14.3)	4 (36.4)
51-55	3 (42.9)	2 (18.2)
56-60	1 (14.3)	1 (9.1)
61-65		1 (9j n.1)
Mean(SD)	49 (5.48)	50 (6.58)
Sex		
Male	5 (71.4)	7 (63.6)
Female	2 (28.6)	4 (36.4)
Occupation		
State TBL Officers		2 (18.2)
Medical Officers of Health	3 (42.9)	3 (27.3)
TBL Supervisor	3 (42.9)	3 (27.3)
Assistant TBL Supervisors	1 (14.2)	3 (27.3)
Marital Status		
Single	1 (14.3)	
Married	6 (85.7)	11 (100)
Religion		
Christianity	6 (85.7)	6 (54.5)
Islam	1 (14.3)	5 (45.5)
Tribe		
Yoruba	7 (100)	11 (100)
Highest Educational Attainment		
Secondary		1 (9.1)
Diploma	3 (42.9)	2 (18.2)
Tertiary	2 (28.6)	6 (54.5)
Post graduate	2 (28.6)	2 (18.2)

3.3 PERFORMANCE MANAGEMENT ADHERENCE ASSESSMENT

The assessment of adherence was carried out for each component of the PMS.

3.3.1 The Plan Component

This component measured adherence to the first component of PM i.e. setting of performance standards. It assessed the following

3.3.1.1 Presence and Alignment of Plans

The adherence tool revealed a presence of a tuberculosis control plan and a strategic plan that are well aligned with each other. A further review of the documents was done for data triangulation and the result affirmed.

3.3.1.2 Presence of Performance Standards, Targets, Goals and Objectives

There are eight strategic objectives in the reviewed plan and the tool assessed the presence of performance measures and targets for the stated objectives. Table 3.3 and Figure 3.1 show the rating of the presence of performance measures and targets for the stated objectives. There are performance measures and targets for early case finding and proper case management, collaboration with partners and functional commodity management system. The figure shows lower rating for comprehensive management of long term physical and socio-economic effects of the diseases, integration of TBL services into the general health services, promoting Public-Public-Private partnerships (PPP), behavioural Change Communication and human resource development.

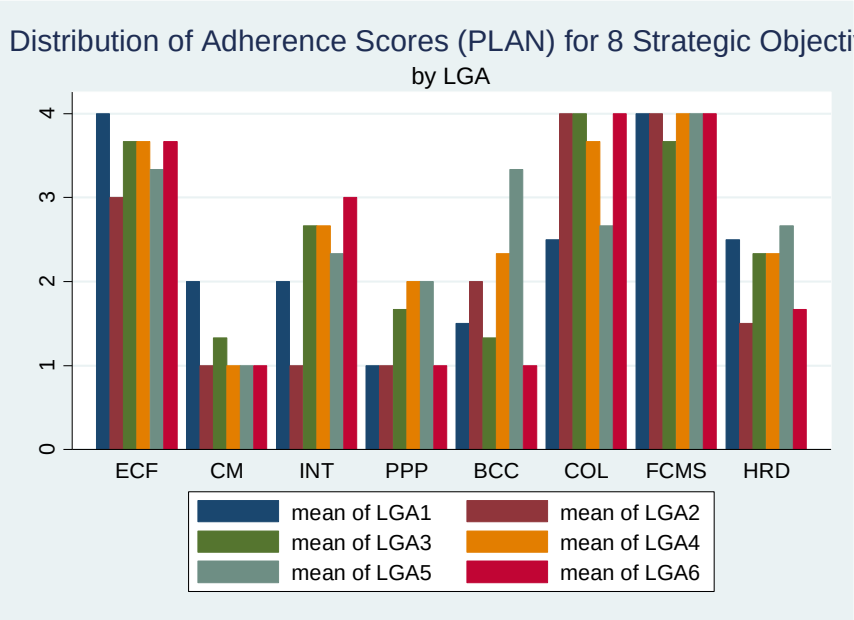
Data triangulation was done by reviewing the control plan and also the reporting tools at the facilities. Programme monitoring indicators are stated for community referrals, notification rate, detection rate, conversion rate, cure rate, treatment completion and success rate, loss to follow up rate, death rate, treatment failure rate, transferred out rate. There is an indicator for proportion treated in a private hospital. Almost all the

stated indicators are on early case finding, proper case management and functional commodity management system. There is only one indicator of integration of TBL services into general health services. There are no indicators for comprehensive management of long term physical and socioeconomic effects of the diseases, promotion of public private partnership, behavioural change communication and human resource development.

The reporting tools at the facility include registers for recording suspects and confirmed cases. They also have stock cards to ensure management of essential commodities.

Table 3.3 Presence of Performance Measures and Targets by Region

Strategic Objectives	LGA 1	LGA 2	LGA 3	LGA 4	LGA 5	LGA 6
Early Case Finding and Proper Case Management	4	3	3.7	3.7	3.3	3.7
Comprehensive Management of Physical and Socioeconomic effects of the diseases	2	1	1.3	1.0	1.0	1.0
Integration of TBL services into general health services	2	1	2.7	2.7	2.3	3.0
Promotion of Public Private Partnership	1	1	1.7	2.0	2.0	1.0
Behavioural Change Communication	1.5	2	1.3	2.3	3.3	1.’0
Collaboration with bilateral and multi-lateral partners	2.5	4	4.0	3.7	2.7	4.0
Ensure functional commodities management system	4	4	3.7	4.0	4.0	4.0
Human Resource Development	2.5	1.5	2.3	2.3	2.7	1.7



*ECF: Early Case Finding & Proper Case Management *CM: Comprehensive management of long term physical and socio-economic effects of the diseases *INT: Integration of TBL and BU services into the general health services *PPP: Promoting Public-Public-Private partnerships (PPP) *BCC: Behavioural Change Communication *COL: Collaboration with bilateral and multi-lateral partners *FCMS: Ensure functional commodities management system *HRD: Human Resource Development.

Figure 3.1 Presence of Performance Measures and Targets

3.3.1.3 Alignment of Program Objectives with Budget

Alignment of program objectives, measures and targets with budget was also assessed under the Plan component. Table 3.4 shows the average rating of the alignment of program objectives with budgets. The average rating across the six local government areas shows poor adherence scores. The maximum rating was 1.7 and a minimum of 1, with overall rating of 1.35. The recurring theme explaining the poor implementation of budget from the qualitative responses in this section is lack of funds.

"There is an existing budget line to fund activity with 120000 Naira but nothing has come out of it in most LGAs" Male 50yrs

"For the past ten years I have not been getting funds from the budget to support the program" Female 48yrs

Table 3.4 Average Rating of Budget Alignment

S.No	LGA	Average Rating
1	LGA 1	1.5
2	LGA 2	1
3	LGA 3	1.3
4	LGA 4	1.3
5	LGA 5	1.3
6	LGA 6	1.7
	Overall	1.35

3.3.2 The Do Component

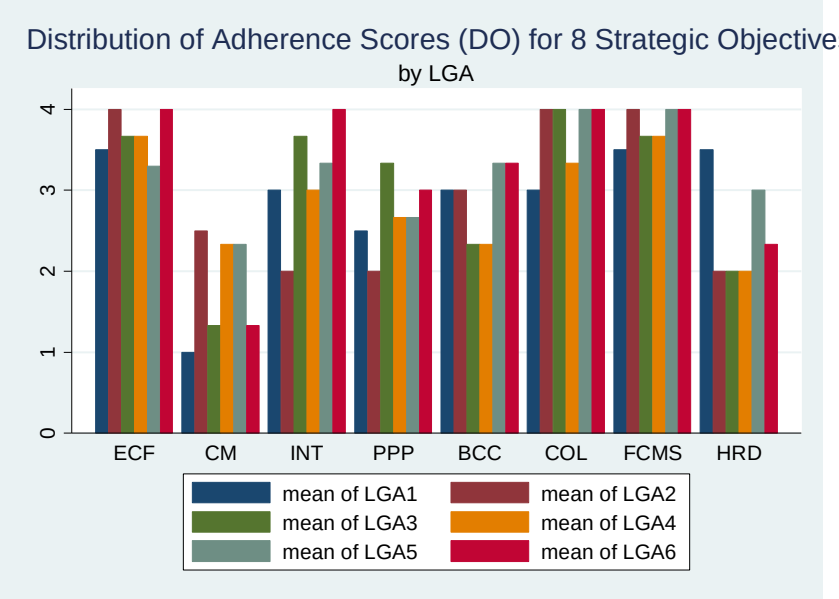
This component assessed adherence to the second component of PM i.e. performance measurement. It assessed the following

3.3.2.1 Implementation of Programs

Implementation of programs in alignment with the stated objectives, targets and measures was assessed. Table 3.5 and Figure 3.2 show the implementation of the eight strategic objectives. It revealed good adherence score of 4 for early case finding and proper case management, collaboration with bilateral and multilateral partners and functional commodity management system. It however revealed poor adherence scores for comprehensive management of long term physical and socio economic effects of the disease, promotion of public private partnership, behavioural change communication and human resource development.

Table 3.5 Rating of Implementation Consistency with Stated Objectives by Region

Strategic Objectives	LGA 1	LGA 2	LGA 3	LGA 4	LGA 5	LGA 6
Early Case Finding and Proper Case Management	3.5	4.0	3.7	3.7	3.3	4.0
Comprehensive Management of Physical and Socioeconomic effects of the diseases	1.0	2.5	1.3	2.3	2.3	1.3
Integration of TBL services into general health services	3.0	2.0	3.7	3.0	3.3	4.0
Promotion of Public Private Partnership	2.5	2.0	3.3	2.7	2.7	3.0
Behavioural Change Communication	3.0	3.0	2.3	2.3	3.3	3.3
Collaboration with bilateral and multi-lateral partners	3.0	4.0	4.0	3.3	4.0	4.0
Ensure functional commodities management system	3.5	4.0	3.7	3.7	4.0	4.0
Human Resource Development	3.5	2.0	2.0	2.0	3.0	2.3



*ECF: Early Case Finding & Proper Case Management *CM: Comprehensive management of long term physical and socio-economic effects of the diseases *INT: Integration of TBL and BU services into the general health services *PPP: Promoting Public-Public-Private partnerships (PPP) *BCC: Behavioural Change Communication *COL: Collaboration with bilateral and multi-lateral partners *FCMS: Ensure functional commodities management system *HRD: Human Resource Development

Fig 3.2 Rating of Implementation Consistency with Stated Objectives

Early case finding was said to be very effective because of the on-going efforts of community TB workers involved with active case finding. Functional commodity management system was also very effective because there is a stock card dedicated to management of essential commodities.

Promotion of public private partnership is however fraught with many challenges. The emergent themes explaining the situation include inadequate training of the private sector with a resultant lack of cooperation from the private sector.

"We are working with only two private hospitals and the local government is very big. They should train more private hospitals to work with us." Male 50yrs

"Many private hospitals do not cooperate with us. They manage TB patients until dangerous points before they refer to us" Male 42yrs

The recurring theme explaining the poor state of human resource development was lack of political will.

"Lack of political will create funding gap and failure to engage right calibre of staff" Male 50yrs

"There is massive staff shortage due to disengagement and failure of new employment" Male 50yrs

3.3.2.2 External Partners, Contribution to Policies, Quality Improvement Projects

Three other implementation adherence factors assessed in this component were: regularity of working with external partners, contribution to policies and regularity of quality improvement projects. Table 3.6 shows a good adherence rating with an average score of 3.85 for regularity of working with external partners. Majority of the respondents mentioned the excellent performance of Damien foundation from supply of drugs and other commodities to training. They however mentioned their dissatisfaction with the lack of a commensurate response from the government.

"Damien foundation is the only one we are working with almost in a one man relationship. All the funding is coming from the funders and nothing from the counterpart funds" Male 50yrs

"The state is not doing anything, if Damien pulls out today the tuberculosis control program will collapse." Female 63yrs

The rating for contribution to policies made outside their agency to be more consistent with their public health priorities was poor with an average score of 2.15. The recurring theme is lack of opportunity to contribute to policies. Some of the respondents however stated that the quarterly review meetings are held regularly and this provides the platform for them to contribute to policies. The quarterly review meetings only have tuberculosis and leprosy control supervisors in attendance, the medical officer of health do not have such opportunity.

"Policies are often done Up-down approach not bottom –up. They just tell you this is what to be done. You do not have the opportunity to contribute all the time." Female 44yrs.

"I do not get adequate feedback. It is the MOH that can talk about the health of the people and relate TB program to other relevant program e.g. nutrition. Only the supervisors attend the quarterly review meetings and many times they do not give me a feedback." Female, 63yrs

Presence of quality improvement projects had a fair overall rating of 3.05. Majority of respondents mentioned the on-going active case finding exercise as a quality improvement effort; they however stated the need for more of such and also the need to expand the exercise beyond its present scope.

"The quality improvement project should be more than what we are doing presently e.g. we have just ten community TB worker (CTBW) in the entire local government which is inadequate. The two years for active case finding is not sufficient because patients are coming out now due to improved awareness." Male 50yrs

Table 3.6 Average rating of Implementation Adherence Factors

S.No	LGA	External Partners	Contribution to Policies	Quality Improvement Projects
1.	LGA 1	4	1.5	2.5
2.	LGA 2	4	2.5	3.5
3.	LGA 3	3.7	1.3	3.3
4.	LGA 4	3.7	2.3	3
5.	LGA 5	3.7	2	2.7
6.	LGA 6	4	3.3	3.3
	Overall	3.85	2.15	3.05

3.3.3 Plan-Do Component Correlation

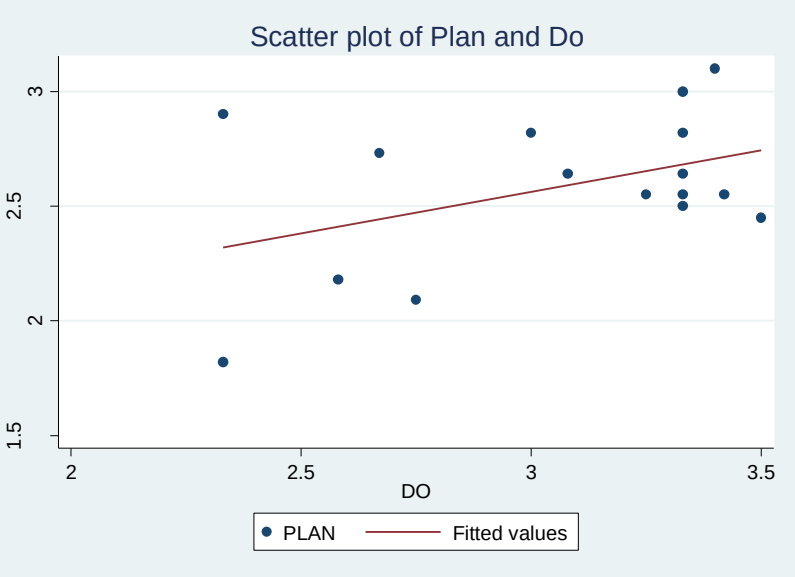


Fig 3.3 Plan-Do Component correlation

Fig 3.3 shows the relationship between the PLAN and DO component of PM. It shows a positive linear correlation between the Plan and the Do component. Therefore a significant increase in the Plan component will have a resultant effect on the Do component.

3.3.4 The Check Component

This component measures adherence to the fourth component of PM i.e. reporting of progress. Table 3.7 shows a good overall average rating of 3.7. This section assessed regularity of reporting measured performance versus targets for priority programs. It also assessed the use of the result for future decision and plans as well as consideration of external evidences in their analyses.

This reporting is done every quarter during which results of reported performance are used for future decisions and plans. The respondents stated the use of external evidence as benchmark performance. The results of all the local government areas are displayed enabling them to learn from each other's strengths and weaknesses.

Table 3.7 Average Rating of Check Component

S.No	LGA	Average Rating
1	LGA 1	3.5
2	LGA 2	3.8
3	LGA 3	3.7
4	LGA 4	3.6
5	LGA 5	3.4
6	LGA 6	4
	Overall	3.7

3.3.5. The Act Component

This component measures adherence to the third component of PM i.e. quality improvement. Table 3.8 shows a good overall average rating of 3.8. This section assessed the use of performance results for decision making to improve performance, to influence decisions on future policies and program plans as well as future resource allocation.

Majority of respondents stated that this is effectively done usually as an aftermath of the quarterly review meeting. They stated that the analyses of performance results are used

to design specific programs at the local government level and it is also used to allocate resources.

Table 3.8 Average Rating of Act Component

S.No	LGA	Average Rating
1	LGA 1	4
2	LGA 2	4
3	LGA 3	3.7
4	LGA 4	3.7
5	LGA 5	3.7
6	LGA 6	3.8
	Overall	3.8

3.3.6 Rural-Urban Differences

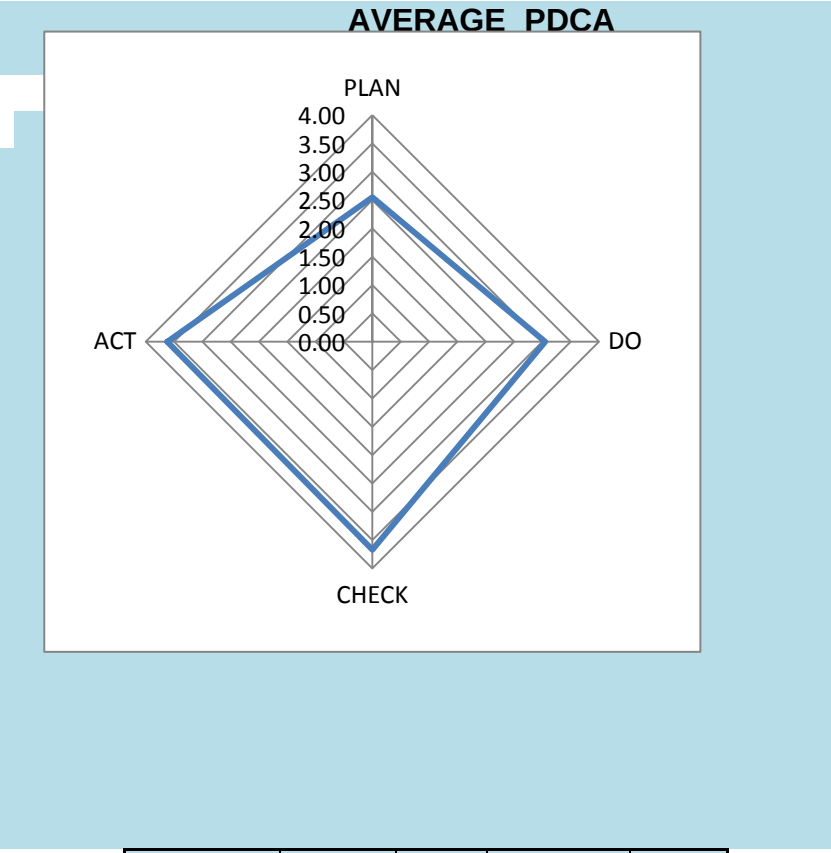
Wilcoxon sign-rank test was used to check for significant differences between the rural and urban scores across the four components of PM. Table 3.9 shows the mean scores and the derived p values from the statistical tests and it shows that none of the differences in the PDCA scores is statistically significant. This reflects the homogeneity of the PM practises across the state.

Table 3.9 Rural-Urban Differences

PM Component	Mean Score Rural	Mean Score Urban	Rural-Urban P-Value
PLAN	2.52	2.63	0.7498
DO	2.96	3.14	0.2823
CHECK	3.64	3.64	0.9533
ACT	3.86	3.7	0.1788

3.3.7 Overall Rating of Performance Management Adherence

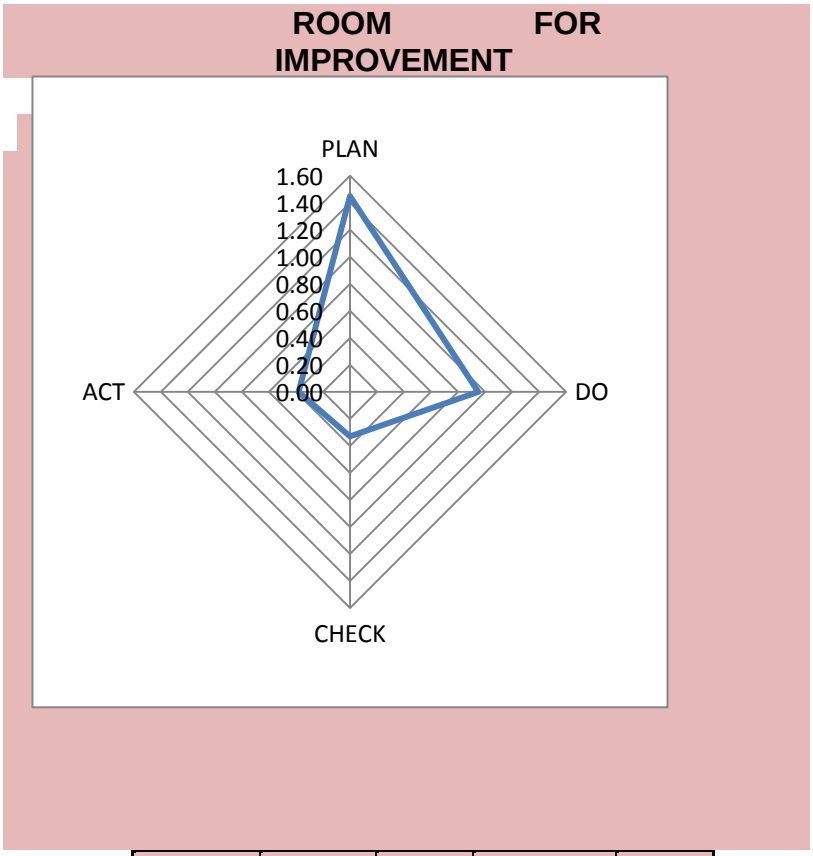
Figure 3.4 shows the overall rating of PM adherence. The overall rating shows a poor score of 2.55 and 3.05 for plan and do component respectively. This is due to the absence of performance measures and targets for five of the eight stated strategic objectives. The check and act component however shows rating that can be approximated to 4. This ratings signifies good adherence to the check and act component. Hence if the identified gaps can be bridged, the expected resultant improved outcome in performance can be sustained.



Average Ratings	PLAN	DO	CHECK	ACT
	2.55	3.05	3.67	3.62

Fig 3.4 Overall Performance Management Adherence Rating

Fig 3.5 shows the room for improvement in the PDCA performance framework. The largest room for improvement is seen in the plan and do component. Hence to achieve a remarkable improvement in the TBLCP, the plan and do component of the PMS should be improved upon. The check and act component shows minimal room for improvement. It is therefore imperative to ensure appropriate action is geared towards the plan and do component of the PM framework.



Rating	PLAN	DO	CHECK	ACT
Gaps	1.45	0.95	0.33	0.38

Fig 3.5 Overall Performance Management Room for Improvement

3.4 Assessment of Dose

Dose was assessed by identifying how often the review meetings were held and compared to how often they should be held. All the participants reported that the review meetings are called quarterly review meetings because they are to be held quarterly and they all reported that the review meetings hold every quarter. The programme coordinators at the state office as well as all the tuberculosis and leprosy control supervisors are expected to be in attendance.

3.5 Participant's Responsiveness Assessment

Table 3.10 shows the participants' responsiveness score. The score range was 35; the interquartile range was 7 with the median score of 64.5 and modal score of 65.

Table 3.10 Participant's Responsiveness Scores

PR Score	Frequency	Percent
38	1	6.25
40	1	6.25
56	1	6.25
60	2	12.5
61	1	6.25
63	1	6.25
64	1	6.25
65	3	18.75
66	1	6.25
68	1	6.25
69	1	6.25
73	2	12.5

Table 3.11 shows that majority (87.5%) of the respondents showed good responsiveness to PM. It also showed that 100% of TBL supervisors had good PR score while 66.7% of MOH had good PR score. This may be due to the earlier stated point that medical officer of health do not often get adequate feedback from the PM process.

Table 3.11 Participants Responsiveness Scores by Occupation

	PR SCORE	
	Poor	**Good**
MOH	2 (12.5%)	4 (25%)
TBLS	0	10(62.5%)
Overall	2(12.5%)	14(87.5%)

Wilcoxon signed rank test done to assess for significant difference between the PR score of TBL supervisors and medical officers of health revealed a p-value of 0.9132 i.e. the difference between their scores is not statistically significant.

Wilcoxon signed rank test was also used to test for statistical difference between the rural and urban scores. This revealed a p-value of 0.9153 i.e. the difference between the PR scores between rural and urban staff is not statistically significant.

3.6 CONCLUSION

This chapter has described the findings from data that was collected from the study participants. Results were presented by focusing on main themes derived from research questions. Overall results addressing the three main research objectives were presented. The findings from the research yielded recommendation on how the identified gaps can be bridged. This recommendation as well as discussion of relevant related research findings is presented in the following chapter.

CHAPTER 4

DISCUSSION, CONCLUSION AND RECOMMENDATION

4.1 INTRODUCTION

This section discusses the findings from the research in relation to the research questions. The research findings are also discussed in light of relevant literature. This provides the opportunity to compare this research with similar research conducted in the field. Appropriate and applicable recommendations are also provided.

4.2 DISCUSSION

The research findings showed poor adherence to the plan and do components of the PMS. This is similar to a systematic review which revealed a lack of adherence to features of the cycle (69). The lack of well specified measures were stated in another systematic review as a common limitation to quality improvement initiatives (70). The gaps identified in the do component of the PMS have also been stated by other studies. It was stated as failure to deliver efficient services and inadequate number of outlets for the provision of TB control services (71). This was stated in this study as failure to integrate TBL services into general health services. This was discovered by this study as a gap in promoting public private partnership.

Inadequate human resources for TB and leprosy control were identified as a gap in the do component. This is the picture in many studies as there are insufficient well-trained staff to provide TB control of adequate quality in most countries (71). The inadequacy of TB staff in most countries was stated to be partly as a result of small budget for tuberculosis control (72). Other reasons for poor staffing is said to be failure to develop clear staffing needs which will serve as a guide to funding agencies to allocate appropriate training budget in these countries (72).

The research findings revealed failure of budget implementation as one of the primary areas where the do component is lacking. This was stated partly as a reflection of lack of political will. The lack of political will and commitment was said to be a principal factor hindering tuberculosis control by a multi country survey conducted by WHO (71).

Contribution of stakeholders to policy was shown by this study to be suboptimal. The possibility of tension arising from differing priorities between funders and host institutions was noted by some studies (72). Vertical programmes have also been studied and revealed to be externally driven and top-down in their approach, this often leads to inadequate engagement of local populations in planning and implementation (73).

It was noted that to get the best from PM within any organisation, the people must be involved. This states the importance of participant's responsiveness. Although the overall participant's responsiveness score was good the research revealed that medical officers of health were not getting adequate feedback from the PMS.

In reviewing results of implementation fidelity of PM within the TBLCP, there was no previous research with a focus on fidelity of its implementation. This is in keeping with what applies in most studies where the focus is often on program outcomes without checking the fidelity of program implementation. It was noted by Peterson et al that just about 16% of the experimental studies published in the Journal of Applied Behavior Analysis between 1968 and 1980 that provided an operationalized definition of independent variables actually measured the degree of implementation of these variables of all the studies (45). Another study noted only 14.4% of 181 studies of behavior interventions for young children, included assessments of treatment integrity (74).

4.3 LIMITATION

Some of the participants were unwilling to provide some information concerning the government as they feared telling the truth in explicit details may jeopardise their job. This was however successfully controlled by restating the fact that the data is confidential and their participation in the study will not be disclosed to anyone outside the research team.

Availability of the head of TBL clinic to complete the survey during the regular work hours was a difficult task because the clinics are often understaffed. This was eased by

informing the staff ahead of time and asking the staff to fix the appointment reflecting their convenience.

Assessing the rural areas necessitated traveling over long distances on bad road network. This was minimised by scheduling rural appointments within close proximity on the same day.

Self-report measures of fidelity are prone to bias and have lower reliability than observational measures (20). This was reduced with data triangulation. Data triangulation was done using document review and also by interviewing two officers at the state office. The documents that were reviewed include: reporting registers, stock cards, tuberculosis control plan and the strategic plan. Assessment of dose was done using only regularity of performance review meetings.

This is the first research assessing fidelity of implementation of PM within the TBLCP; hence comparison with similar studies to engender a robust discussion was constrained.

4.4 RECOMMENDATION

The most important gap that should be attended is the development of a protocol for comprehensive setting of performance targets, standards and measures. This protocol will provide a detailed guide to setting appropriate performance targets, standards and measures. The protocol should then be followed and implemented with stakeholder involvement to develop a comprehensive list of performance targets, standard and measures.

There should be a stakeholder engagement to ensure incorporation of developed protocol and the proceeding performance targets into the existing structure. The scourge of tuberculosis in Oyo state is huge; hence the management should consider drawing a timeline with stakeholders for achieving the above stated objectives. With this in place, the five strategic objectives can be effectively attained.

There should be a well-established mechanism of providing adequate regular feedback from the PMS to the medical officers of health. This will ensure their optimal

participation in the program and they should also be involved in the stakeholder forum to ensure their contribution to policy.

The counterpart funding and other funding support from the local government should be provided in order to ensure implementation of the program plans. Regular structured feedback should be provided to the local government authorities in order for them to appreciate the importance of the program to the health of the populace. The approach suggested by WHO should be considered where they stated economics as the driving force for political process in most countries, hence cost effectiveness studies should be used to develop a convincing argument for strong political support (71). The provision of adequate number of staff is also the responsibility of the local government. They should ensure that there is adequate number and prompt payment of staff to ensure program efficiency.

4.5 CONCLUSION

The PMS within the tuberculosis and leprosy control programme in Oyo state, Nigeria has been shown to be suboptimal. The implementation gaps have also been highlighted. The study also provided reasons for some of the identified gaps therefore making bridging the gaps a possibility. Tuberculosis is curable and preventable; hence it can be controlled if the identified gaps are bridged and the interventions are sustained.

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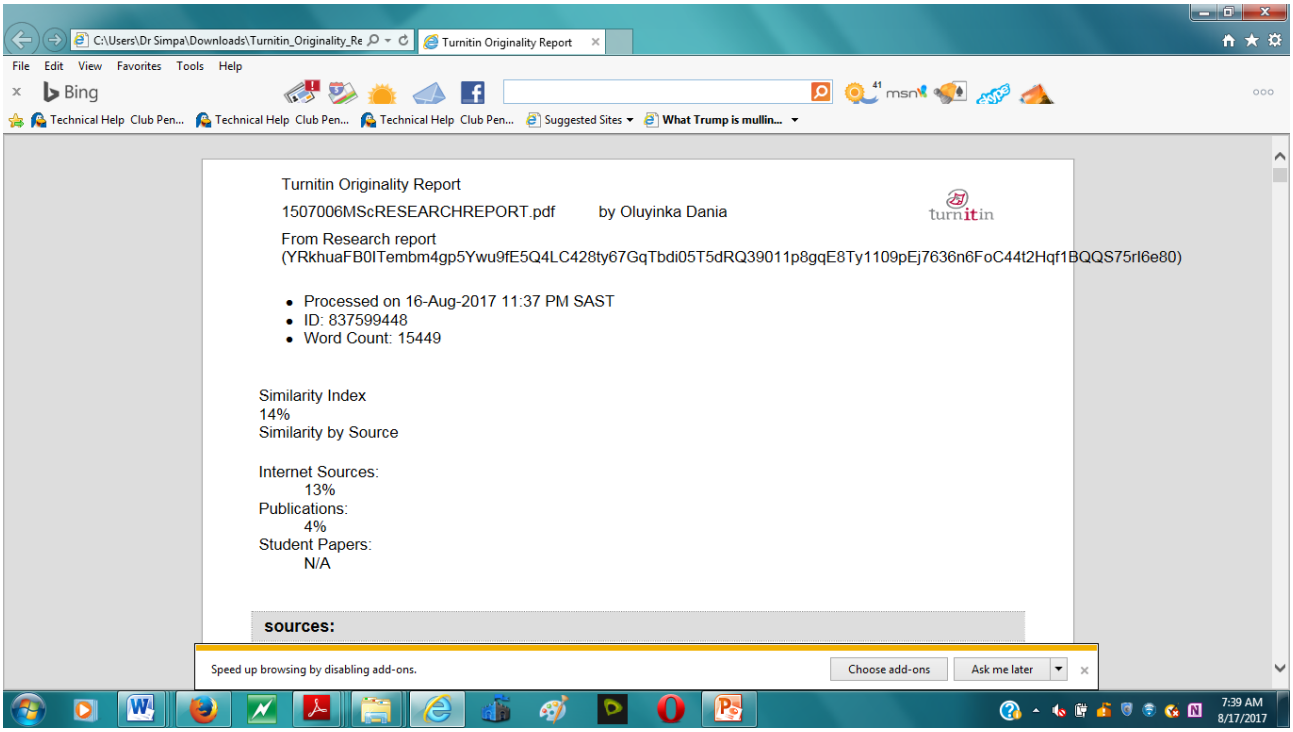
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6. APPENDICES

APPENDIX A

TURNITIN REPORT



APPENDIX B

INFORMATION SHEET FOR INFORMED CONSENT

Performance Management in Tuberculosis and Leprosy Control Program in Oyo State, Nigeria, 2017.

Hello, my name is Oluyinka Dania and I am doing my MSc with the graduate school of public health at the University of Witwatersrand. I wish to request your participation in my proposed research as well as inform you on what the study is about.

What is the purpose of our study?

The study will look at how TBLCP staff implement performance management as part of their required activity. As part of this overall study, I am interested in the views of the program staff. All your inputs would be kept confidential.

Why have you been invited to take part?

You have been invited to take part because of your involvement in the TBLCP in Oyo State. I believe you will provide insightful views on the performance management practices within the program.

What procedures are involved?

I will ask you to answer a few in-depth questions that explore your views on performance management, the required activities and other important issues as it relates to you

Do you have to answer this questionnaire?

No you can refuse to be interviewed; even if you agree you can change your mind at any time you are not prejudiced in any way if you do not participate

What are the risks of taking part in this interview?

There are no risks in you taking part in this interview. All information would be kept confidential and only thematic analysis of your opinions will be done together with inputs of other staff being interviewed. Your interviews will be kept in a de-identified form by me.

What are the benefits?

There are no direct benefits to participants. It is possible that the complexity this study will assist us in informing authorities as to the present state performance management practices within the program and what can be done to improve them.

What will happen to the data and how confidentiality be maintained?

All data will be kept confidential. Only grouped data will be reported on so identification of individual viewpoint will be impossible. Your name and other identifying details will not be stored together with any data. The interview data would be completely stored safely, that is in a locked cabinet and electronic records will be password protected. All the data will be kept securely by me.

What will happen to the result?

The results will be reported in my research report, an academic journal and conference presentation and you may request to see the results of the study.

What do you need to do?

If you agree to participate, I would like to request you to sign the informed consent form below and return it to me. You are free to call me to discuss any questions that you may have about the study with me. The interview will be done by me at the time and place convenient for you. And may take about one to two hours. Because the interviews will be taped, I will ask for your permission separately for audio taping in another form

Will the participants be paid?

Persons who take part in the in-depth interviews would not be paid

Was this study ethically approved?

This study proposal was approved by the human research ethics committee at the University of Witwatersrand and by the Oyo State Ethics Board before it was implemented

Who can I contact if I have any questions?

For questions related to the study please contact me: Oluyinka Dania 08023423318 or email me at oluyinkadania@yahoo.co.uk

The contact details of the Oyo State Ethics board:

Director Health Research Planning and Statistics, Oyo State Ministry of Health: Dr Gbolahan Abass

+234-80-3328-0687

The contact details of Wits HREC (Medical) office:

Chairperson: peter.cleaton-jones1@wits.ac.za

Administrators - Ms Zanele Ndlovu/ Mr Rhulani Mkansi/ Mr Lebo Moeng Tel 011 717 2700/2656/1234/1252 Email: HREC-Medical.ResearchOffice@wits.ac.za

APPENDIX C

INTERVIEW CONSENT FORM

I hereby confirm that I have, to my satisfaction, been given sufficient information by the researcher/interviewer seeking my informed consent to participate in the study and be interviewed. Researcher has informed me that my participation is out of my own free will.

I have read, discussed and understood the information sheet that has given me a brief description of the study. In discussing the information sheet, the researcher has explained to me the purpose, procedures involved, risks and benefits of the study. I am aware that the interviews will be processed anonymously into a research report and that my name and identity will not be mentioned in any publication or in sharing of results. I have been given sufficient opportunity to ask questions and hereby provide consent to participate in the study and be interviewed.

I declare myself a participant of the study. I understand that I can change my mind at any point and should I withdraw my consent and participation in the interviews I will not be affected in any way whatsoever.

PARTICIPANT'S SIGNATURE

_____	_____	_____
PRINTED NAME	SIGNATURE	DATE

RESEARCHER'S SIGNATURE

_____	_____	_____

PRINTED NAME SIGNATURE DATE

APPENDIX D

CONSENT TO RECORD INTERVIEWS

I hereby confirm that the researcher has, to my satisfaction, given me enough information about the purpose, procedures, risks and benefits involved in participating in the study.

I have read, discussed and understood the information sheet that has provided background information about the study. I hereby give permission for the researcher/interviewer to record the interview discussions that will be conducted between the researcher and I for the purpose of gathering information for the study. I am aware that my voice will be recorded during the interviews. Researcher has explained to me that only the research team will hear the audio recordings for the purpose of analysing the information which will then be reported in summary format and not disclose my identity. All tape recorded material will be stored in a secure place and then destroyed.

I understand that I can change my mind at any point and I will not be affected in any way should I decide to withdraw my participation. I hereby freely and voluntarily give my consent to be audio-recorded.

PARTICIPANT'S SIGNATURE

_____ _____ _____

PRINTED NAME SIGNATURE DATE

RESEARCHER'S SIGNATURE

_____ _____ _____

PRINTED NAME SIGNATURE DATE

APPENDIX D

Confidentiality Agreement

I, _____, agree to maintain full confidentiality in regards to any and all audiotapes and documentations received from Oluyinka Dania related to her research study on the research study titled Performance Management in Tuberculosis and Leprosy Control, 2017. Furthermore, I agree:

1. To hold in strictest confidence the identification of any individual that may be inadvertently revealed during the transcription of audio-taped interviews, or in any associated documents.

2. To not make copies of any audiotapes or computerized titles of the transcribed interviews texts, unless specifically requested to do so by the researcher.

3. To store all study-related audiotapes and materials in a safe, secure location as long as they are in my possession.

4. To return all audiotapes and study-related materials to Oluyinka Dania in a complete and timely manner.

5. To delete all electronic files containing study-related documents from my computer hard drive and any back-up devices.

I am aware that I can be held legally responsible for any breach of this confidentiality agreement, and for any harm incurred by individuals if I disclose identifiable information contained in the audiotapes and/or files to which I will have access.

Transcriber's name (printed)
_____

Transcriber's signature _____

Date _____

Researcher's name (printed)
_____

Researcher's signature_____

Date_____

APPENDIX F

SOCIODEMOGRAPHIC INFORMATION SHEET

Hospital (If relevant):

Local Government:

Cadre:

Occupation:

Highest Educational Attainment:

Age:

Sex:

Marital Status:

Religion:

Tribe:

APPENDIX G

PERFORMANCE MANAGEMENT ADHERENCE QUESTIONNAIRE

Performance Management Adherence Assessment Tool

Answer questions using this scale:

1: Nothing in Place
2: Needs a Lot of Improvement
3: Needs a Little Improvement
4: Very Effective

PLAN	Enter 1-4	**PLAN Average Rating**	**PLAN: Comm**
1. Do we have a State tuberculosis control plan (TCP) and a Strategic Plan that are well aligned with each other?	SELECT		
2. Do our programs that relate to the tuberculosis control plan or strategic plan have performance objectives, measures & targets aligned with applicable plan(s)? (probe on the listed objectives) a. Early case finding and proper case management (Engage patent medicine vendors and community pharmacists, traditional healers, religious leaders and other first points of contact in identification of people with TB symptoms and referral for evaluation; Engage all health facilities in intensified case finding through suspect and referral to ensure universal access to TB services)	SELECT		
b. Comprehensive management of long term physical and socio-economic effect of the diseases	SELECT		
c. Integration of TBL services into the general health services	SELECT		
d. Promoting Public-Public-Private partnership	SELECT		

e. Behavioural change communication: Create an informed public who know TB facts, how to access services, how to get cured and what their rights and responsibilities are to support demand for universal access to services	SELECT			
f. Collaboration with bilateral and multilateral partners	SELECT			
g. Ensure functional commodities management system	SELECT			
h. Human resource development	SELECT			
3. Are our program objectives, measures, and targets aligned with our budget, with targets consistent with budgeted resources? (Bear the 8 above listed objectives in mind)	SELECT			
4. Do our strategic priorities influence selection of at least some quality improvement projects and personnel development efforts?	SELECT			
DO	Enter 1-4	1: Nothing in Place 2: Needs a Lot of Improvement 3: Needs a Little Improvement 4: Very Effective	**DO Average Rating**	**DO: Comme**
5. Do our TCP and strategic plan significantly influence how our applicable policies and programs are developed and implemented?	SELECT			
6. Are our programs implemented consistent with their objectives, measures, & targets? (probe on the listed objectives) a. Early case finding and proper case management (Engage patent medicine vendors and community pharmacists, traditional healers, religious leaders and other first points of contact in identification of people with TB symptoms and referral for evaluation; Engage all health facilities in intensified case finding through suspect and referral to ensure universal access to TB services)	SELECT			

b. Comprehensive management of long term physical and socio-economic effect of the diseases	SELECT			
c. Integration of TBL services into the general health services	SELECT			
d. Promoting Public-Public-Private partnership	SELECT			
e. Behavioural change communication: Create an informed public who know TB facts, how to access services, how to get cured and what their rights and responsibilities are to support demand for universal access to services	SELECT			
f. Collaboration with bilateral and multilateral partners	SELECT			
g. Ensure functional commodities management system	SELECT			
h. Human resource development	SELECT			
7. Do we regularly work with external partners and across our own program or organizational boundaries to implement strategies?	SELECT			
8. Do we have a way of making inputs to policies made outside our agency to be more consistent with our public health priorities?	SELECT			
9. Do we almost always have quality improvement projects underway to improve selected program practices?	SELECT			
CHECK	Enter 1-4	1: Nothing in Place 2: Needs a Lot of Improvement 3: Needs a Little Improvement 4: Very Effective	**CHECK Average Rating**	**CHECK: Comm**
10. Do we regularly (at least quarterly) report measured performance vs. targets for our programs and priority issues?	SELECT			
11. Do we analyse results of reported performance & population health monitoring to find evidence to use for future decisions & plans?	SELECT			

12. Do we consider external evidence (e.g., public health research, benchmark performance of other LGAs) in our analyses?	SELECT			
13. Do we do major assessments (e.g., State wide assessment, Nationwide assessment) at least every 5 years that significantly influence our TCP and Strategic Plans?	SELECT			
ACT	Enter 1-4	**SCALE**	**ACT Average Rating**	**DO: Comme**
14. Are performance results and analyses regularly used to make decisions for future changes to improve performance?	SELECT	1: Nothing in Place 2: Needs a Lot of Improvement 3: Needs a Little Improvement 4: Very Effective		
15. Do analyses of population, community, & regional outcomes; our own performance results; & external evidence regularly inform decisions on future policies & program plans?	SELECT			
16. Do analyses of population, community, & regional outcomes; our own performance results; and external evidence regularly inform decisions on future resource allocation?	SELECT			

Probes for Comment Section:

- How often are you supposed to be having the PM review meetings?
- How often do you have it?
- What are the factors supporting PM activities within the TBLCP
- What are the factors hindering PM activities within the TBLCP

APPENDIX H

PARTICIPANT'S RESPONSIVENESS QUESTIONNAIRE

Q1. The performance management system is appropriate and timely given the current needs of the Tuberculosis and Leprosy Control Programme (TBLCP)

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 2. The performance management system is difficult to implement because it is complicated

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 3. The State has evidence that the TBLCP has benefitted from the performance management system

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q4. The local Government administration intends to share successes from implementation of performance management system with other Local Government and State Government

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 5. The TBLCP administration (@LG) emphasizes that the performance management system is very important to improve the Local Government population's health

Strongly	Agree	Neither agree	Disagree	Strongly

Agree		nor disagree		Disagree

Q6. There is an influential officer in the TBLCP administration (@LG) who strongly promotes the implementation of Performance management

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 7. The TBLCP administration (@LG) has at least one officer who communicates clearly the needs and benefits of performance management system

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 8. The TBLCP administration (@LG) has a system in place to monitor how well the performance management system is being implemented

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 9. The administrative structure of the TBLCP makes it likely to implement the performance management system well

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 10. The TBLCP administration (@LG) communicates adequately with state headquarters, other line Departments of the district and health facilities for the effective implementation of performance management system

Strongly	Agree	Neither agree	Disagree	Strongly

Agree	nor disagree	Disagree

Q 11. We are aware of the goals of the TBLCP

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q12. After work, we go back home satisfied with our contribution to the performance management system

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 13. The officers at the LG level know what they are talking about when it comes to implementation of performance management system

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 14. The officers of State headquarters provide adequate assistance & support to overcome challenges during implementation of performance management system

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

Q 15. The state headquarter has a clear method to share information concerning the performance management system within the TBLCP (LG & STATE)

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

APPENDIX I

ETHICAL APPROVAL-UNIVERSITY OF THE WITWATERSRAND

R14/49 Dr Oluyinka Dania

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M170230

NAME: (Principal Investigator)	Dr Oluyinka Dania
DEPARTMENT:	School of Public Health Tubercolosis and Leprosy Control Clinics Oyo State Ministry of Health, Ibadan, Nigeria
PROJECT TITLE:	Analysis of Perfomance Management in Tuberculosis and Leprosy Control in Oyo State, Nigeria
DATE CONSIDERED:	24/02/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr J. Ncayiyana, Prof S. Naidoo and Dr A.O. Adebiyi
APPROVED BY:	Professor P. Cleaton-Jones, Chairperson, HREC (Medical)
DATE OF APPROVAL:	07/04/2017

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

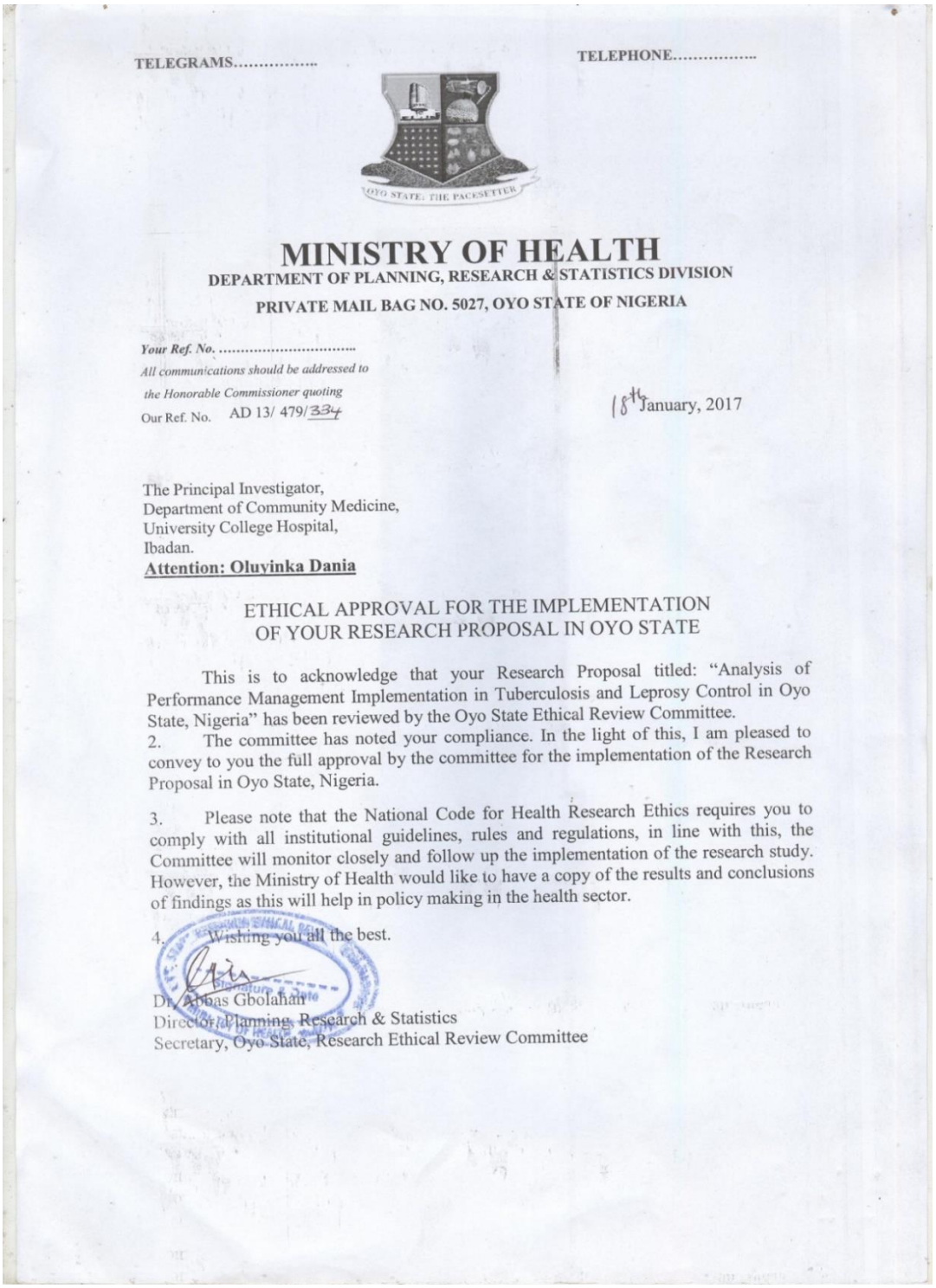
To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 10004,10th floor, Senate House/2nd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. I/We fully understand the the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially review in February and will therefore be due in the month of February each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX J

ETHICAL APPROVAL-OYO STATE MINISTRY OF HEALTH



TELEGRAMS..... TELEPHONE.....

OYO STATE: THE PACESETTER

MINISTRY OF HEALTH
DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION
PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. .....
All communications should be addressed to the Honorable Commissioner quoting
Our Ref. No. AD 13/ 479/334

18th January, 2017

The Principal Investigator,
Department of Community Medicine,
University College Hospital,
Ibadan.
Attention: Oluyinka Dania

ETHICAL APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Analysis of Performance Management Implementation in Tuberculosis and Leprosy Control in Oyo State, Nigeria" has been reviewed by the Oyo State Ethical Review Committee.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4. Wishing you all the best.

Signature & Date
Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethical Review Committee

APPENDIX K

PERMISSION TO CONDUCT RESEARCH AT FACILITIES



MINISTRY OF HEALTH

TUBERCULOSIS AND LEPROSY CONTROL UNIT

PRIVATE MAIL BAG NO. 5027, IBADAN, OYO STATE, NIGERIA.

Date:26th march,2017

The Principal Investigator,

Department of Community Medicine,

University College Hospital,

Ibadan.

Attention: Oluyinka Dania

RE: PERMISSION TO CONDUCT RESEARCH AT THE FACILITIES

In view of the ethical approval from the Oyo State Ethical Review Committee for the proposed research title: Analysis of Performance Management implementation in Tuberculosis and Leprosy Control in Oyo State, Nigeria. The above named Medical Doctor is hereby permitted to conduct the research at the DOTs facilities in Oyo State.

Thank you.

Dr Babalola O.J

TBL Programme Manager