INVESTIGATION OF FACTORS INFLUENCING DATA MANAGEMENT IN DISTRICT HEALTH PLANNING PROCESS: A CASE STUDY OFKIBAHA TOWN COUNCIL

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Master of Public Health Dissertation
Muhimbili University of Health and Allied Sciences
October, 2017

Muhimbili University of Health and Allied Sciences

School of public Health and Social Sciences

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By

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A Dissertation Submitted in (partial) Fulfillment of the Requirements for the Degree of Master of Public Health of

Muhimbili University of Health and Allied Sciences
October, 2017

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled**"*Investigation of Factors influencing Data Management in District Health Planning Process: A Case Study of Kibaha Town Council,"***in fulfillment of the requirements for the degree of Public Health of Muhimbili University of Health and Allied Sciences.

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Dr. Mughwira A. Mwangu

(Supervisor**)**

Date: _____

DECLARATION AND COPYRIGHT

I, **Clara Chidi**, declare that this **dissertation** is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature……..…… Date…….....…….....

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ACKNOWLEDGEMENT

This work was made possible because of the contributions and support of several people and institutions. I would like to give my sincere thanks to everyone but I will mention a few to represent others.

First, I would like to thank my God for his strength and blessings that He has showered over me and my parents for funding my studies, from November, 2016 to September, 2017 at Muhimbili University of Health and Allied Sciences (MUHAS). I would also like to extend my gratitude to academic and non-academic staff of the School of Public Health and Social Sciences for their support and contribution in the development of this dissertation.

Moreover, I would like to acknowledge my supervisors Dr. Mughwira A. Mwangu and Dereck Chitama for their tireless efforts of supervision and guidance during the completion of this dissertation. My gratitude goes to Prof. Daudi O.Simbafor his support of materials to accomplish this work.

I also wish to acknowledge the Regional medical officer of Pwani region and Director of Kibaha town council for granting permission to conduct this study. I would like to extend my sincere gratitude to all members of the Council Health Planning and management Team and health workers, particularly the District Medical Officer,District Cold Chain Coordinator, District Reproductive and Child Health Coordinator, District Health Officer, District and health facilities MTUHA/HMIS focal persons, District and health facilities health secretaries and all who participated in the study.

Apart from that, my special thanks should go to my whole family and friends who have always been a helping hand and a shoulder to cry on.Last but not least I would like to thank my colleagues; with whom I shared ideas; for their moral support and companionship.

DEDICATION

This work is dedicated to my loving family who sponsored my studies financially and materially. Without their support it would not have been possible for me to complete this dissertation.

ABSTRACT

Background information: Sound and reliable information is the foundation of decision-making across all health system building blocks.Strengthening health information system is a global concern especially in developing countries as data management is reported to be weak.There is a need to explore factors influencing data management in health planning process.

Aim of the study: The study aimed to investigate factors influencing data management in the district health planning process in Kibaha town council.

Methodology: This study was conducted in Kibaha town council. The study populations were CHPT, CHMT and health workers of public health facilities who are involved in data management at Kibaha town council. The design of the study was cross sectional explorative study using qualitative approach. Sample size was 11 for CHMT and CHP, and 4 for health workers making a total of 15 who were interviewed after reaching saturation point. In-depth interview, observation and documentary review were used as data collection techniques and data collection tools included interview guide and observation checklist. Thematic analysis method was used in data analysis.

Results: The results showed several positive factors influencing data management, including knowledge, positive attitude, training, supervision and culture of information use.The findings also revealed several challenges which hinder the effective data management;these include inadequate funding, data collection tools, qualified staffs, supervision, insufficient training, duplication and unfriendliness of data collection tools.A significant link between these challenges and data quality was reported, the interviewees confirmed a positive relationship between these factors influencing data management and health planning in the district as with quality data evidence based planning is possible.

Conclusion: This exploratory study identified knowledge, positive attitude, computer use, availability and friendliness of data collection tools, supervision, availability of fund and culture of information use to befactors influencing data management health planning in Kibaha Town Council.The results provided strategies to support in improving data management and HMIS in general.

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ABBREVIATIONS

BRN	-	Big Results Now
CDC	-	Center for Disease Control and Prevention
CHMT	-	Council Health Management Team
CHPT	-	Council Health Planning Team
CCHP	-	Comprehensive Council Health Plan
DHIS	-	District health information system
DQA	-	Data Quality Assessment
EPI	-	Expanded Programme on Immunization
FBO	-	Faith based organization
HMIS	-	Health Management Information System
NGO	-	Non-Governmental organization
MOHCDGEC	-	Ministry of Health, Community Development, Gender, Elderly and Children
MTUHA	-	Mfumo wa Taarifa za Uendeshaji Huduma za Afya
PRISM	-	Performance of Routine Information System Management
RCH	-	Reoroductive and Child Health
RHMT	-	Regional Health Management Team
5s	-	Kaizen framework

DEFINITION OF TERMS

Data – as defined by oxford dictionary refers to the collected information or facts.

Data management- Administrative process by which the required data is collected, collated, analyzed, reported and used and by which its accessibility, reliability and timeliness is ensured to satisfy the needs of the data users.

Comprehensive Council Health Plan- as defined by the national guideline is an annual health and social welfare plan for a Council which collates the health and social welfare plans at all levels and involve all stakeholders.

Health information system- as defined by World Health Organization is an efficient collection, collation, analysis and evaluation strategy, dissemination and use of information about individual patients, population, resources used and health outcomes of intervention and the state and nature of systems through which the intervention are applied.

Health planning- as defined by the comprehensive council health plan guideline refers to a process of getting agreed priorities and direction for health sector in the light of available resources.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background information

Data management is administrative process by which the required data is collected, collated, analyzed, reported and used and by which its accessibility, reliability and timeliness is ensured to satisfy the needs of the data users(1). Information is essential for health system policy development and implementation, governance and regulation, health research, human resources development, health education and training, service delivery and financing(2). In most African countries, data management is addressed within a health management information system (HMIS). This coordinates the routine acquisition of data from health facilities to district, regional, and national levels(3). In Tanzania, HMIS in Kiswahili is known as *Mfumo wa Taarifa za Uendeshaji Huduma za Afya (MTUHA)*. It was firstly launched in 1993 and later on scaled up in 1998 with the goal to establish a comprehensive and integrated routine data system using up to date technologies and approaches(4).

Many developing countries are currently engaged in strengthening their national HIS. This trend is reinforced by the launch in 2005 of the Health Metrics Network, a global initiative to support such efforts, and which is supported by WHO, the European Union, and a number of international agencies (5).Despite the efforts data management has remained weak. The failureof HMIS in Tanzania can be attributed to poor knowledge on HMIS; inadequate financial, human and technological resource capacity; lack of user-friendly systems; lack of coordination and evaluation, as well as inadequate policies to manage the sustainability of the system(6).

Health planning has been jeopardized because data management has been weak leading to inaccurate, incomplete and untimely data.The logic is that effective and efficient HMIS will provide district health managers with the information required to make effective strategic decisions that support district performance and sustainability in these decentralized health systems(7).

In the 1990s, promotion and development of routine health information systems in developing countries was done. Authors assumed that if senior management provided the resources (finances, training material, reporting forms, computer equipment, etc.) and developed organizational rules (RHIS policies, data collection procedures, etc.) then HMIS will be improved(8).

Another study done on paradigm shift of HMIS, factors influencing routine health information system were argued to be behavioural determinants (users' demand, confidence, motivation and competence to perform RHIS tasks)technical determinants (development of indicators; designing data collection forms and preparing procedural manuals)organizationalsuch as inadequacies in human and financial resources, low management support, lack of super- vision and leadership affect RHIS performance (9).

Another study done in Benin (10) reported that critical factors in RHIS performance are environmental and organizational (availability of resources), technical (complexity of the collection tools in their format and procedures for use and complexity of the technologies used) and behavioral (staff motivation and knowledge)

Efforts made to strengthen health information systems have produced little improvement and the problem persists; leaving it unsolved will not only jeopardize the plans in the district but all levels in the nation.This study aim to contribute on government and other stakeholder's effort to investigate on factorsinfluencing data management and hence give a basis for development of appropriate intervention to address this matter.

1.2Problem statement

Poor data management processes have been a challenge in most low and middle income countries compared to developed countries hence sound information is rarely available in low-income developing countries (11).Data collected in developing countries has been reported to be incomplete, inaccurate and not timely, as a result it is usually not used for various reasons including that of poor quality and unreliability(12).

Despite data management being important, lack of staff, computers, funding for training, and time to practice may negatively impact the planned intervention(13,14). In Tanzania, data management process in routine data has remained weak at all levels where decisions are made for health outcomes.

Tthe study done on rural health facilities (14)reported that majority of the health workers had none or very limited training for and exposure to computer applications whereby Ghana reported better knowledge and exposure to computers compared to Tanzania.

Moreover use of data generated through the HMIS is insufficient to allow managers and policy makers to make informed decisions either at the district or national level. This is argued to be due to incompleteness of reporting, data inaccuracy, lack of timelinesdata and combination of insufficient analysis(15). little attention is given to data collection verification, analysis, reporting and utilization(16).

Studies have been done to determine utilization of data and their associated factors(17, 18, 9,19). A similar study on HMIS has focused on factors influencing computer use and applications (14). However,Data use is one of the processes among so many others in data management and studying it alone is not sufficient to strengthen health planning in the district.There isa need to examine the factors within the health system that influence data management, in order to establish best practices and implement simple interventions for improving data quality.

1.3 Conceptual framework

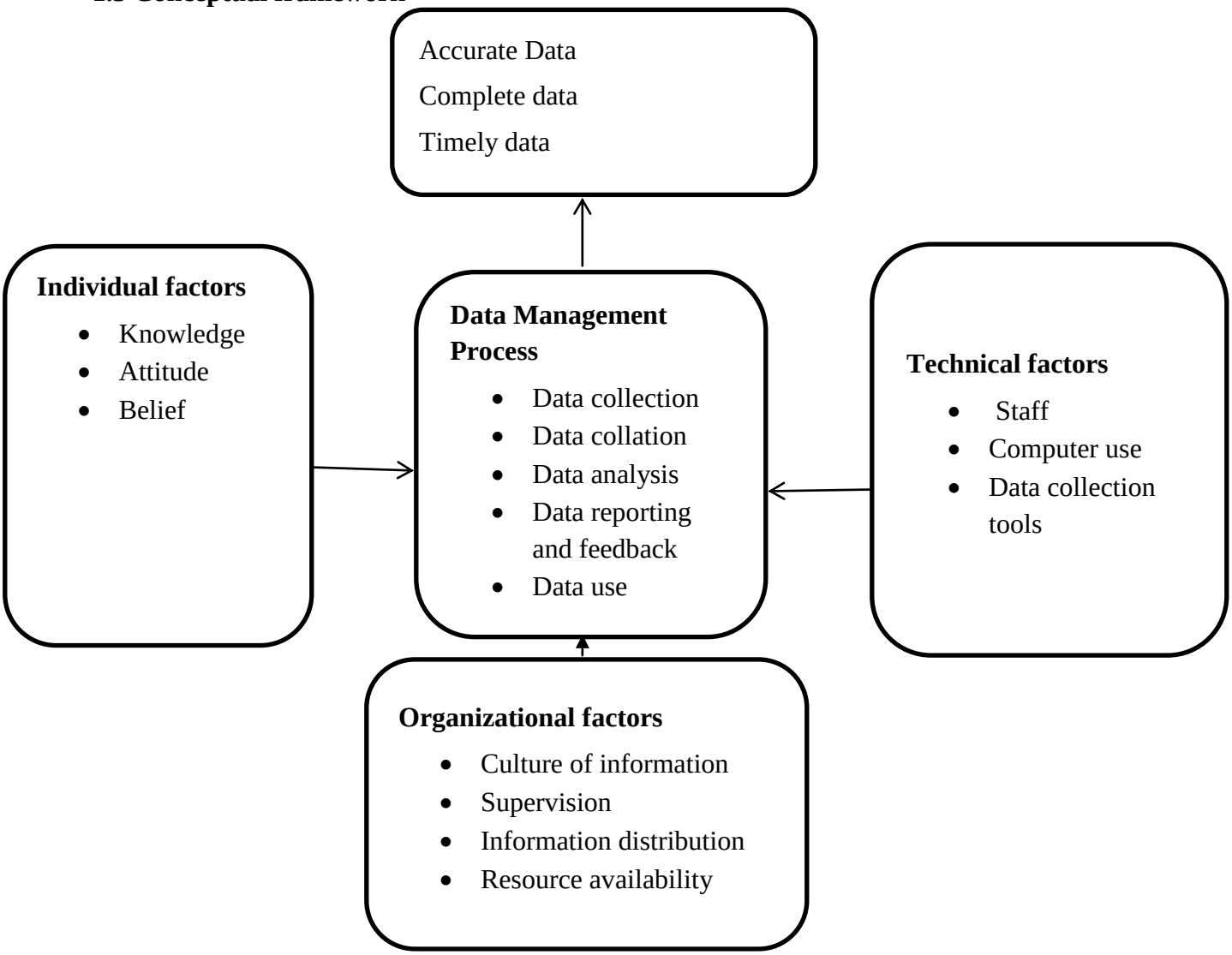


Figure 1: Conceptual framework

Source: Adapted and modified from Deming PRISM framework 1993

This figure shows factors influencing data management which are individual factors such as knowledge, attitude and beliefs, technical factors such as skilled staff, computer software and data collection tools. The organizational factors which include culture of information use, supervision, information distribution and resource availability above.These factors depend on each other and their relationship influence data management.

Individual factors play a role in influencing a person to manage data and if they are negative, despite having well technical and organizational factors a person might be neither interested nor knowledgeable about it. Existence and inexistence of technical factors influence data management, when technical factors are well set improves data management but the opposite like bad attitude, less motivation discourage good data management.

Organizational factors have a big impact in both individual and technical factors and these depend on it to be effective. Supervision, culture of use of information, sharing information, resources and so many more builds up the whole institution into a better place. They are roots ensuring the stem(technical factors) and leaves(individual factors) gets food so as to produce fruits because technical and behavioral aspects need resources to ensure training, advancement of technology and deployment of friendly tools in the whole information cycle.

These factors influence data collection, collation, analysis, reporting, feedback and use. If well managed, data accuracy, completeness and timeliness will be ensured. Therefore this adapted conceptual framework will be used in the study as a guide to explore factors that might be influencing data management.

1.4 Rationale of the study

The study intends to uncover different factors influencing data management in health planning process and the information will be useful to understand more what needs to be done for more success or improvement of data management so as to strengthen information system and promote evidence based health planning. The study finding will act as a source of literature for scholars who wish to do further studies about data management or in any other fields related to it.

1.5 Research questions of the study

1.5.1 Main question

What are the factors influencing data management in the district health planning process?

1.5.2 Sub questions

1. How do the individual factors influencedata management in the district health planning process?
2. How do the technical factors influence data management in the district health planning process?
3. How do the organizational factors influencedata management in the district health planning process?

1.6 Objectives of the study

1.6.1 Broad objective

To explore factors influencing data management in the district health planning process

1.6.2 Specific objectives

1. To explore individual factors influencing data management in the district health planning process.
2. To investigate technical factors influencing data management in the district health planning process.
3. To explore organizational factors influencing data management in the district health planning process.

CHAPTER TWO

2.0 LITERATURE REVIEW

Literature reviewed in this chapter relates with the guiding objectives of the study which are; toinvestigate individual, technical and organizational factors influencing data management in health planning processes.

2.1 Data management processes

Data process involves collection, collation, processing, analysis, Presentation and feedback and data use. Data collection is mainly from routine data in the health facilities. However not a single source of data can provide all of the required information for planning therefore periodic data from other sources are also involved. Raw data must be converted into information so as to have value, meaning and presentation through graphs and tables. It should be carefully done so as to avoid misinterpretation of the information. Reports should be regular and timely; feedback and use of data must support proper planning.The data management process in its holistic way demands positive factors to improve and strengthen it so as to be produce results. The combination of influencing factors has proven to be efficient in strengthening health information system, however in Africa there is shortage of information and communications technology (ICT), mass Internet connectivity, a paucity of ICT-related knowledge and skills. This limits capacity of national health management information systems (HMIS) to generate, analyze and disseminate information for use in decision-making(3,20).In Tanzania data management process is still a challenge. Health data collection, analysis, reporting and utilization are poor. If only correct information could reach those required to take actions timely, there would be effective decision made in the control of diseases(16). Data are collected daily, weekly and monthly at the district level and reports are sent to the upper levels. But the feedback on the reports virtually does not exist, unless there are mistakes or gaps filled in the reports. The minimal use of data collected or information produced in decision-making is a problem that results to people making decisions based on their own ideas or experiences. Developing countries should learn from each other from the existing HIS functionalities and experiences so as to strengthen use and management of health information.

2.2Individual factors influencing data management

Knowledge of data collection, collation, analysis, reporting, feedback and use of data brings positive change in managing data and supports evidence based health planning(9). Another study revealed that Action-knowledge gap do exist where by data is collected and analyzedbut a term data analysis may be difficult to understand (19).What people believe and feel is very crucial to perform the task as it is supposed to be done, and when people understand, the easier it becomes.Negative attitude, belief and little knowledge on the managing data destroys the whole process leading to poor quality of data and low utilization of data for decision making (10). A Study done in Uganda found that data was collected "manually" or paper-based and were not perceived as the primary or important responsibility of DHMT members and service providers and therefore received relatively little attention (12). Attitude on the use of computer software can be influenced by age and knowledge, younger people are confident regardless of exposure to use computers while the older are pessimist.When the organization promotes culture of information use, provides resources for training and tools for data management, workers will be positive on it. However this has been a gap leading to weaknesses in data management.

2.3Technical factors influencing data management

In the study done in Ethiopia(21) the data collection tools were filled manually in all the study units/departments, 91(27.4%) complained lack of computer skills and unavailability of computer, while 71(21.4%) claimed inconsistency and incompleteness of the reports and loss of timely concrete feedback.computerization could reduce the burden of data collation and make data more accessible and easier to analyze, but with no skills in analysis and interpretation, and no understanding of how and why data should be used it is difficult(14,22).The study done on rural health facilities revealed that majority of the health workers had none or very limited training for and exposure to computer applications whereby Ghana reported better knowledge and exposure to computers compared to Tanzania(14). Inadequate computer knowledge and skills negatively affects the adoption of computer systems among workers.

Frequent training sessions must be given to members of the CHMT and health workers on how to process data reported from health facilities and how to calculate health indicators so as to change people from what they are used to, to new technology(19).When data collection forms are complex to fill, computer software are not user-friendly, do not process data properly and in a timely manner leading to poor analysis that do not provide meaningful conclusions for decision-making(9).The high work burden for data collection and collation suggest there is a large amount of scarce workers, limited time to do the work and presence of staff members who may not have the appropriate skills to recognize and correct problems.

2.4 Organizational factors influencing data management

These are institutional factors, the presence or absence of them influences data management. Organization culture has the rules, processes, values, and systems that have the ability to support or hinder belief and behavior to use data(13).when culture of information use is in place, the visible outcome will be information demand, value and use. This will improve service delivery and management of systems at that level(15). Leaders influence decisions, policy making, organization culture and planning. Therefore having all the factors in place with poor leadership, even the best designs in health system will fail to be implemented(22). Another study showed that Supervision is a factor influencing quality of data and it should be regular and effective, otherwise it may not have impact (23). In addition, the study done in zambia showed thatSupervision enables both users and producers of data to address obstacles because during the routine visits it provides a channel for gaining verbal and written information(7). A study done in Tanzania revealed that there is a demand in institutional, managerial support and financial resources from the national level for the DHIS at the district level to mold the existing culture of collecting, reporting and use of information (18)The study done on improving the use of data showed organizational systems must be addressed and potential barriers to data management especially can be improved(24). Conclusively, The PRISM framework states, different components should be working together harmoniously(9).

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

This chapter describes various methods and materials that were be adopted in the study including area of the study, study design, study population, sampling technique and sample size, data collection methods, data analysis, ethical consideration and limitations of the study.

3.1 Study area

The study was conducted at Kibaha Town council in Kibaha district (6050'S, 38050'E) and is located about 40 km west of Dar es Salaam with a population of about 14424.Kibaha district was among the five districts which were piloted on health information system program 2002therefore would provide a clear picture on this study objectives also it was selectedconveniently due to easy access of the researcher from Dar-es-Salaam and the limited time for research.

3.2 Study design

A cross sectional explorative study design, using qualitative approach was used ininvestigating factors influencing data management processes in district health planning at Kibaha town council.

3.3 Study population

The study population was theCouncil Health Planning Team and Council Health Management Teamof Kibaha town council. Moreover,health workers frompublic health facilities who were involved in data management processes were included in the study.

3.4 Sampling Techniques and Sample Size

Purposive sampling was used to sample the participants becauseof their knowledge in the study of interest.A total of 15 participants were involved in this study where by6 were CHMT, 5 CHPT, 2 facility in-charges and 2 data focal persons from Tumbi and Mkoani health facilities.

Inclusions criteria

The inclusions criteria was members involved in health planning and data management processes, who have worked for more than six months prior study and were willing to be interviewed.

Exclusion criteria

The exclusions criteriawas members who fulfill the inclusion criteria but had difficulties to communicate and those who did not wish to take part in the study.

3.4. Data Collection Tools and procedures

Indepth interviews, observation checklist and documentary review were used.An interview guide was used to solicit information from respondents. The guide was prepared in English and translated to Kiswahili to avoid language barrier to the respondents. The questions asked were concerning factors influencing data management.Observation checklist was used to observe, record and assess available data management tools present.

A total of 15 Indepth interviews were audio recorded and permission was sought to do so from the respondents. Interviewer defined key concepts of the study so as respondents can be aware of the study.Interviews lasted approximately for 30 and 45minutesand were conducted at the office of the respondents where by only the interviewee was present so as to maintain privacy and confidentiality.

3.6. Pre testing of data collection tools

Prior the study, pre testing of data collection tools was done by the researcher and research assistants so as to check whether the tools were able to collect the intended information or not. This was conducted in Kinondoni Municipal where by 5 paticipants were involved. The interview guides and observation checklist were revised accordingly based on the pre-test results.

3.7. Data collection procedures

Three Research assistants were trained on the interview guide and introduced to research ethics for one day to avoid poor data collection.Review of the data collection tools was done and feedback of the complexity of data collection was reported and discussed on daily basis with the principal investigator.

3.8. Data Analysis

Thematic data analysis method was used in this study which involved reading and re-readingof the data, coding, data reduction, data display and interpretation(24). Data was transcribed and latertranslated in English language.The English translated data were analyzed through the examination and categorization of respondents' opinions. The analysis was carried out in four stages first, the line-by-line coding of field notes and transcripts; second, themes were searched from the general list of the codes created and some codes formed main themes or sub-themes, whereas other codes were discarded, third, themes were re-read and reviewed at the level of coded data and theme itself to ensure that all of the data formed a coherent pattern, fourththemes were then defined and named and later final analysis and report writing was done. However, data obtained from observation and documentary review were not analyzed but used to support the emerging themes generated from the in-depth interview analysis.Table 3 illustrates how the analytical themes were obtained.

Trustworthiness of the findings

Various data collection methods were used as stated above and it allowed triangulation to be done. The data collection period was planned such that the researcher had enough time for reflection between field visits and therefore able to conduct preliminary analyses that guided the subsequent data collection.

3.9. Ethical consideration

Ethical approval from the Muhimbili University of Health and Allied Sciences (MUHAS) Research and Publications Committee was obtained for the study.Permission to carry out the study in the district was sought and obtained from regional and district council.The purpose of the study was explained to participants and written informed consent was soughtbefore the interview.Privacy and confidentiality was highly considered whereby each interviwee was interviewed alone in the room and no names were required. Information provided from the respondents was disclosed only for research purposes.Participants were informed that their participation was purely voluntaryand they had the right to withdraw from the study any time.

CHAPTER FOUR

RESULTS

The findings from this study are organized according to the objectives and underlying themes to give a clear picture of the situation depicted. Three themes were generated which were the data processes, positive influencers and the challenges that negatively affect data management. The layout of the findings is derived from the respondents or Key informants of the in-depth interview and supported by the documentary review and observed data.Supporting quotations from the study participants have been included to illustrate the messages being communicated. Findings are presented based on the identified themes.

4.1 Socio-demographic characteristics of therespondents

A tota of 15participants were interviewed, 6CHMT and 5 CHPT members and 4 health workers from 2 health facilities of Mkoani and Tumbi at Kibaha Town Council. All 4 selected health workers from these facilities participated in this study while 4 CHMTs did not because they were not available during the data collection and saturation point was met. The age of the respondents ranged from 30 to 50 years. Their Education level, 11 were Degree holders and 4 had Diploma. Male respondents were predominant (10/15).

4.2 Data management processes

The findings from the study show that data are collectedin health facilities by health workers through data collecting tools which are registries, tally sheets and summary forms. They are filled manually because computerized system was claimed to be a challenge influencing paper-based workload. Moreover data is collected from the community by the community based health workers and been sent to the facilities for compilation and these include data from community based health services for HIV/AIDS, environmental issues and outreach activities as one of the respondent expressed:

> *'We get data from heath facilities mainly but also during out reach services we do get data from the households, home based care activitiesh and also ward heath officers ave books for the data on cleaness, toilets….all are intergrated in the system'' [CHMT1]*.

Routine data is sent to the district manually to be aggregated in the DHIS II system.District receives these data monthly from the health facilities as one reported:

> *'We do monthly, but there is quarter and 6 months.There is annual report and here we compile all data to know how much we have to be used inour plans'' [CHMT8].*

Data collation is mainly done at the district where by CHMT's have been given health facilities to take care of, hence they collate the data for accuracy and consistency manually and rarely with a computerized system. Respondents revealed that there was inconsistency of the tally sheets and registers, missing information, improper documentation and unorganized data.

> *'Facility health workers bring data themselves, we sit with them and start to check their data if they have reality.Incase of any discrepancy we call them. Another way of data collation is electronically. [CHMT3].*

Another responded added*:*

> *'What we do is collate data to check whether what is documented in the tally sheet is similar with the register and summary form or not. When we are satisfied, we tear the summary form and sign it. We collect them together, and in 7th to 14th day of a month we start to enter them in the system'' [CHMT1].*

Analysis is done through the DHIS II system where by the HMIS focal person and other CHMT's convert the raw datainto information for their use. It was found to be done in the district.However, some responded analysis to be a problem as expressed by one respondent:

> *'Everyone in his work must make sure he does data analysis because there is one problem that data are received from every level and are not analysed. They should be analysed for the decisions to be made'' [CHMT3].*

Reporting system has been shown to have deadline. Health facilities have to send the data to the district by 1st to 2nd days of the month whereas the district have to finish aggregating on 14th and send the report on 15th days of the month to the region. It was observed that there was monthly, quarterly and annual reporting; however sometimes reports were reported to be not timely due to late submission of the data collected from health facilities and shortage of staffs to aggregate data.

‘Those who bring data sometimes bring them not timely because they do not have transport or we do not have transport to go and fetch them there’’ [CHMT5].

In case of any discrepancy feedback is provided to the health facilities by the CHMT and likewise to the district by the regional or ministry levelfor correction and this was found to be provided during supervision visits orally or district review meetings as exemplified below:

‘Aaah feedback depends, if we go for supervision we write and leave it for them to know what they have done, if they have come here we sit in the table face to face and discuss ongoing isues’’ [CHMT2].

In addition,it was found that the district secured data both in soft and hard copy; however organization of the data was complained to be poor in the health facilities by the district respondents which give them hard time during collation.

Key informants from the district responded positively that data were widely used in the plans and their activities, they know the importance of data and how it impacts health planning in the district. Others claimed data to be source of success and without itnothing can be right as revealed below:

We use data in budgeting, in our CCHP before starting the activities we use data.In these neglected tropical diseases like lymphatic filariasis and helminths data has helped in prevention. It was seen that we have little percent of other diseases, we remained with helminthes at low percent which we are dealing with it.We distribute medicine in schools and without accurate data we could continue giving people medicines while the diseases in our place are not there’’ [CHMT1].

In relation to the information provided by the district respondents, health facilities respondents also provided positive impact of data use as one responded;

‘*Data is very important, data is everything because you can’t do anythingin the hospital without knowing what they say.Its a part that we work on and keenly follow up.If it happens data are not accurate its obvious health service provision will be be shaken. You need to have realistic data’’ [HF3].*

Respondents where observed to have positive attitude with the data use and some argued that it gives them confidence of speech and ability to know how things are hence refuse to receive anything which has no proof.Moreover data from the documentary review of the CCHP and Annual reports supported the views as data were used as baseline information in planning. Data used for decision making during the preparation of the CCHP are obtained from the district annual health report prepared by aggregating HMIS Quarterly Reports.The council annual health reports for three consecutive years (2014- 2016) were used as baseline data in the preparation of CCHPs for 2014/2015, 2015/2016, and 2016/2017, respectively. This is so because the health report follows the calendar year (January to December) while the CCHP follows the fiscal year (July to June). The presence of Annual Health Reports made it possible to compare with their corresponding CCHPs and they matched each other.

4. 3 Individual factors influencing data management

The study aimedto find out individual factors such as attitude, belief and knowledge as influencers of data management. Both have been shown to play a great role in data management at the district level where by respondents reported to have knowledge on data management by definition and application. They claimed that having knowledge on the matter has enabled them to use data in their plans and intervention activities. Also has widen their capacity of doing their jobs because they have focus on where they are, where they are going and how to reach their targets.

> *'Data management is important because it supports evidence based and informed decisions in health plans'' [CHMT3]*.

Another respondent added:

> *'For example nowadays the government has entered in the system of funding through accurate and quality data.If we do not do effective and quality data management we will not be funded.So the impact present is that you have to do best in data management to get quality data so as to get money for running health services in the council or district'' [CHMT7]*.

Majority of the respondents expressed positive attitude towards data management. They feel that data has importance and everyone should be involved, own and do data management. Despite being in their job description, they love doing it as it has impact on their activities.They reported having confidence on their abilities and skills and this might be influenced by the knowledge they have.One respondent commented:

> *'Data management doesn't waste time, if you say so it means it has no benefits. It is one of the work of mankind and without data you can't do anything in your activities.Without data what will you know, you will say I want to make tea two litres while you do not know how your family eats and has how many people.You have to know that, therefore data issues are must and good'' [CHMT2]*.

Additionally, these respondents replied to the question asked about how staff in lower level feel about data management. Some of the views provided were 'others feel data is for the council'' they just do it because they have to report to the council'' Analysis and the use of data were only for higher levels''However the case was different to one of the respondent from the health facility who said;

> *I love data, I love my job and I want it to be good. Everyday I sit and think for best ways to improve data management for example I started to do collation manually and later I used excel so that it could help me out'' [HF1]*.

The belief on data management was responded to be good among CHMT's and the facilities respondents as data was claimed to be the foundation of the plans and resource allocation in the council.Participants also expressed their concerns on the incentives as it motivates staff to do their jobs and raise their morale. The study findings came up with the respondents feeling towards it, incentives were claimed to be low or none to staffs especially in the health facilities.In the district level participants responded the same and added to do data management without incentives because they are leaders and supervisors. If only it could be encouraged and provided improvement of data management is a promise.

'Honestly there are no incentives, its just that you are a member of CHMT and inorder to be seen that you do fit in that position it's a must to have data because through them its easy to evaluate what you do. So I do it as it is an indicator for my evaluation, incentive is an issue'' [CHMT5].

4.4 Technical factors influencing data management

Key informants mentioned that there are several benefits of having positive factors.Computer use has simplified the work and allowed accuracy of data as errors can be easily depicted. Alsoit has provided room for better organization of data collected from the health facilities and easy reporting as aired below:

'It simplifies, if you request for a report it means you just print it.There are different options. There is a place you summarize and print it fast, unlike using hardcopy'' [CHMT5].

The study findings revealed that training has supported them to do data management in improved way and be familiar with the use of computer software and use of data in health planning as expressed by some respondents below:

'Training has helped me a lot, there were things I didn't know and they have taught me which helped me and I am using it now.In the beginning I used data set to get data but now I use pivot table which is simple'' [CHMT1].

'I have studied Health records technology; I know what data is and its importance. The books explains themselves, I don't see any difficulty but when I went for training I gained a lot of things'' [HF1].

Despite these benefits that accrued from the positive influencing factors of data management, the study findings show that there are technical challenges affecting data management at the district level and health facilities. These include heavy workload, inadequate data collection tools, duplication of data collection tools, inadequate qualified staffs and insufficient training.

4.4. 1 Heavy workload among staffs

The study participants claimed that data collation is very difficult and takes a lot of time to do so. There are a lot of data to enter into DHIS II, a lot of paper work and you have other works to do.Additionally the respondents explained the situation of the health workers in the health facilities to be worse as they have to do their assigned duties and fill in the HMIS tools for every client. This is exemplified by the following quotation from respondents:

> *'There is a lot of paper work in health facilities, a doctor or a nurse has tones of papers, registers for patients, has to enter data into the computer, report financial matters,Computerised system has not yet reached there, and those who have training is a challenge'' [CHMT4]*.

Respondents feared that huge workloads and inadequate staffing in health facilities may hinder successful implementation of data management in upper levels as they are the prime source of data as one respondent expressed:

> '*You go to the health facilities and find one or two health workers; I don't think if he or she will be able to collect data. Patients are many, that is where he drops the pen and decides to treat only and not to write. At the end of the day, there is medicine stockouts or absence of equipment.These are things that hinder us to do data management well, if there could be specific people for data only from the lower level, we will be able to improve.Doctor does his duties and data person deals with data coding, interpretation and analysis'' [CHMT9]*.

4.4.2 Inadequate data collection tools

Data collection tools are regarded as basic essentials in data management, without tools no information. Theoretically, every source of data has to have adequate tools but it's not always the case. Findings from the district show that computers are inadequate; there are two or three desktops to be used in the office which forces people to use their own computers to do their tasks. Despite having benefits but still has been shown to be a challenge from the health facilities and the district level as exemplified below:

> *'There are no computers; hence you have to use your personal computer. When it is destroyed, to buy a new one takes a week or two weeks and there are important works to do. It is a challenge, office computers are few, I think two or three, every coordinator should have his own computer'' [CHMT2].*

Respondents from the health facilities reported to have inadequate tools hence they use their own sources of resource to print and photocopy the tools. One respondent provided one of the reasons for the shortage as follows:

> *'Youaregiven data collection tools, the summary forms are not used regulary only monthly unlike the registers and tally. One summary form can be used one year and more and if you bring ten they become waste products, but the other ones are used every day, and you may find that a month has not ended and we are out of stock. They should balance according to the demand and use because when they are out of stock, other workers thank God because they are free from documenting.The committed ones fills in the book of another worker'' [HF1].*

4.4.3 Duplication of data collection tools

Tools used for data collection are duplicated; staffs have to fill the same information in different form(tools). This costs time and cause negative attitude towards data management. Data is filled in HMIS forms and in other tools which may be needed for a certain program example TB and leprosy, vaccination, Reproductive and child health as one respondent viewed that:

> *Repetead information could be reduced to have a simple tool for example we of Expanded Program on immunization face difficulties, we have two tools to fill and HMIS is the third so 5 tools for vaccination part. It is hard to fill them hand in hand. [CHMT8].*

When asked about the friendliness of the tools most respondents expressed the difficulties of the tools to be not friendly which impacts data management and the reasons provided where' too much information asked hence a lot of information to be filled and the reporting system

takes a lot of time' ,'registers are many and large' ,'the system (DHIS II) is sometimes slow and takes long time to load when exporting data''Participants feared that all these will negatively impact data management as one said:

> *'If you bring tools with a lot of information or heavy workload, people will not fill them.They should be intergrated and not be separated.They should harmonize data collection tools to be one'' [CHMT3]*.

Respondents from the health facilities suggested computer as afriendly tool to be used, they recommended''the best way to solve the problem is to shift from paper based form to automated system''.

4.4.5 Inadequate qualified staff

For data to be of quality meaning accurate, complete and timely, those who are responsible for data must be have learned capacity to do the job otherwise data quality is jeorpadized.Respondents from the district and health facilities claimed to have inadequate skilled staffthat are specifically for data management. They provided the general argument that health sector has shortage of staff, furthermore the present staff have a heavy workload of providing services and still have to fill the data forms which is difficult to do when they have only two hands.Moreover, other respondents argued that data is important and there must be qualified staff for that from health facilities to district level as some respondentsprovidedreasons for the problem:

> '*There is no stability of staff, I have trained them and tomorrow are gone so I have to train another one, it is a challenge especially in the health facilities,'' [CHMT3]*.
>
> *I think this curriculum should be included in all health universities, when a doctor or nurse comes to work, he should find data management and HMIS as one of the studies he studied. Data is not collectedonly by the datafocal person, if other workers do not know, I cannot get accurate data'' [HF1]*.

One respondent emphasized another aspect of data ownership as a way to help solve the problem of the focal person being the only person dealing with data.

‘*Everyone should own data and know how to do data assessment especially CHMTs, if we do that data will be good. When one goes for supervision of TB, he or she should check on the quality of data.But saying data issues are for HMIS focal person, its hard to do the whole work.In the beginning, we were only three checking data and OPD book has 90 indicators, you can’t finish checking’’ [CHMT1]*.

4.4.6 Insufficient training

During the interviews, the participants were asked to provide details about their previous data management training and experience (if any) and their expectations about using the knowledge they received in their work. Some of the respondents attended training for only one program, while others reported to have attended different programs. Some respondents reported having received some earlier HMIS trainings (e.g., up to 10 years ago) since then,they haven’t got any other training.

‘*I attended training when new HMIS tools began, The ministry conducted it all over the country and all CHMTs were involved.But also training of computer system of DHISII, again the day before yesterday a new guideline of HMIS was provided and we went training at Bagamoyo’’ [CHMT9*].

Participants also expressed their concerns about the need for extensive training and time required for building capacity in data management because they haven’t received any and only few of the district members are priviledged as one respondent said

‘Aaah not all who have received training, some members of CHMT we haven’t received those trainings.This knowledge should be provided to many people, it should not be only for few.This will simplify the whole issue of data managemt because all members will be involved in data management’’ [CHMT6].

All these raised doubts on the training provided as other participants expressed that they have received training concerning data management from the programs or interventions they are engaged in.Outside technical support seems to provide trainings more than the district and the ministry.Example of the technical support mentioned was from Merry land (CDC funded) , EPI programs and RCH.

4.5 Organizational factors influencing data management

These are the institutional factors including culture of information use, supervision, and resource availability and information distribution. Positive influencers were depicted to be all the above as they brought data management to another level. Supervision was found to be done at least once in a quarter and during the visits feedback was provided. Health facilities are supervised by the district and the district are supervised by the regional level and the ministry. Occasionally Regional and the ministry supervise the facilities to evaluate the district. Respondents particularly from the district viewed it to be beneficial as it improves their work by knowing what they have done best and worst for rectification.

> *'Aaah we get huge benefit because data are improved, and we get atleast data with quality. In health facilities during supervision we mentor them and provide on-job training'' [CHMT3]*.

> *Yes we receive feedback when regional level come for supervision or in Data Quality Assessments, they must give us feedback so that I can understand areas with shortcomings and what to do to uncover them and the good deeds to maintain them. We do the same in the health facilities. [CHMT8]*.

Culture of information use was considered to be important and has been reported that the district and the nation at large encourages them to use data in their planningas one respondent reported that:

> '*Directors are now awake, there is Result Based Financing so they know if data management wont be good therefore health facilities will lack finance and will not be able to operate so they encourage us to use data. We meet with our Director frequently in every quarter and he looks on the challenges.Other challenges are out of his control, they have revenues but there are many things, education, health…'' [CHMT9]*.

In support of the above, respondents from the health facilities viewed not to wait for the district or nation support. They initiate the culture of information use in their facilities through workers meetings as one respondent expressed:

> *‘We put our quarterly reports at the notice board, we explain what data says for example the top ten diseases, death of mother and child, human resource etc.We update them’’ [HF3]*.

Despite being a positive influence still has been seen to face a challenge which demands sensitization as recommended by one so that data can be used and people can know the importance of it. Moreover respondents when asked about the district and ministry support in data management with the resources they have respondend positively as one said:

> *‘Ministry of Health, Community development,Gender, Elderly, and childrenis the one providing policies to make sure data are collected and how they should be. It provides trainings, financial resources to support us to do supervision. Without the Ministry we could not do data management, so it has agreat support’’ [CHMT3]*.

However, organizational challenges that hinder data management were found to be inadequate funds and weak supportive supervision.

4.5.1 Inadequate funds

Study findings showedhat district do not have adequate and reliable sources for generating its own resources that can be utilized to support data management in the council. The study further revealed that the finance of council is entirely dependent on central government grants and donors. These grants not only are inadequate to support health needs and priorities but also are granted to council based on various conditions as supported by the quotations:

> *‘If there could be different sources of resources, we couldn’t depend on the sources of the partners (donors). You find yourselves planning activities but at the end the donors may not provide the money.When you come to your own source, it is less.We have to have sources which are sustainable’’[CHMT5]*.

Inadequate funds has been reported to affect training in one way or another, in return affects implementation of data management at all levels leading to poor quality of data.Training has been perceived to be important but expensive and are not regular.One respondent mentioned;

‘*Trainings are provided when the need arise or when there are resources available because training is very expensive’’ [CHMT4]*.

4.5.2 Inadequate supportive supervision

The study participants, particularly those from the district level, reported that supervision has to be done at least once quarterly (4 times in a year) but the council does not have adequate capacity to carry out supportive supervision at the health facilities and community levels to monitor and control quality of data in the whole council hence they only do two visits to far facilities. They reported two main contributing factors to this situation: a lack of capacity in terms of transport (inadequate cars and fuel) and inadequate staff to carry out frequent supervision. The following quotation illustrates the point.

‘*You find there are no cars and you have planned but there is no or one car which is not enough. to visit all health facilities in the council. We sometimes force to do the work by either hiring cars from other places or DMO may give us his car to go and do the work’’ [CHMT2]*.

However key informants reported the supervision from the regional and ministry of health to be good because during the visits feedback is provided which enlightens them to improve their work.They also suggested it to be regular to facilitate and improve data management as itact as a waking alarm for the lazy staff in the district and heath facilities at large.

Table 1 below was derived from the findings in observation checklist. It is the table which shows the availability of items for data management in the district and health facilities to support the findings from the interviews.

Table 1: Available data management itemson August 2017

Observartion	**District council**		**Health facility A**		**Health facility B**	
ITEMS	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**
Presence of CCHP guideline and annual reports with the indicators	√		-	-	-	-
Presence of updated DHMIS organizational chart showing functions related to data	√			√		√
Availability of trained human resource	√		√		√	
Presence of Action plan and advocacy		√		√		√
Presence of indicator performance charts, graphs and table displayed	√		√			√
Presence of staff meeting minutes reflecting reports, data and feedback from district or regional	√		√		√	
Presence of action work plan identifying data gaps and how they were addressed	√		√		√	
Presence of updated database for monthly reports submitted to the district	√			√		√
Presence of performance improvement tools like flow charts, journals, charts and projects		√		√		√
Presence of data training manual and guide	√			√	√	
Presence of supervisory checklist and report	√			√	√	
Presence of information flow chart	√			√		√
Presence of budget plan for data management	√			√		√
Existence of functioning computers	√			√		√
Presence of data collection tools	√		√		√	

Source: Author's observation August 2017

It was observed that the above data management items were available but not adequate to meet the needs for effective data management example skilled personels on data management, data base, data collection tools.

Budget plan and training manual and guide were also available but both were not implemented due to shortage of fund. This has also been illustrated by the respondents during the interviews.

Table 2 below was derived from the thematic analysis done during data analysis and is presented as an illustration of the process where by codes were developed from the texts and generated into themes.

Table 2: Thematic Framework (fromcodes to themes)

CODES	SUBTHEMES	THEMES
Health facilities	Sources of data	**Data management processes**
Community based		
HMIS tools		
Collation is done at the district	Processes	
Analysis is through the system		
Analysis is done at the district		
Raw data into information		
Reporting at all levels		
Feedback provision		
Consistency is checked quarterly		
Verification of data		
Data use for decision making	Data use in health planning	
Budget planning and determining performance		
Setting priorities		
Data from HMIS are used		
Uses of data in reporting		
Data are available insituation analysis chapter of CCHP		

CODES	SUBTHEMES	THEMES
Data management is important	Knowledge on data	
Involves all processes from collection to		
Allows informed decisions		

I love data	Positive attitude data management	**Positive influencers**
It's part of the system		
It's part of the job		
Not wastage of time		
Skills are necessary		
Computer use		
Tools availability	Important supporting factors	
Training		
Supervision		
DHIS II reduce paper work		
Single data collection tool		
Incentives as motivation		
No computers	Inadequate collection tools	**Challenges negatively affecting data management**
Insufficient HMIS tools		
A lot of paper work	Heavy workload	
Other assigned duties apart from data management		
Shortage of staff		
Skilled staff turnover	Inadequate qualified staff	
No data specialists		
No cars and no fuel	Inadequate supervision	
Lot of things to supervise		
Shortage of staffs		
Donor dependency No own source of money	Inadequate fund	

4.6 Limitations of the study

This study used only health managers (CHMTs and facility in-charges) and focal persons. Other health workers involved directly in data collection were not included which may not give a complete picture of data management as the study population was biased to managers only who do not collect data. However not withstanding this limitation, the study had raised important issues affecting data management even though from the perspective of the district health managers.

CHAPTER FIVE

DISCUSSION

5.0 INTRODUCTION

This chapter discussesfindings of individual, technical and organization factors influencing data management.

5.1 Data management processes

The study findings show data are routinely collected in health facilities through register, tally sheets and summary forms and they are filled manually. Other sources of data were reported to befrom the community services and out reaches. In the district, data is compiled monthly, whereby health facilities send data to the district to be aggregated in DHIS.Study conducted in Ethiopia indicated that, data or information were generated at the health institution and district level from routine reports and vertical programs/activities and were manually filled in (21).Simillar study to the present study found that health facilities were primary producers of data and were expected to change this data into information at the site of data generation(25). These health facilities face difficulties in data management including workload, shortage of staffs, inadequate tools for data collection. The implication of all these is that, poor data management from the producers affects all levels of data flow.

The findings showed thatlate submission of data and reports from health facilities act as a key driver of delays in reporting by CHMTs to regional level. This collaborates with the assessment report done in Lindi(26) where challenges in reporting was untimely report preparations due to late submission. Data analysis was found to be a problem at both levels and this was also reported by another study in Rwanda where by a suggestion was provided that it could be addressed by arranging training on data analysis techniques which is very much important as mere entry, upload, management and reporting has no meaning unless is analyzed at each level(27).Feedback being provided during supervision might be jeorpadized as supervision was reported to be inadeaquate, therefore errors might be lately noticed and rectified. Additionally, analysis skills and knowledge is not enough and this might affect data quality and finally data use in health planning.It was revealed in this study that inadequate data

accuracy and untimely data both at the facility and CHMT level was a barrier for evidence based planning as noted in the study done in Uganda(12), Therefore data processing must be given attention once again as a failure of it acts as a barrier to data quality and use.

The study findings revealed that data were used in the plans and activities and CCHP andwas claimed to be an evidence based plan. This study results contrast with the other studies done in other parts of Tanzania on utilization of health information which found utilization of data to be low (16,19).Use of data in this study might be influenced by knowledge, attitude, skills and culture of information use as reported by key informants. This implies that planners understand the role of data in planning that it enables health planners and managers to take decisions regarding the effective functioning of health facilities and of the health system as a whole (28).However, with technical and organizational challenges presented, it is likely that data use in district health planning is still a problem despite being reported that it is highly used as reported in Zanzibar workshop(29). Furthermore data quality and data use are interrelated: poor quality data will normally not be used, and because they are not used, the data will remain of poor quality; conversely, greater use of data will help to improve their quality, which will in turn lead to more data use(29). For data to be effectively used, challenges affecting the quality ofa data must be sorted out.

5. 2 Individual factors influencing data management

The study findings revealed that knowledge and positive attitude influenced both the district staffand health workers in the facilities to engage in data management. This influenced them to utilize data they generate. These findings agree with the findings of the study doneon bridging the gaps in HMIS whichrevealed workers to have positive attitude on dataand it was important to continue with the system (6).However other respondents had different views on other workers attitudes and knowledge especially at lower levels on data management.This suggests the need of data management training both on job and mentorship to be more emphasized and given attention to the data generators.

5.3 Technical factors influencing data management

Computer use was found in this study as the best tool to use in managing data as it simplified work, allowed accuracy of dat and supported reporting.The study donein Botswana confirmed that Information technology support was insufficient at all levels and was a challenge for maintaining and updating health-related electronic systems(30). Another study done in Uganda suggested that establishing an electronic health information system at the district level and health facilities could improve availability and quality of data(12).Knowledge and skills on the computer use goes perpendicular with its availability.

The study findings revealed technical challenges affecting data management to be heavy workload among staff, inadequate data collection tools, duplication of data collection tools inadequate qualified staff and insufficient training. These challenges are discussed below;

5.3.1 Heavy workload among staff

The present study findings revealed that paper work, manual data collection and a lot of other assigned duties apart from data collection made it difficult to effectively perform data management both at the district and health facilities.This was also reported by another study that staff face difficulties because one health worker had to engage in data issues and the same health worker had to attend to many patients (17). This indicates hinderance of successful implementation of data management in all levels as the data producers cannot be efficient in generating quality data. Availability of sufficient competent staff dealing with only data and a shift from paper based to software technology will solve the existing problem. The study done ni rural southern Tanzania also suggests that electronic capture of data may be efficient to minimise health staff data entry and manipulation workload (32).

5.3.2 Inadequate data collection tools

Data collection tools were found to be inadequate.Findings show that computers and the hard copy forms are inadequate in health facilities .The district has few computers to use leading to delay in data aggregation and reporting. This was also found in another study(17) where districts had shortage of data processing tools. Inadeaquacy of data collection tools have been a problem for decades and the results are not suprising, this shows the irresponsibility and unaccountability of the Ministry as a provider of the tools.

5.3.3 Duplication of data collection tools

The study findings showed that there were too much information to be filled hence time wastage, workload, and influence negative attitude towards data management. The study done in Benin (10) and Zanzibar workshop(29) agrees with the present study that duplication and unfriendliness of tools to be a problem and that it was unnecessary to disaagregate some information. Duplicity indicates the failure of documentation and choice of indicators.

5.3.4 Inadequate qualified staff

The study findings found that skilled personel for data management has been given little importance, thus HMIS focal persons found themselves overworked. This is associated with insufficient training provided and little investment of fund in HMIS.The study results concur with the study done on quality of data which report thatknowledge of the HMIS concepts and presence of a focal person earmarked to deal with HMIS issues on daily basis had an influence of improving the quality of HMIS data (23). Analysis, presentation and dissemination of data demand skilled personels who are capable of generating and analyzing information.

5.3.5 Insufficient training

The findings revealed that training on data management isnot sufficient at all levels and it has been provided subjectively. Insufficient training proves the lack of emphasis on HMIS in pre service curriculum in Tanzania. The study done in Uganda raised the same concern as formal training with data management curriculum was not offered(31) and suggested that training should be highly invested as it has impact on knowledge, skills, culture and efficiency of data management, it will also reduce costs for on-job training and mentorship.

5.4 Organizational factors influencing data management

Supervision was found to bean enabler of data management as it improved the capabilities through provision of feedback.This was similary shown in the study done in Ethiopia that the increase in utilization of data was due to frequent supervision and follow up down in health posts (21).

The study done in zambia reported thatSupervision enables both users and producers of data to address obstacles because during the routine visits it provides a channel for gaining verbal and written information(7)Culture of information use was positively reported to be vital in promoting workers to engage in data management issues, this is consistent with the study (9) on PRISM frameworkwhich suggested that culture of information use was important for evidence based planning of any organization. Therefore managers and health planners shouldemphasize it tomeet organizational goals. This is supported by another study that suggested set of norms and resources must be enhanced for each individual level and the subject to be changed to create a culture of information use (17). However the study done in Benin (10) contrasted with this current study, the study reported that organizational factors such as the availability of resources, supervision, financial incentives and the perceived complexity of the technical factors were not associated with the quality of the data. All these impliy possibilities of change in data management years to come if are well emphasized and effectively done HMIS will be improved. Despite study finding positive influencers of data management, potential organizational data challenges were also identified.

5.4.1 Inadequate funds

Study findings showed that the district does not have adequate and reliable sources for generating itsown resources and depend on central government grants and donors. It was further revealed that grants provided are inadequate to support health needs and priorities. Less disbursement of fundthan the required amount requested indicates the delay of planned activities; they might be postponed to the next fiscal year. This was also supported by other studies which identified inadequate financial resources as a hinderace to implementation of HMIS (12,20).Another study done in Tanzania reported that training for capacity building is possible with financial capacity and information technologies resource available at all levels in health system(17).Therefore Councils should find other sources of fund to afford inside technical support.

5.4.2 Inadequate supportive supervision

The study findings revealed that supportive supervision is not enough.This is supported by the study done in Uganda that reported too few support supervision visits for HMIS training were made for health unit personnel to grasp new skills, such as data processing, compiling graphs and statistics(32). The reasons provided for inadequate supervision visits goes in line with the results reported in other studies (17 ,19) that supervision has beena problem due to a lack of capacity in terms of transport (inadequate cars and fuel) and inadequate staff. Inadequate visits imply lack of appropriate information, increase of irresponsibility and failure of disclosing either problems or improvements as feedback. Another study concurred with this study findings that the lack of regular systemsupport on supervision was viewed to negatively affect the perceived importance and quality of data being collected(33).

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

This is the closing chapter of the study. It is meant to provide a conclusion and recommendations on what can be done about issues raised in the study.

6.1 Conclusion

This study provides useful information on factors influencing data management where bystaff with good knowledge and positive attitude performed better than those who have not. Technical factors had influence on data management where by councils and health facilities with computers reduced workload, produced quality data and motivated data management practices unlike who use paper based data management. Training provided personels with new skills and updates on data management and this increased practice on data management.Those who received training regularly were more knowledgeable and eager to practice data management than those who received training once. Organizational factors had influence on data management where by culture of information use and supervision provided room for data management to be performed in the council and health facilities. Availability of resources enabled council to do supervision and produce data collection tools when not available. However the insufficient of fund hindered sufficient trainings, supervision, and computer investment hence affecting data management.

6.2 Recommendations

From the study analysis and findings, the following recommendations are suggested;

1. District council and health facilities shouldhave reliable sources of generating resources so as to reduce dependency from the central government and development partners.
2. District council and health facilities should organize regular trainings on current data management issues to personels so as to be equipped with knowledge on analysis and interpretation of data and use of data in line with the planning demands
3. District council should emphasize on data management to personels to influence culture of information use and positive attitude.
4. District council should invest on computer use to reduce paper work.

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APPENDICES

Appendix I: Informed Consent

ID NO: ……

Introduction

Greetings! My name is Clara Chidi, a student of Masters of Public Health at Muhimbili University of Health and Allied Sciences (MUHAS). On behalf of Muhimbili University of Health and Allied Sciences (MUHAS), I am conducting a research to investigate factors influencing data management in district health planning process on as part of my studies.

Purpose of the study.

The purpose of the interview is to collect information behavioral, technical, organizational factors influencing the effectiveness of data management in the district health planning process. You are being asked to participate in this study because we believe that you have particular experiences that may be important to the study.

Methods of the study

As part of the study, in depth interview will be done and the interviewer will record your responses. You will be interviewed only once for approximately 30 -45 minutes in a private setting**.**

Procedures of the study

Participation to this study is voluntary that is you may decide to participate or not. You may refuse not to respond to a question that you feel not to respond to, and end the interview session any time.All responses will be kept confidential and will be used only for the purpose of this study. Only people working in this research study will have access to the information. Your name will not be written on this form, and will never be used in connection with any of the information as code number will be used to identify your responses.

Benefits

There are no direct benefits for you participation however information you provide will help to know the factors influencing data management and provide room for implementation so as to improve the situation and support evidence based health planning.No harm is expected as a result of participation in this study and you can ask the interviewer questions any time during the study.

Whom to Contact

In case of any question or query concerning this study, please contact the principal investigator, Clara Chidi(MPH) from MUHAS, P. O. BOX 65001, Dar es Salaam, mobile number 0753954147. If you have any question about your rights as a participant you may contact Dr Joyce Masalu, Chairperson of the research and Publications Committee, MUHAS. P.O. Box 65001, Dar es Salaam-Tanzania, Tel +2552150302-6)

I ……... have read the contents of this form and understood it, my questions have been adequately answered. I agree to participate in this study.

Signature of participant…… Date…….

Signature of researcher …… Date……..

Appendix II: Fomu ya ridhaa

Namba ya utambulisho……

Utambulisho

Habari, naitwa Clara Chidi, ni mwanafunzi wa shahada ya uzamili ya Afya ya Jamii katika chuo kikuu cha Afya na Sayansi Shirikishi Muhimbili. utafiti ili kujua sababu za kitabia, kiufundi na kishirika/taasisi zinazoshawishi usimamizi wa takwimu kwenye mchakato wa mipango ya afya ya wilaya kama moja wapo ya sehemu yangu ya mafunzo.

Madhumuni ya Utafiti

Dhumuni la mahojiano haya katika utafiti huu ni kukusanya taarifa juu ya sababu za kitabia, kiufundi na kishirika/taasisi zinazoshawishi usimamizi wa takwimu kwenye mchakato wa mpango wa afya wa wilaya. Unaombwa kushiriki katika utafiti huu kwasababu tunaamini uzoefu wako ni muhimu katika utafiti huu.

Mbinu za Utafiti

Kama sehemu ya utafiti huu, tutafanya mahojiano ya kina, mhojaji atanakili kwa kinasa sauti majibu yako.Utahojiwa kwa takribani dakika 30 hadi 45 kwenye eneo binafsi.

Taratibu za utafiti**.**

Ushiriki wako kwenye utafiti huu ni wa hiari hii inamaanisha kuwa hutakiwi kushiriki ikiwa hutaki kufanya hivyo.waweza kukataa kujibu swali lolote ambalo hujisikii kulijibu na waweza kusitisha mahojiano wakati wowote. Taarifa utakazotoa ni siri na zitatumika tu kwaajili ya utafiti.Watu wanaohusika na utafiti huu ndiyo wanaweza kuzipata taarifa hizi.Jina lako halitaandikwa kwenye fomu hii na halitahusishwa na taarifa, namba za siri zitatumika kutambulisha taarifa ulizotoa.

Faida

Hakuna faida za moja kwa moja utakazopata kwa ushiriki wako ila taarifa utakazotoa zitasaidia kujua sababu hizo na kupata nafasi ya utekelezaji ili kuboresha hali na kusaidia kufanya maamuzi yenye ushahidi katika mpango ya afya. Hakuna hatari zozote zinazoweza kukupata kwa kushiriki kwenye utafiti huu.Waweza kumuuliza mhojaji maswali wakati wote wa utafiti.

Mawasiliano

Kama utahitaji ufafanuzi zaidi juu ya utafiti huu, usisite kuwasiliana na Mtafiti Mkuu Clara chidi, mwanafunzi wa shahada ya Uzamili ya Afya ya Jamii katika chuo kikuu cha Afya na Sayansi Shirkishi, Muhimbili S. L. P 65001, Dar es Salaam au namba ya kiganjani 0755 420 133. Kama una swali juu ya stahili zako unaweza kuwasiliana na Dr Joyce Masalu, ambaye ni mwenyekiti wa kamati ya utafiti na Machapisho, S. L. P 65001, chuo kikuu cha Afya na Sayansi Shirkishi, Muhimbili S. L. P 65001, Dar es Salaam au namba +2552150302-6.

Mimi ……Nimesoma/nimesikia na kuelewa madhumuni ya utafiti huu na maswali yangu yamejibiwa ipasavyo. Hivyo, nimeridhia kwa hiari yangu kushiriki.

Saini ya mshiriki…….…… Tarehe…….

Saini ya mtafiti …… Tarehe……..

Appendix III: Interview guide-English version

Investigating factors influencing data management in district health planning process in Kibaha town council

Tool 1: In-depth interview guide for CHMT and CHPT

The interview process will be guided by inductive approach (let respondents narrate their experience and later probing)

1) What is your view on data management in health planning process in your district?
    - Probe on understanding/awareness for each process separately
2) Do you manage data in your district?(Probe separately for data collection, collation, analysis, reporting and feedback, use)
    - If yes, probe on type and source of data
    - Probe on how often they do collect data
    - If no, ask the reason behind and where do they get the data they use?
3) sdHow do you do the data management process(Probe separately for data collect, collation, analysis, reporting and feedback, use)
    - If done, ask to see how it is done
4) Can you tell me the main aim of data management process?(Probe separately for data collection, collation, analysis, reporting and feedback, use)
    - Probe on the perceived importance
5) What are tools you normally use? Probe separately for data collection, collation, analysis, reporting and feedback, use)
    - Probe on the complexity

6) Would advance technology/computer software that facilitates data management improve it?
    - Probe on whether staff would be excited to use it or would it be something they get trained on and never use
    - Probe on the key considerations in designing a tool to make it functional and useful to CHMT's and CHPT's
7) Did you participate in any training on data management organized by any institution?
    - Probe on the skills
    - Probe on the impact of the training
8) How do you feel about data management process(Probe separately for data collection, collation, analysis, reporting and feedback, use)
    - Probe on the perceived attitude
9) Is there any supervision done to ensure your smooth data management in your district health planning process?
    - Probe on who does the supervision
    - How many supervision done so far
    - Probe on perceived benefits/setbacks of supervision done
    - Would you prefer for supervision to be done differently-if yes how
10) What is the district/national role on data management process?(probe separately for data collection, collation, analysis, reporting and feedback, use)
    - Probe on resource/financial support
    - Culture on the information use
    - Information distribution

11) How do you think the data management has impacted on health planning in your district?

12) What do you define as success in your experience on data management in health planning process? (probe separately for data collection, collation, analysis, reporting and feedback, use)

13) What has been the challenge on data management towards health planning?

- Probe on availability of data, usage of data, feedback
- Probe on the perceived attitude of CHMT and CHPT
- Probe on Resource availability

14) How can the success be maintained/challenges be eliminated?

- Probe on behavioral, technical and organizational factors(for every process separately)

15) What motivates you to perform data management?

- Probe on the potential incentives that could be introduced to encourage it

16) What do you think could be done differently to improve data management in health planning process?

17) Do you have anything else to share regarding your experience on data management in health planning process?

- Probe on the factors influencing(Behavioral, technical, organizational)

Thank you for participating in the study.

Appendix IV: Interview guide-Swahili version

Kuchunguza sababu zinazoshawishi usimamizi wa takwimu kwenye michakato ya mpango wa wa afya wa wilaya katika wilaya ya Kibaha mjini.

Nyenzo 1: Mwongozo wa Mahojiano na CHMT, CHPT

Muhojaji atauliza maswali na kusubiri mhojiwa ajibu na baadae mhojaji atapepeleza majibu yaliyotolewa kwa undani zaidi.

1) Yapi maoni yako kuhusu usimamizi wa takwimu kwenye michakato ya mpango wa wilaya katika wilaya yako?
    - Peleleza kujua uelewa kwa kila hatua tofauti
2) Je mnafanya usimamizi wa takwimu kwenye wilaya yako?(peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
3) Kama ndiyo, peleleza juu ya aina na vyanzo vya takwimu
    - Peleleza ni mara ngapi wanakusanya takwimu
    - Kama jibu ni hapana, uliza sababu na wapi wanapata takwimu wanazotumia
4) Ni kwa jinsi ipi mnafanya usimamizi wa takwimu?(peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Kama unafanyika, omba kuona wanafanyaje (andika wanavyofanya
5) Unaweza kuniambia lengo kuu la usimaizi wa takwimu?(?(peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Peleleza kujua wanauonaje umuhimu wake.
6) Ni nyenzo zipi huwa mnatumia? (peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Peleleza kujua ugumu wake

7) Je matumizi ya tekinolojia ya juu/program ya kompyuta inaweza kuwezesha kuboresha usimamizi wa takwimu?
    - Peleleza kujua kama wafanyakazi watafurahia kuzitumia au kitakua ni kitu cha kujifunza bila kukitumia
    - Peleleza kujua nini kizingatiwe katika kubuni nyenzo ili ziweze kutumika kwa CHMT na CHPT

8) Je umeshiriki mafunzo yoyote ya usimamizi wa takwimu yaliyoandaliwa na taasisi yoyote?
    - peleleza juu ya ujuzi
    - Peleleza juu ya athari za mafunzo hayo

9) Je unajisikiaje kuhusu usimamizi wa takwimu (peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Peleleza kujua mtazamo wanaouona

Je kuna kuna ufuatiliaji wowote unafanyika kurahisisha usimamizi wa takwimu katika wilaya yako?
    - Peleleza kujua nani anafanya ufuatiliaji
    - Ni mara ngapi ufuatiliaji umefanyika
    - Peleleza kujua faida na changamoto za ufuatiliaji
    - Je ungependa ufuatiliaji ufanyike kwa jinsi nyingine?kama ndiyo, ipi?

10) Je nini mchango wa wilaya au taifa kwenye usimamizi wa takwimu? (peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Peleleza juu ya rasilimali/msaada wa kifedha
    - Utamaduni wa matumizi ya taarifa/habari
    - Usambazaji taarifa/habari

11) Je unafikiri ni kwa jinsi gani usimamizi wa takwimu umeathiri mpango wa afya katika wilaya yako?

12) Je unafafanua nini kama mafanikio katika uzoefu wako wa usimamizi wa takwimu kwenye mpango wa afya? (peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)

13) Je ni changamoto gani zipo kwenye usimamizi wa takwimu zinazokwamisha mpango wa afya?

- Peleleza juu ya uwepo wa takwimu, matumizi na mrejesho
- Peleleza kujua mtazamo wa CHMT na CHPT
- Peleleza kujua uwepo wa rasilimali

14) Je ni kwa jinsi gani mafanikio yanaweza kudumishwa na changamoto zinaweza kuondolewa?

- Peleleza tofauti kwenye sababu za za kitabia, kiufundi na kishirika/kitaasisi

15) Je ni nini kinakusuma wewe kwenye kutenda kazi katika usimamizi wa takwimu?

- Peleleza kujua kama kuna motisha zinazoweza kuanzishwa kuhamasisha hili

16) Je unafikiri kitu gani tofauti kifanyike ili kuboresha usimamizi wa takwimu?

17) Je una lolote la kuongezea kuhusu uzoefu wako wa usimamizi wa takwimu kwenye mpango wa afya?

- Peleleza kwenye sababu zinazoshawishi (za kitabia, kiufundi na kishirika/kitaasisi)

Asante kwa kushiriki katika utafiti huu.

Appendix V: Interview guide-English version

Investigating factors influencing data management in district health planning process in Kibaha town council.

Tool 1: In-depth interview guide for Public health facilities workers

The interview process will be guided by inductive approach (let respondents narrate their experience and later probing)

1) What is your view on data management in health planning process in your facility?
    - Probe on understanding/awareness for each process separately
2) Do you manage data in your facility?(Probe separately for data collection, collation, analysis, reporting and feedback, use)
    - If yes, probe on type and source of data
    - Probe on how often they do collect data

f no, ask the reason behind and where do they get the data they use?

3) How do you do the data management process(Probe separately for data collect, collation, analysis, reporting and feedback, use)
    - If done, ask to see how it is done
4) Can you tell me the main aim of data management process?(Probe separately for data collection, collation, analysis, reporting and feedback, use)
    - Probe on the perceived importance
5) What are tools you normally use? Probe separately for data collection, collation, analysis, reporting and feedback, use)
    - Probe on the complexity

6) Would advance technology/computer software that facilitates data management improve it?
    - Probe on whether staff would be excited to use it or would it be something they get trained on and never use
    - Probe on the key considerations in designing a tool to make it functional and useful to HW
7) Did you participate in any training on data management organized by any institution?
    - Probe on the skills
    - Probe on the impact of the training
8) How do you feel about data management process(Probe separately for data collection, collation, analysis, reporting and feedback, use)
    - Probe on the perceived attitude
9) Is there any supervision done to ensure your smooth data management in your district health planning process?
    - Probe on who does the supervision
    - How many supervision done so far
    - Probe on perceived benefits/setbacks of supervision done
    - Would you prefer for supervision to be done differently-if yes how
10) What is the district/national role on data management process?(probe separately for data collection, collation, analysis, reporting and feedback, use)
    - Probe on resource/financial support
    - Culture on the information use
    - Information distribution
11) How do you think the data management has impacted on health planning in your facility?
12) What do you define as success in your experience on data management in health planning process? (probe separately for data collection, collation, analysis, reporting and feedback, use)

13) What has been the challenge on data management towards health planning?
    - Probe on availability of data, usage of data, feedback
    - Probe on the perceived attitude of HW
    - Probe on Resource availability
14) How can the success be maintained/challenges be eliminated?
    - Probe on behavioral, technical and organizational factors(for every process separately)
15) What motivates you to perform data management?
    - Probe on the potential incentives that could be introduced to encourage it
16) What do you think could be done differently to improve data management in health planning process?
17) Do you have anything else to share regarding your experience on data management in health planning process?
    - Probe on the factors influencing(Behavioral, technical, organizational)

Thank you for participating in the study.

AppendixI: Interview guide-Swahili version

Kuchunguza sababu zinazoshawishi usimamizi wa takwimu kwenye michakato ya mipango wa afya wa wilaya katika wilaya ya Kibaha mjini.

Nyenzo 1: Mwongozo wa Mahojiano na wafanyakazi vituo vya afya

Muhojaji atauliza maswali na kusubiri mhojiwa ajibu na baadae mhojaji atapepeleza majibu yaliyotolewa kwa undani zaidi.

1) Yapi maoni yako kuhusu usimamizi wa takwimu kwenye michakato ya mpango wa wilaya katika kituo chako cha afya?
    - Peleleza kujua uelewa kwa kila hatua tofauti
2) Je mnafanya usimamizi wa takwimu kwenye kituo chako cha afya?(peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
3) Kama ndiyo, peleleza juu ya aina na vyanzo vya takwimu
    - Peleleza ni mara ngapi wanakusanya takwimu
    - Kama jibu ni hapana, uliza sababu na wapi wanapata takwimu wanazotumia
4) Ni kwa jinsi ipi mnafanya usimamizi wa takwimu?(peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Kama unafanyika, omba kuona wanafanyaje (andika wanavyofanya
5) Unaweza kuniambia lengo kuu la usimaizi wa takwimu?(?(peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Peleleza kujua wanauonaje umuhimu wake.
6) Ni nyenzo zipi huwa mnatumia? (peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Peleleza kujua ugumu wake

7) Je matumizi ya tekinolojia ya juu/program ya kompyuta inaweza kuwezesha kuboresha usimamizi wa takwimu?
    - Peleleza kujua kama wafanyakazi watafurahia kuzitumia au kitakua ni kitu cha kujifunza bila kukitumia
    - Peleleza kujua nini kizingatiwe katika kubuni nyenzo ili ziweze kutumika kwa wafanyakazi wa kituo cha afya
8) Je umeshiriki mafunzo yoyote ya usimamizi wa takwimu yaliyoandaliwa na taasisi yoyote?
    - peleleza juu ya ujuzi
    - Peleleza juu ya athari za mafunzo hayo
9) Je unajisikiaje kuhusu usimamizi wa takwimu? (peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Peleleza kujua mtazamo wanaouona

Je kuna kuna ufuatiliaji wowote unafanyika kurahisisha usimamizi wa takwimu katika kituo chako cha afya?

- Peleleza kujua nani anafanya ufuatiliaji
- Ni mara ngapi ufuatiliaji umefanyika
- Peleleza kujua faida na changamoto za ufuatiliaji
- Je ungependa ufuatiliaji ufanyike kwa jinsi nyingine?kama ndiyo, ipi?

10) Je nini mchango wa wilaya au taifa kwenye usimamizi wa takwimu? (peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)
    - Peleleza juu ya rasilimali/msaada wa kifedha
    - Utamaduni wa matumizi ya taarifa/habari
    - Usambazaji taarifa/habari

11) Je unafikiri ni kwa jinsi gani usimamizi wa takwimu umeathiri mpango wa afya katika wilaya yako?

12) Je unafafanua nini kama mafanikio katika uzoefu wako wa usimamizi wa takwimu kwenye mpango wa afya? (peleleza tofauti kwenye ukusanyaji, ulinganishwaji, uchambuzi, kutoa na kupokea taarifa na matumizi ya takwimu)

13) Je ni changamoto gani zipo kwenye usimamizi wa takwimu zinazokwamisha mpango wa afya?

- Peleleza juu ya uwepo wa takwimu, matumizi na mrejesho
- Peleleza kujua mtazamo wa wafanyakazi wa vituo vya afya
- Peleleza kujua uwepo wa rasilimali

14) Je ni kwa jinsi gani mafanikio yanaweza kudumishwa na changamoto zinaweza kuondolewa?

- Peleleza tofauti kwenye sababu za za kitabia, kiufundi na kishirika/kitaasisi

15) Je ni nini kinakusuma wewe kwenye kutenda kazi katika usimamizi wa takwimu?

- Peleleza kujua kama kuna motisha zinazoweza kuanzishwa kuhamasisha hili

16) Je unafikiri kitu gani tofauti kifanyike ili kuboresha usimamizi wa takwimu?

17) Je una lolote la kuongezea kuhusu uzoefu wako wa usimamizi wa takwimu kwenye mpango wa afya?

- Peleleza kwenye sababu zinazoshawishi (za kitabia, kiufundi na kishirika/kitaasisi)

Asante kwa kushiriki katika utafiti huu

Appendix VII: Observation checklist

District Council:		
Observer :	**Date**	
ITEMS	**NO**	**YES**
Presence of CCHP guideline and annual reports with the indicators		
Presence of updated DHMIS organizational chart showing functions related to data		
Availability of trained human resource		
Presence of Action plan and advocacy		
Presence indicator performance charts, graphs and table displayed		
Presence of staff meeting minutes reflecting reports, data and feedback from health facility or district		
Presence of action work plan relating identified data gaps and how they were addressed		
Presence of updated database for monthly reports submitted to the district		
Presence of performance improvement tools like flow charts, QI journals, charts and projects		
Presence of data training manual and guide		
Presence of supervisory checklist And report		
Presence of information flow chart		
Presence of budget plan for data management		
Existence of functioning software		

Appendix VIII: Observation checklist

Wilaya:		
Observer :	**Date**	
ITEMS	**NDIYO**	**HAPANA**
Uwepo wa mwongozo wa mpango kabambe wa wilaya na ripoti za mwaka zenye viashiria		
Uwepo wa DHMIS chati inayohusiana na takwimu		
Uwepo wa rasilimali watu wenye mafunzo		
Uwepo wa mpango wa utelekezaji na uhamasishaji		
Uwepo wa chati, grafu na jedwali za viashiria vya utendaji		
Uwepo wa minutes za mikutano ya wafanyakazi kuonyesha ripoti, data na mrejesho wa kituo cha afya au wilaya		
Uwepo wa data base ya ripoti za mwezi za kuwasilishwa wilayani		
Uwepo wa nyenzo za kuboresha utendaji kama flow charts, QI journals, charts and projects		
Uwepo wa mwongozo na mafunzo ya takwimu		
Uwepo wa orodha na ripoti za ufuatiliji		
Uwepo wa chati ya mtiririko wa taarifa		
Uwepo wa mpango wa bajeti ya usimamizi wa takwimu		
Uwepo wa program(kompyuta) zinazofanya kazi		

Appendix IX: Observation checklist

Health facility:		
Observer :	**Date**	
ITEMS	**NO**	**YES**
Presence of data collection tools		
Presence of updated data organizational chart showing functions related to data		
Presence of targets displayed		
Presence of indicator performance charts, graphs and table displayed		
Presence of staff meeting minutes reflecting reports, data and feedback from the district discussed		
Presence of action work plan relating identified data gaps and how they were addressed		
Presence of performance improvement tools like flow charts, QI journals, charts and projects		
Presence of data training manual and guide		
Presence of supervisory checklist and report		
Presence of skilled staff		
Presence of information flow chart		
Presence of updated database for monthly reports submitted to the district		
Existence of functioning software		

Appendix X: Observation checklist

Kituo cha afya:		
Observer :	**Tarehe**	
ITEMS	**NDIYO**	**HAPANA**
Uwepo wa nyezo za ukusanyaji takwimu		
Uwepo wa data organizational chart inayoonyesha kazi zinazohusiana na takwimu		
Uwepo wa malengo(targets)		
Uwepo wa chati, grafu na jedwali za viashiria vya utendaji		
Uwepo wa minutes za mikutano ya wafanyakazi kuonyesha ripoti, takwimu na mrejesho wa kituo cha afya au wilaya		
Uwepo wa mpango wa utelekezaji unaohusina na mapengo yaliyoanishwa na jinsi yalivyotatuliwa		
Uwepo wa nyenzo za kuboresha utendaji kama flow charts, QI journals, charts and projects		
Uwepo wa mwongozo na mafunzo ya takwimu		
Uwepo wa orodha na ripoti za ufuatiliji		
Uwepo wa wafanyakazi wenye ujuzi		
Uwepo wa chati ya mtiririko wa taarifa		
Uwepo wa data base ya ripoti za mwezi za kuwasilishwa wilayani		
Uwepo wa program(kompyuta) zinazofanya kazi		

Appendix XI: Ethical clearence letter

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR OF POSTGRADUATE STUDIES

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DAR ES SALAAM
TANZANIA
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Ref. No. MU/ PGS/SAEC/Vol. X/

16th August, 2017

Ms. Clara Chidi
Master of Public Health
MUHAS.

RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED: "INVESTIGATION OF FACORS INFLUENCING DTA MANAGEMENT IN DISTRICT HEALTH PLANNING PROCESS IN KIBAHA TOWN COUNCIL"

Reference is made to the above heading.

I am pleased to inform you that, the Chairman has, on behalf of the Senate, approved ethical clearance for the above-mentioned study. Hence you may proceed with the planned study.

The ethical clearance is valid for one year only, from 15th August, 2017 to 14th August, 2018. In case you do not complete data analysis and dissertation report writing by 14th August, 2018, you will have to apply for renewal of ethical clearance prior to the expiry date.

Prof. Andrea B. Pembe
DIRECTOR OF POSTGRADUATE STUDIES

cc: Director of Research and Publications
cc: Dean, School of ~~Medicine~~ PHSS
cc: Dr. Mughwira A. Mwangu

Appendix XII: Introduction letter from Pwani region

JAMHURI WA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

SIMU: "REGCOM COAST"
Simu. 02-2402500.
Fax Na. 02-2402250/2402686/2402151
Barua pepe: rmo@pwani.go.tz
rhmt@pwani.go.tz
Unapojibu tafadhali taja:
Kumb. Na. DCD.128/140//01/66

Ofisi ya Mkuu wa Mkoa,
Mkoa wa Pwani,
S.L.P 30080,
KIBAHA.

18/08/2017

Mkurugenzi Mtendaji,
Halmashauri ya Mji,
Kibaha.

Mkurugenzi Mtendaji,
Shirika la Elim Kibaha.

YAH: KUMPA USHIRIKIANO MWANAFUNZI WA MUHAS CLARA CHIDI KATIKA UTAFITI WAKE WA TAKWIMU ILI KUKAMILISHA MAFUNZO YAKE YA SHAHADA YA UZAMILI (MPH)

Husika na kichwa cha habari hapo juu, Mhusika ni mwanafunzi wa Chuo cha Muhimbili (MUHAS) ambaye anachukua Shahada ya Uzamili katika Afya ya Jamii (MPH). Yuko katika kufanya utafiti ili kukamilisha kupata matakwa ya shahada hiyo.

Naomba umpe ushirikiano ili aweze kufanikisha adhima yake hiyo. Naambatanisha barua ya kuruhusiwa kufanya tafiti hiyo na chuo chake.

Dr. Beatrice Byalùgaba
Kny: KATIBU TAWALA MKOA PWANI

Nakala kwa: Mganga Mkuu Mji,
Kibaha.

" " Mganga Mfawidhi,
Hospitali ya Rufaa Tumbi,
Kibaha.