ASSESSMENT OF FACTORS THAT AFFECT PERFORMANCE IN SURGICAL SERVICES IN TANZANIA:
THE CASE OF MUHIMBILI NATIONAL HOSPITAL

By
Maurice Peter Mavura

A Dissertation Submitted in Partial Fulfillment of the Requirement for the Award of Degree of Masters of Science in Leadership and Management (MSc-L&M) of Mzumbe University

2019
CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a thesis entitled; “Assessment of Factors That Affect Performance in Surgical Services in Tanzania: The Case of Muhimbili National Hospital”, in a partial fulfilment of the requirements for award of the degree of Master of Science in Leadership and Management (MSc-L&M) of Mzumbe University

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ACKNOWLEDGEMENT

The successful accomplishment of this study is the result of various views ideas and assistance from my close relatives and friends. I wish to send my sincere gratitude to all of them for their support. In particular I would like to thank my God the creator and the following:

Firstly, I thank my supervisor Dr. Faisal Issa of Mzumbe University whose courage and guidance contributed much to the success of this work from the beginning to the finalization of this work.

Secondly, my sincere thanks should go to the management of the Muhimbili National Hospital for their cooperation during data collection.

Thirdly, I would like to thank all Professors and Lectures of Mzumbe University, Dar es Salaam Campus College, for their tireless efforts in imparting me with Managerial and Leadership knowledge and skills. These great people will remain as my Role Models.
DEDICATION

This Research is dedicated to my beloved Parents, Peter Mavura and Nipael Mavura, who have always been the source of inspiration, and who persistently encouraged me to value knowledge and skills.

I, also, dedicate the Research to Almighty God. God thank you for giving me the Opportunity to be Part of Mzumbe University Family, the ever shining and Reputable University.
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APHFTA</td>
<td>Association of Private Health Facilities in Tanzania</td>
</tr>
<tr>
<td>CCBRT</td>
<td>Comprehensive Community Based Rehabilitation in Tanzania</td>
</tr>
<tr>
<td>CHF</td>
<td>Community Health Fund</td>
</tr>
<tr>
<td>CSSC</td>
<td>Christian Social Service Commission</td>
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<tr>
<td>CT</td>
<td>Computed Tomography</td>
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<tr>
<td>e</td>
<td>electronic</td>
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<tr>
<td>f</td>
<td>frequency</td>
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<tr>
<td>FBO</td>
<td>Faith Based Organisation</td>
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<tr>
<td>GPD</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>HICs</td>
<td>High-Income Countries</td>
</tr>
<tr>
<td>KCMC</td>
<td>Kilimanjaro Christian Medical Centre</td>
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<tr>
<td>LMICs</td>
<td>Low- and Middle-Income Countries</td>
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<td>MNH</td>
<td>Muhimbili National Hospital</td>
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<tr>
<td>MOI</td>
<td>Muhimbili Orthopaedic Institute</td>
</tr>
<tr>
<td>MRI</td>
<td>Magnetic Resonance Imaging</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental Organisation</td>
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<tr>
<td>NHIF</td>
<td>National Health Insurance Fund</td>
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<tr>
<td>NSOAP</td>
<td>National Surgical, Obstetrical, and Anaesthetic Plan</td>
</tr>
<tr>
<td>ORCI</td>
<td>Ocean Road Cancer Institute</td>
</tr>
<tr>
<td>PET</td>
<td>Positron Emission Tomography</td>
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<tr>
<td>RCH</td>
<td>Reproductive and Child Health</td>
</tr>
<tr>
<td>RHC</td>
<td>Rural Health Clinic</td>
</tr>
<tr>
<td>SHOPS</td>
<td>Sustaining Health Outcomes through the Private Sector</td>
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<tr>
<td>UNICEF</td>
<td>United Nations International Children’s Emergency Fund</td>
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<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
</tbody>
</table>
ABSTRACT

Surgical care is a vital service which should undergo surveillance so as to identify factors that affect its performance. This is a case study whose main objective was to assess factors that affect the performance of surgical services in Tanzania. The specific objectives were to identify factors which are related to the referral system, patients, employees, and to hospital, that contribute to the poor performance in surgical services.

The data was collected from employees of the Department of General Surgery through questionnaires, from patients admitted in general surgical wards through schedules, and observation was carried out in the operating rooms and in the departmental meeting room. Purposive sampling was employed. Analysis of the data was done aiming at answering the research questions.

The study revealed that the performance in surgical care is contributed by the poor economy of the country, poorly managed and inefficient referral system, MNH holding unofficial roles of all health facilities along the referral hierarchy and lack of a zonal referral hospital for communities residing in the coastal zone. Late presentation of diseases emerged as one of the prominent human related factors, whereas poor human resource management and poor time management were the hospital related factors that were identified.

Recommendations were made aiming at improving the quality of surgical services and relieving the surgical care from the burden by tackling the above identified factors. The need to improve infrastructure, diagnostic and therapeutic equipment to all health care levels, in addition to improving human resource management, were recommended.

However, further Researches aiming at identifying more factors, particularly: factors that contribute to retardation of economic growth and development in Tanzanian, factors affecting the efficiency and effectiveness of health facilities and the referral system, and factors contributing to poor employees’ performance were recommended too.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Pages</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CERTIFICATION ................................................................................................................i</td>
<td></td>
</tr>
<tr>
<td>DECLARATION AND COPYRIGHT .............................................................................................ii</td>
<td></td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT .............................................................................................................iii</td>
<td></td>
</tr>
<tr>
<td>DEDICATION ........................................................................................................................iv</td>
<td></td>
</tr>
<tr>
<td>ABBREVIATIONS ..................................................................................................................v</td>
<td></td>
</tr>
<tr>
<td>ABSTRACT ...........................................................................................................................vi</td>
<td></td>
</tr>
<tr>
<td>TABLE OF CONTENTS ...........................................................................................................vii</td>
<td></td>
</tr>
<tr>
<td>LIST OF TABLES ...................................................................................................................x</td>
<td></td>
</tr>
<tr>
<td>LIST OF FIGURES ................................................................................................................xi</td>
<td></td>
</tr>
<tr>
<td>CHAPTER ONE .....................................................................................................................1</td>
<td></td>
</tr>
<tr>
<td>PROBLEM SETTING .............................................................................................................1</td>
<td></td>
</tr>
<tr>
<td>1.1 Introduction ...................................................................................................................1</td>
<td></td>
</tr>
<tr>
<td>1.2 Background of the Study ............................................................................................. 1</td>
<td></td>
</tr>
<tr>
<td>1.3 Statement of the Problem ............................................................................................ 7</td>
<td></td>
</tr>
<tr>
<td>1.4 Objectives of the Study ............................................................................................... 7</td>
<td></td>
</tr>
<tr>
<td>1.4.1 Main Objective ......................................................................................................... 7</td>
<td></td>
</tr>
<tr>
<td>1.4.2 Specific Objectives .................................................................................................. 7</td>
<td></td>
</tr>
<tr>
<td>1.5 Research Questions .......................................................................................................8</td>
<td></td>
</tr>
<tr>
<td>1.5.1 Main Research Question ..........................................................................................8</td>
<td></td>
</tr>
<tr>
<td>1.5.2 Specific Research Questions .................................................................................... 8</td>
<td></td>
</tr>
<tr>
<td>1.6 Significance of the Study ............................................................................................ 8</td>
<td></td>
</tr>
<tr>
<td>1.7 The Scope of the Study ............................................................................................... 9</td>
<td></td>
</tr>
<tr>
<td>1.8 Limitations of the Study .............................................................................................. 9</td>
<td></td>
</tr>
<tr>
<td>CHAPTER TWO ...................................................................................................................10</td>
<td></td>
</tr>
<tr>
<td>LITERATURE REVIEW .........................................................................................................10</td>
<td></td>
</tr>
<tr>
<td>2.1 Introduction ...................................................................................................................10</td>
<td></td>
</tr>
<tr>
<td>2.2 Conceptual Definitions ............................................................................................... 10</td>
<td></td>
</tr>
<tr>
<td>2.2.1 Surgical Care ........................................................................................................... 10</td>
<td></td>
</tr>
<tr>
<td>2.2.2 Surgical Service Performance ............................................................................... 11</td>
<td></td>
</tr>
<tr>
<td>2.2.3 Surgical Care Barriers ............................................................................................ 12</td>
<td></td>
</tr>
<tr>
<td>2.3 Theoretical Literature Review ................................................................................... 13</td>
<td></td>
</tr>
<tr>
<td>2.3.1 Fish tank Metaphor and Organizational Performances ......................................... 13</td>
<td></td>
</tr>
<tr>
<td>2.3.2 Expectancy theory of Motivation and Organisational Performance ..................... 14</td>
<td></td>
</tr>
<tr>
<td>2.2.3 The Carrot and Stick Metaphor and Organisational Performance ..................... 16</td>
<td></td>
</tr>
<tr>
<td>2.5 Empirical Literature Review ....................................................................................... 17</td>
<td></td>
</tr>
<tr>
<td>2.5.1 World Related Studies ............................................................................................ 17</td>
<td></td>
</tr>
<tr>
<td>2.5.2 African Related Studies .......................................................................................... 19</td>
<td></td>
</tr>
<tr>
<td>2.5.3 Research/ Knowledge Gap ..................................................................................... 21</td>
<td></td>
</tr>
<tr>
<td>2.6 Conceptual Framework .............................................................................................. 22</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER THREE  ................................................................. 24
RESEARCH METHODOLOGY .................................................. 24
  3.1 Introduction ...................................................................... 24
  3.2 Research Design ............................................................. 24
  3.3 Area of the Study ............................................................ 24
  3.4 Study Population ............................................................ 25
  3.5 Sample Size ..................................................................... 26
  3.6 Sampling Procedures ....................................................... 26
  3.7 Source and Type of Data ................................................... 27
  3.8 Data Analysis Procedures ................................................ 27
  3.9 Data Management .......................................................... 28
  3.9.1 Data Coding ............................................................... 28
  3.9.2 Data Editing/ Cleaning ............................................... 28
  3.10 Validation and Reliability of Data .................................... 28
  3.10.1 Data Validity ............................................................ 28
  3.10.2 Data Reliability ........................................................ 29
  3.11 Ethical Concerns ............................................................ 30

CHAPTER FOUR ....................................................................... 31
DATA ANALYSIS AND PRESENTATION OF FINDINGS ............... 31
  4.1 Introduction ...................................................................... 31
  4.2 Characteristics of Respondents ......................................... 31
  4.3 Employees of the Department of Surgery, MNH .................. 32
  4.3.1 Job Experience ........................................................... 32
  4.3.2 Promotion and Salary Increments ................................... 32
  4.3.3 Short Course (Technical) Training ................................. 33
  4.3.4 Factors to be tackled to Improve Working Environment .... 38
  4.4 Theatre Utilization at MNH .............................................. 39
  4.5 Morning Meeting ........................................................... 42
  4.6 Characteristics of Patients ............................................... 44
  4.6.1 Characteristics of the Referral System ........................... 44
  4.6.2 Duration of Illness at Presentation ................................. 51

CHAPTER FIVE ......................................................................... 53
CONCLUSION AND RECOMMENDATIONS .............................. 53
  5.1 Introduction ...................................................................... 53
  5.2 Conclusion ........................................................................ 53
  5.2.1 General Factors .......................................................... 53
  5.2.2 Human Related Factors ................................................. 56
  5.2.3 Hospital Related Factors .............................................. 57
  5.3 Recommendations ........................................................ 59
  5.3.1 Enhancing Economic Growth and Development ............ 59
  5.3.2 Improving Performance in the Whole Health System ....... 62
  5.3.3 Facilitation of Health Care Seeking Behaviour ................. 63
  5.3.4 Optimisation of Employees’ Performance ....................... 63
5.3.5 MNH Management ................................................................. 64
5.3.6 Recommendation for Further Research ................................. 66

REFERENCES ............................................................................... 68

APPENDICES ............................................................................. 77
Appendix A: PATIENT’S QUESTIONNAIRE ................................. 77
Appendix B: HEALTH CARE PROVIDER’S QUESTIONNAIRE .......... 80
Appendix C: OBSERVATION IN MORNING MEETING .................. 81
Appendix D: OBSERVATION IN THE OPERATING ROOM .......... 82
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 3.1</td>
<td>Expected Sample Distribution</td>
<td>26</td>
</tr>
<tr>
<td>Table 3.2</td>
<td>Action plan for the Research Process</td>
<td>30</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>Frequency Distribution of Employees According to Work Experience in Years</td>
<td>32</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Frequency Distribution of Employees According to Promotion and Salary Increment within Past 4 Years</td>
<td>33</td>
</tr>
<tr>
<td>Table 4.3</td>
<td>Frequency Distribution of Employees According to Attendance for Short Courses Over Past 10 Years</td>
<td>33</td>
</tr>
<tr>
<td>Table 4.4</td>
<td>Frequency Distribution according to the last Year of training</td>
<td>34</td>
</tr>
<tr>
<td>Table 4.5</td>
<td>Distribution According to the Level of Job satisfaction</td>
<td>36</td>
</tr>
<tr>
<td>Table 4.6</td>
<td>Frequency Distribution of Suggestions to Improve Performance Depending on Profession of Respondents</td>
<td>37</td>
</tr>
<tr>
<td>Table 4.7</td>
<td>Frequency Distribution According to Profession and Willingness to Work in Health Facilities at the Regions</td>
<td>39</td>
</tr>
<tr>
<td>Table 4.8</td>
<td>Frequency Distribution of Time Wasted to Start Operations (Beyond Official 8:30am)</td>
<td>40</td>
</tr>
<tr>
<td>Table 4.9</td>
<td>Frequency Distribution of Time Wasted between Operations</td>
<td>41</td>
</tr>
<tr>
<td>Table 4.10</td>
<td>Frequency Distribution of Attendance to Morning Meeting According to Degree of Participation to Discussion</td>
<td>43</td>
</tr>
<tr>
<td>Table 4.11</td>
<td>Frequency Distribution According to Region, Sex and Referral Status</td>
<td>46</td>
</tr>
<tr>
<td>Table 4.12</td>
<td>Frequency Distribution of Self-Referrals According to Reasons</td>
<td>47</td>
</tr>
<tr>
<td>Table 4.13</td>
<td>Frequency Distribution according to Referring Health facility and Sex in Dar es Salaam</td>
<td>48</td>
</tr>
<tr>
<td>Table 4.14</td>
<td>Frequency Distribution According to All Referring Facilities in all Regions and Sex</td>
<td>49</td>
</tr>
<tr>
<td>Table 4.15</td>
<td>Frequency Distribution According to the Reason for Self-Referral</td>
<td>51</td>
</tr>
<tr>
<td>Table 4.16</td>
<td>Frequency Distribution According to Duration of Symptoms</td>
<td>52</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1.1</td>
<td>Tanzanian Health System Referral Pyramid</td>
<td>4</td>
</tr>
<tr>
<td>Figure 2.1</td>
<td>Demonstration of Improved Performance in order to Get the Carrot, According To The Expectancy Theory OF Motivation</td>
<td>15</td>
</tr>
<tr>
<td>Figure 2.2</td>
<td>Showing Key Elements of Expectancy Theory</td>
<td>16</td>
</tr>
<tr>
<td>Figure 2.3</td>
<td>The Carrot and Stick Metaphor Showing the Impact of Reward and Punishment in Organisation Performance</td>
<td>17</td>
</tr>
<tr>
<td>Figure 2.4</td>
<td>Percentage of Tanzanian Government Budget Spent on Health</td>
<td>21</td>
</tr>
<tr>
<td>Figure 2.5</td>
<td>Conceptual Framework</td>
<td>22</td>
</tr>
<tr>
<td>Figure 2.6</td>
<td>Conceptual Framework</td>
<td>23</td>
</tr>
<tr>
<td>Figure 4.1</td>
<td>Cumulative Frequency Polygon</td>
<td>35</td>
</tr>
<tr>
<td>Figure 4.2</td>
<td>Pie Chart showing Percentage distribution of Course Sponsorship</td>
<td>35</td>
</tr>
<tr>
<td>Figure 4.3</td>
<td>Stacked/Subdivided Graph Showing Percentage Distribution Depending on the Level of Satisfaction</td>
<td>37</td>
</tr>
<tr>
<td>Figure 4.4</td>
<td>Stacked/Subdivided Bar Diagrams Showing Frequency Distribution of Suggestions To Improve Individual Performance</td>
<td>38</td>
</tr>
<tr>
<td>Figure 4.5</td>
<td>Deviation Diagram Showing Time Wasted in Opera Ting Theatre</td>
<td>41</td>
</tr>
<tr>
<td>Figure 4.6</td>
<td>A Deviation Pictogram Showing Average Time Wasted between Operations</td>
<td>42</td>
</tr>
<tr>
<td>Figure 4.7</td>
<td>Stacked/Subdivided Bar Diagram Showing Frequency Distribution According to the Level of Participation In Meeting Sessions and According to Cadre</td>
<td>44</td>
</tr>
<tr>
<td>Figure 4.8</td>
<td>Map of Tanzania Showing Regions</td>
<td>48</td>
</tr>
<tr>
<td>Figure 4.9</td>
<td>Stacked/Subdivided Bar Diagram Showing Frequency Distribution of Referred Patients According To Referring Health Facility and Sex of Patients, in Dar es Salaam</td>
<td>49</td>
</tr>
<tr>
<td>Figure 4.10</td>
<td>Stacked/Subdivided Bar Diagram Showing Frequency Distribution According to Referring Health Facility in All Regions and Sex</td>
<td>50</td>
</tr>
</tbody>
</table>
Figure 4.11: Pie Chart showing frequency distribution of Referring Health Facilities in all regions .................................................. 50

Figure 5.1: Tanzania Distribution of Employment by Economic Sector from 2007 to 2017.............................................................. 60
CHAPTER ONE

PROBLEM SETTING

1.1 Introduction
This study aimed at assessing factors which affect surgical service performance in Tanzania. The independent factors were factors that were related with the health system in Tanzania, patient related factors, employee related factors and hospital related factors. The surgical service performance, the dependent factor, was assessed in terms of efficiency, effectiveness, productivity and timeliness. This chapter presents the background of the study, statement of the problem, general and specific objectives, general and specific research questions, the significance of the study, the scope of the study and limitations of the study.

1.2 Background of the Study
Economy divides regions on the globe into High-Income Countries and Low- and Middle Income countries. Due to the influence of economy on social development a significant difference in surgical care, between the two regions, in terms of quality, safety, accessibility and affordability, emerged. This followed a significant progress in surgical and anaesthetic care in HICs, over the past 25 years, accompanied with stagnation or regression of the care in the LMICs. Hence, high morbidity and mortality rates due to poor surgical and anaesthetic care safety, accessibility, availability and affordability, are still major public health problems in LMICs (Shrime, Bickler, Alkire, &Mock, 2015).

In order to improve the surgical care in LMICs it is mandatory to identify factors which are responsible for the poor surgical care through research. This may enable the Governments and policy makers to formulate effective strategies for development of both, economy (Hudson & Khazragui, 2012) and surgical care, as the two are inseparable (WHO, 2008).
In this chapter the following will be presented: background of the study; statement of the problem; research questions, both the main question and specific questions; research objectives, both the general objective and specific objectives; research hypothesis; significance of the study; the scope of the study; limitations and delimitations of the study. Lastly, the summary of the chapter will be discussed.

Diseases that require surgical treatment contribute up to one-third of the whole Global Burden of diseases making surgical services indispensable part of the Global Health Care. To combat this global load, the emergency and essential surgical care should be optimised in order to promote the Global Health which will ultimately, among other positive advantages, boost the Global Economy (Shrime et al., 2015).

The low availability, accessibility and timely essential surgical care in LMICs, and the associated high morbidity and mortality due to surgically treatable diseases, are mainly due to: low economy, in these countries, which lower the ability to produce and to consume the service (Fakt, 2018); suboptimal financial and political support for surgical care, due to failure of Governments to fund health services adequately; Governments’ misconception, in the LMICs, that the services require highly trained workforce, expensive sophisticated equipment, and only a smaller proportion of the population need the service compared to the bigger proportion which requires non-surgical interventions; less funds being allocated for curative services, while preventive programs for communicable diseases receiving most of the funds; and ineffective strategies and policies by Governments on health in LMICs (Kiwanuka et al., 2008).

The poor surgical care, in LMICs, is responsible for excess morbidity and mortality due to injuries following road traffic accidents, complicated deliveries, cancers and cerebrovascular accidents, morbidity and mortality which could be averted in settings with strong health systems (Kruk, 2018). The poor accessibility to surgical care makes only 10 percent of patients to have access to timely surgery (Meara et al., 2015), whereas the unavailability significantly makes treatment of some surgical
diseases impossible: in Sierra Leone, for instance, 25 percent of surgical pathologies
don’t receive any surgical interventions (Groen et al., 2012).

The World Bank, in collaboration with WHO, has set strategies for the LMICs with a
goal of achieving a quality surgical care and achieve a coverage of 30 percent by the
year 2030. These are to be achieved through improving accessibility, availability and
affordability through financing Health care systems and improving surgical care
skills for essential surgical care and anaesthesia amongst surgical care providers
(Bickler, 2009). Health funding, in LMICs, has remained unsustainable and largely
dependent on foreign donors and citizen paying cash from their pockets. In Tanzania,
for instance, the Health Insurance Schemes, the NHIF, CHIF, and others, contribute
very little due to their poor coverage of only 15-16 percent that is 7.2 Million people,
compared to 28 percent coverage, 12.3 Million people, in Kenya. It is, without doubt,
evident that failure of majority of citizens to get timely surgical services is chiefly
contributed by unaffordability of the services (Dutta, 2015).

While discussing the performance of the surgical services, the health referral system
needs to be considered. According to SHOPS (2013), the health referral system of
Tanzania starts, in the ascending order of superiority: at a dispensary level, district
hospital level, regional referral hospital level and zonal level (See Fig 1.1). The top
most level is the National Referral Hospital. Indications of transfer from one level to
another include: the complexity of the disease, lack of diagnostic and therapeutic
tools, and requirement of higher expertise (Simba, Mbemati, Museru & Lema,
2008).

The referral system is faced by a number of challenges: local beliefs, diversion of
patients to traditional healers; delays at the referring facility and inappropriate
referrals, both due to poor performance and supervision within the health facilities;
financial constrains as a result of inadequate funds that are allocated to the health
sector which result to inability to adequately motivate Health Workers, improving
working environment, and to run health programs efficiently.
Lack of efficient communication, poor infrastructure for transport further add to the challenges (Manzi et al, 2012). As a result, the patients who make it to the National Referral Hospital are always very sick, owing to delayed presentation, hence needing prolonged stabilization before surgery and at times unfit for surgery. The ultimate results of these challenges are the low efficiency and poor performance of the Health system (Swere & Kelvin, 2016).

Figure 1.1: Tanzanian Health System Referral Pyramid

Simba et al. (2008) describe the Main Referral Hospital as the topmost facility, in the hierarchy, where patients should receive the services which couldn’t be obtained at the lower levels.

Source: SHOPS Project, 2013
With no doubt, the services at this top most level should be optimal in terms of expertise, skills, diagnosis and treatment. Hence, factors within the hospital may have impact to the performance of surgical services.

Tate (2013) considers as an organisation, like MNH, as a system through which human interactions occur, with the aim of delivering health services to patients, medical education to the future doctors, and conducting research. How well these tasks are accomplished depends on how conducive the environment is in favouring employee performance. The environment, in this scenario, is constituted by all systemic factors that surrounds an employee such as; the nature of human resource management, which has a role in determining the welfare of employees, job satisfaction, continuous acquisition of skills and knowledge through training; time management and daily schedules of the hospital, which determines how much time is available for research, teaching and surgical service; availability of working tools (Essays, 2018); and work load that exceeds the optimum employee to patient ratio (Tran & Davis ,2012). Time management in a hospital is another important determinant of efficiency, performance and productivity, hence, any factor that leads to time waste or utilization should be discouraged (Ziekye, 2016).

According to Pascoe (2017), MNH may be likened to a Fish Tank within which fish and other aquatic organisms (employees and managers) interact, swim, navigate and live. The water within the tank represents the social, working, teaching and learning environment within the Hospital. The water provides essential nutrients, oxygen, and makes visibility possible (good interaction, constructive disagreements, good leadership, safe working environment, motivation, etc.). The cleanness and the components of the water determine the competency of individual fish (performance of individual employee and manager). When the water is polluted with toxins produced by the Fish, or food particles as improperly introduced by the pond keepers, (employees, managers, and Government), the performance of the fish is hampered as the pollutants lead to stress, frustration and confusion. In an Organisation these will manifest as poor performance by individual employee and
the Hospital as a whole. The unseen, but strongly felt, undercurrents within the water (nepotism, lack of respect, impatience, lack of motivation, jealousness, and lack of good prospects after retirement) also affect the performance of fish.

Like the Fish Tank, MNH performance is affected by the following external factors: economy of the country which determines the Government’s ability to fund the health sector, ability of the country to produce surgical services, and ability of the citizens to consume the services; political factors which plays part in formulating, supervision of the implementation of policies; technological factors which determine the effectiveness in communications, application technology in diagnostic and therapeutic facilities in the management of diseases; environmental factors which determine the mode of transport and accessibility to health facilities (See Fig. 4.8); social and cultural factors which determine the communities’ perception to diseases, perception to treatment, and health service seeking behaviour; and legal factors which may influence the practice, attitude and personality of surgical care providers (Mosadeghrad, 2014).

According to Pascoe (2017), what determines employee performance is the system they work in, hence, managers are obliged to create an environment and atmosphere which is conducive enough to enhance employee performance as employees are not the major determinants of their own performance. “The strength of the fish is in the water” (Pascoe, 2018). Developing and training an employee or employees then the employee comes back well trained but finding the same systemic problems, is like cleaning and polishing the fish then take it back to the dirt and unfavourable water in the tank. The water which made the fish inefficient must be tackled too. With this description, we ought to conclude that even the competent employees and managers fail because of the incompetent and ineffective system (Tate, 2009).
1.3 Statement of the Problem

The performance of surgical service in Tanzania, like in the rest of the LMICs, is suboptimal. Consequently, disease and treatment related morbidity and mortality are higher as compared to the rates in HICs (Weisser & Gawande, n.d). Despite several strategies and interventions by the Government, Non-governmental and International Organisations the performance has remained low due to a lack of research which would have guided these stakeholders to factors which needed to be mitigated (Rowe, Rowe, Peters, Holloway, Chalker & Degnan, 2018).

This suboptimal performance in surgical services required innovative solutions, hence, this Qualitative Case study explored factors that contributed to the suboptimal performance: the health system related factors, patient related factors, employee related factors and hospital related factors. The data and knowledge that were generated from this study, which was conducted at Muhimbili National Hospital, may provide the Government, policy makers and other stakeholders with information as to how they may address and mitigate the factors which contributed to the suboptimal performance.

1.4 Objectives of the Study

1.4.1 Main Objective

The overall objective of this study was to assess factors that affect performance in surgical services in Tanzania.

1.4.2 Specific Objectives

The specific objectives developed from the main objective relating the study were as follows:

(i.) To identify referral system related factors that affect performance in surgical services in Tanzania.

(ii.) To identify patient related factors that affect performance in surgical services in Tanzania.
To identify employee related factor that affect performance in surgical services in Tanzania.

To identify hospital related factors that affect performance in surgical services in Tanzania.

1.5 Research Questions
The following research questions were developed to guide the study on assessing surgical care burden and barriers in Tanzania.

1.5.1 Main Research Question
What are the factors that affect performance in surgical services in Tanzania?

1.5.2 Specific Research Questions
(i.) What are the referral system related factors that affect performance in surgical services in Tanzania?
(ii.) What are the patient related factors that affect performance in surgical services in Tanzania?
(iii.) What are the employee related factors that affect performance in surgical services in Tanzania?
(iv.) What are the hospital related factors that affect performance in surgical services in Tanzania?

1.6 Significance of the Study
This study may lead to results and recommendations which, once worked upon by the Government and policy makers, a positive impact on the quality of surgical services may be revealed. This may only be accomplished through generating knowledge that may guide the decision makers, managers and Policy makers in identifying areas that need improvement or changes such as: health care seeking behaviour; the referral system; capacity building to all health care centres in order to eliminate unnecessary referrals; human resource management, in order to improve employee job satisfaction, motivation; health budget; accessibility, availability and
affordability of the surgical care. Once barriers to surgical care are tackled the mortality and morbidity due to surgical conditions may significantly be lowered and customer satisfaction will improved (Ozgediz & Rigiello, 2008).

The study may have two more impacts: being one of prerequisites for completion of the training it will enable the researcher to qualify for the award of Master of Science in Leadership and Management and also imparting the researcher with skills in research. The later may provoke an urge to conduct more research by the candidate and other stakeholders. Ultimately, the root causes of the barriers, which are identified in this study, may be studied further.

1.7 The Scope of the Study
Owing to the limitations which are well stipulated in paragraph 1.7, the researcher opted to conduct this study at the Department of Surgery, MNH. This is a major referral hospital of the United Republic of Tanzania, which is located in the largest city of the country, Dar es Salaam.

1.8 Limitations of the Study
This was a Case Study, hence to a great extent rational conclusions were difficult to be generalised. Time and financial constraints, had to limit the study to only one department of the MNH. This might have interfered with the quality of the findings due to bias as the General Surgical Department may not be representative to other surgical departments in other hospitals. The limited time, further, failed the researcher to reach the sample size. Lack of prior studies on this subject was another factor which caused unavailability of data and knowledge necessary in literature review.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction
In this chapter existing literature about performance in surgical services, in relation to the objectives are reviewed. Review of information and experiences from other countries and in Tanzania are displayed. Conceptual definitions, theoretical and empirical literature reviews are the main constituents of this chapter.

2.2 Conceptual Definitions
The following are the conceptual definitions regarding the studied objectives, which are described as follows:

2.2.1 Surgical Care
Surgical care is a service that aims at maintaining or improving health through application of surgical interventions, by trained professions. The surgical care in HICs, unlike in LMICs, is well developed and accessible. These explain why disabilities and deaths related to surgically amenable diseases in HICs are significantly low (Funk et al., 2010 & Bickler et al., 2014). The opposite is true in LMICs where surgical care has low accessibility and is poorly established leading to premature deaths and disabilities due to cancers; injuries; infections, like Tuberculosis; and congenital diseases, among other health problems.

Effective policies need to be put in place and socio-economic conditions improved in order to combat barriers for surgical care in LMICs. Adequate funding of health sectors and investing in developing well trained, skilled, and motivated workers are among factors which must be given a potential consideration in LMICs, as this will ensure safety and effectiveness of the surgical and anaesthetic care (United States Department of Labour, 2011).
2.2.2 Surgical Service Performance

According to Aguinis (2005), performance is a behavioral and economic impact or achievement as a result of activities done by an individual or a team, in relation to the set of goals, within a specified period of time. In an Organization it is the accumulated end results of all processes and activities within that Organization. In an Organization, the overall performance is determined by productivity, effectiveness, and ranking.

According to Page and Howard (2005), performance in surgical services refers to surgical output and results as measured against its intended output, or rather, goals and objectives. The surgical output may be expressed in the form of the number of patients who undergo surgical treatment at a given time interval, the number of research conducted and published at a given time period, and the number of trained in the surgical department at a given time period. On the other hand, results may signify the extent to which the surgical team has managed to decrease mortality and morbidities associated with surgical diseases, and to improve customer satisfaction. It also represents how effectively the team copes with the workload.

According to Jenatabudi (2015), performance reflects productivity, effectiveness, efficiency, ranking, profitability, market value, and competitive advantage. Productivity, being the most important factor of all, is an overall services or goods produced divided by inputs required to produce the output. The output is quantified by revenue of sales that the Organization acquires once goods or services are sold i.e. Selling Price x Number Sold. On the other hand Input refers to the cost an Organization incurs to transform the organizational resources into output. At MNH it may be equated as how many operations are performed by an operating team in a month. Productivity is, hence, optimized by reducing Input costs and increasing Output price. This is what makes the performance one of the best measurements of how efficient employees perform their work (Kamarainen, Peltokorpi, Torkki & Tallbakka, 2016).
Employee related factors which may lower productivity include high employee turnover, absenteeism, and poor employee performance. Good motivation to employees can mitigate these factors and is among the most important prerequisites for improving productivity in any organization. Constant evaluation scheme of the employee and organization performance is another measure that needs to be employee the productivity of an organization remains optimal (Javed, Johanzaib, Wasin & Hussain, 2016).

2.2.3 Surgical Care Barriers
Ho (2018) describes surgical care barriers as all factors which lower the overall performance within the Surgical Department. The factors may include the workload, poor time management, and poor human resource management. Work load which refers to the number of patients seeking surgical services at a given period of time. It is determined by the performance of the feeding organisation, in health sector, the feeding organisations include the primary, secondary and tertiary health facilities. The performance in above mentioned lower health facilities is inversely proportional to the workload at the referral hospitals. Absence of expertise, skills, personnel, infrastructure (such as operating rooms, ICU, blood bank), motivation may lead to increased referral rate to the National Hospital leading to high work load. It should be borne in mind that patients who have been delayed, due to any reason, develop complications which create more workload (Picincu & Seidel, 2019).

Poor time management is another barrier to surgical care as time, being a unique resource, determines how effectively the goals and objectives are accomplished. Therefore, once poorly managed the targeted output and results become suboptimal. In a hospital time mismanagement may be caused by multiple factors: routine meetings, poorly managed meetings, meetings which are unnecessary, and other activities which are not directly linked to surgical service delivery (Adenyika, 2012).
Another surgical care barrier, according to Anderson and Caldwell (2018), is poor human resource management. It affects employee performance once it adopts practices, programs, and policies which do not empower employees. Human Resource Management has a vital role in determining the performance of any organisation.

**Fish Tank Metaphor**

A fish tank metaphor is a theoretical equation of a fish tank to an Organisation for the sake of comparison, however, actually the Organisation is not a fish tank, hence the name Metaphor. An Organisation is likened a Fish tank where individual performance is determined by the coordinated interactions between several nodes within a system and not by the individual employee or manager (Pascoe, 2017).

2.3 **Theoretical Literature Review**

The study reviewed the following theories in relation to the surgical barriers and burden on enhancing better performance of surgical services

2.3.1 **Fish tank Metaphor and Organizational Performances**

According to Tate (2013), the Muhimbili National Hospital, as an organisation, is likened to a fish tank where individual performance is determined by the coordinated interactions between several nodes within a system and not by an individual employee or manager. The fish tank metaphor, in this context, regards managers, leaders and employees as the swimming and interacting fish within a tank (organizations). The performance of fish will depend on how conducive the environment within the tank is i.e., the lighting, oxygenation, and how optimal the amount of food is.

Accordingly, it is the system within the hospital i.e., leadership, day to day schedule, work load, and availability of working tools, time utilisation etc., that will determine the performance of an individual employee and, ultimately, the performance of the hospital. Good performers will fail to reveal good performance if they will not be
given have the working tools that they need and will not be given adequate time to perform their tasks Al-Tit (2017).

2.3.2 Expectancy theory of Motivation and Organisational Performance

According to Oliver (1974), the Expectancy Theory was suggested by Victor Vroom in 1964 and it was based on an assumption that individuals choose a behaviour voluntarily from a list of alternative behaviours. Through motivation, managers and leaders may influence their followers to choose the desired behaviour so as to improve, both, individual and Organisational performance.

The focus in this theory is the outcome of a particular behaviour and, unlike the Maslow’s and Herzberg’s theories, not the need. The theory states that: “The intensity of a tendency to execute in a particular behaviour is dependent on the intensity of expectation that the performance will be followed by a definitive outcome and on the appeal of the outcome to the individual (Vroom, 1964)”. 
According to Rose, Weiser, and Hider (2017), surgical care in developing countries needs to be improved through motivating health care providers and rewarding employees according to their accomplishments. The former may be accomplished through timely promotion, increase in salaries, allowances, and improved working environment. These motivators are, unfortunately, not given the consideration that is required in LMICs. Once considered, they will enhance employees’ efforts and attitude as there is a reward to be expected by the employees. Ultimately, the individual performance and the overall performance may be optimised.

Not only do the health care providers require motivation, but also patients. Through improved customer care services and improved affordability of surgical services, throughout the referral system, patients will seek for the services early, self-referrals will decrease and hospital stay may be minimised (Musinguzi et al., 2018).
According to Bhattacharya (2016), there are three key elements in the Expectancy Theory of Motivation (See Fig. 2.2): expectancy, the employee’s knowledge that exerting more efforts, will improve performance; instrumentality, the employee’s belief that high performance will lead to a valuable reward; valence, the significance of the reward to the employee. All these steps may be accomplished only if the employee has the required skills, support from the management, adequate time, and appropriate working tools. According to the Expectancy Theory, the introduction of bonuses to employees who have performed beyond the expected target of output may improve the quality of services to all patients (Engllandt & Riphahn, 2004).

### 2.2.3 The Carrot and Stick Metaphor and Organisational Performance

According to Williams (2013), the Carrot and Stick approach to motivation is a tradition motivation theory that was based on an old phrase which states that: “The best way to make the Donkey move is to put a Carrot out in front of it or whip it with a stick behind”.

---

Source: Spring, 2015
The theory is based on the fact that motivation (Carrot) elicits the desired behaviour, whereas, punishment (whipping) modifies the behaviour, and whenever the latter is administered at the right time and quantity, leads to development of the desired behaviour. It is important to discipline employees and managers through issuance of query, warning letters, and withholding reward as a way of improving surgical services in Tanzanian by fighting corruption, lack of accountability and responsibility (Iheanacho, Edema & Ekpe, 2016).

**Figure 2.3: The Carrot and Stick Metaphor Showing the Impact of Reward and Punishment in Organisation Performance**

Source: Kuhnke, 2011

### 2.5 Empirical Literature Review

#### 2.5.1 World Related Studies

According to Rose (2017), the performance of surgical services in HICs, as assessed by productivity, efficiency, effectiveness, accessibility, and affordability of care, is higher compared to the performance in the LMICs. This is mainly due to two major factors: the level economy and the performance of surgical care providers.
The high economy levels in HICs contributes to higher performance in surgical services through: better motivation, provision of better salaries and allowances; provision of better education as educational facilities and programs receive adequate and timely funding, hence, capable of executing medical training programs more efficiently and effectively; ensuring acquisition of Continuing Medical Education by employees; encouraging research, no wonder a bigger source of knowledge in the Globe are the HICs; keeping pace with changes and developments of technology, through applying modern diagnostic and therapeutic facilities, a factor which make the surgical care effective and efficient; and ensuring and provision of high quality services by ensuring conducive infrastructure.

On the other hand, the surgical care quality, effectiveness and efficiency are contributed by the knowledge and skills of the surgical care providers, which is again dependent upon the nature and methods used in medical training (Meara et al, 2015). The bed-side teaching, for instance, was the main mode of training medical students about 50 years ago has been abandoned. It used to constitute more than 75% of the training. Today only 8-19% of the training is at Bedside (Crumlish, Yialamas & Mahon, 2009). This current mode of training is responsible for deterioration of clinical skills amongst medical students, young doctors and specialists in LMICs.

The poor skills culminate with wrong diagnosis, wrong treatment and poor results. The quality of medical education progressively deteriorates as these doctor are trainers and lecturers in Medical Institutions (Alam, Asghar, Khan, Hayat & Malik, 2010). Let time be devoted for clinical work as that is what patients and Students need the most (LaCombe, 1997). Sir William Osler (1849-1919), a Canadian Physician, once said: “To study phenomena of without books is to sail on uncharted sea, whilst to study books without patients is not to go to sea at all” (Stone, 1995).

The ultimate reflection optimal performance, in health services, is the degree of wellbeing, as quantified in terms of life expectancy. The expectancy is higher in HICs as compared to the expectancy in LICs.
A study which was conducted by WHO, the WHO Health Estimate, revealed a life expectancy in New Zealand to have an average of 80.7% years, compared to that form other HICs of 80.2%. According to WHO (2017), life expectancy in LMICs is lower due to poor health care services, poor accessibility and poor affordability, which affect more the low income social classes. The reflection of poor health care in Tanzania is a life expectancy of 52 years.

The difference in the quality of surgical services is further displayed by a study which was done by WHO in 2018 where the prevalence of Surgical Site Infection following gastrointestinal surgeries in high income, middle income and low income countries was assessed and compared. The prevalence was found to be 7.4%, 14.4%, and 20.0%, respectively (WHO, 2018).

### 2.5.2 African Related Studies

Africa has not invested adequately in the health care of its population, as a result the quality of the care has remained the poorest in the Globe. Worse, the surgical care is the most underdeveloped discipline of all disciplines in the health system of Africa as priorities has always been given to prevention and treatment of communicable diseases. Consequently, the poor quality has always been responsible for delayed diagnosis and treatment; treatment related complications like Surgical Site Infection which currently has high incidence (14.8%) in Sub-Saharan Africa (Ngaroua, Ngali, Bennet, & Djibrilla, 2016).

In a study, which was done in Ethiopia, about factors contributing to poor surgical services in Africa, 10 practicing surgeons were interviewed. The factors which were suggested included; poor health policy; poor accessibility and affordability to Surgical services; poor working environment and unavailability of diagnostic and therapeutic facilities such as imaging studies, surgical equipment and drugs; poorly motivated personnel due to low wages and lack of incentives; and inadequate human resource compared to the number of patients (Kelly, Starr, Raykar, Liu & Derbew, 2018).
A study done by Baker et al. (2013) in Tanzania, on emergency and critical care services, which included 10 hospitals, indicated the lack of necessary emergency critical care infrastructure. Thirty percent of the hospitals had emergency rooms for paediatrics and adult patients only and 40% had adult triage. Surprisingly, despite the limited infrastructure, the study found that the necessary equipment and drugs for emergency and critical care services were available in those hospitals. These findings are suggestive of poor planning and poor Health Policies that prevails in the Tanzanian Health System.

In order to improve surgical care in Tanzania, the Government embarked on the establishment National Surgical, Obstetrical, and Anaesthetic Plans, NSOAPs, in 2016. However the challenges, particularly poor accessibility, persisted where only 484 patients out of 100,000 patients were accessible to safe surgery, safe obstetric care, and safe anaesthesia (World Bank, 2019). The failure of NSOAPs was due to inadequate and unavailability of staff who were qualified for these medical specialities and inadequate funding of the health sector by the Government where the health sector receives only 5.6 % of the yearly budget instead of at least 15% which was recommended by the Abuja Declaration (Govender, V.M, McIntyre, D. & Loewenson, R, 2008).

Despite the inadequate funding, the Ministry of Health and Social Welfare has been suffering a progressive decrease in budgetary funds as years passed (See Fig. 2.4). For instance, 893.3 Billion Tanzanian Shillings was the budgetary allocation for the year 2018/19 which is about 19% less compared to the year 2017/18 where 1.1 Trillion Tanzanian Shillings were allocated. This has been done despite missed targets in 2017/18, an indication that, health issues are not a priority and that, policy makers formulate policies and the Government intervene while lacking adequate knowledge of the problems, reasons which may lead to stagnant or retarded development of the surgical care (Buguzi, 2018).
2.5.3 Research/ Knowledge Gap

Many studies have been done in different countries to assess factors that affect performance in surgical services. All these had the aim of improving surgical services within the respective countries. However, in Africa such studies are fewer compared to studies done in HICs, hence, very little is known in Africa (Davies, Lenglet & Wijhe, 2016). In Tanzania, for instance, no such study has ever been done, hence, knowledge is lacking regarding the socio-health factors that affect performance in surgical services. This may be the reason why health policies and interventions have remained ineffective since independency (Mondal & Shitan, 2013). It is for this reason that this study was done in order to generate the knowledge on: the referral system related factors, patient related factors, employee related factors, and hospital related factors which influence the performance of surgical services in Tanzania. The knowledge may guide the Government and policy makers to formulate relevant and appropriate policies and interventions which may lead to improvement of surgical care in Tanzania.

Source: UNICEF, 2018
2.6 Conceptual Framework

Conceptual framework is the roadmap of a study which may be in the form of either a chart, figure, diagram, or narration. It represents the relationship between variables within a study, namely the Independent Variables (IV) and Dependent Variables (DV) (Adom, Hussein and Agyem, 2018).

Figure 2.5: Conceptual Framework

Source: BRC Home, n.d

In this study, whose main objective was to assess factors that affect performance in surgical services in Tanzania, the diagram above displays the how performance in surgical services, the dependent variable, is affected by referral system related factors, patient related factors, employee related factors and hospital-related factors, which in this study were the independent variable.
Figure 2.6: Conceptual Framework

Independent Variables

- Quality of the referral System
- Patients related Factors
- Employees Related Factors
- Hospital Related Factors

Dependent Variables

Overall Performance in Surgical Services

Source: Researcher’s own Constructs assisted by Fish Tank Metaphor; Expectancy Theory, by Vroom (1964); and Carrot and Stick Metaphor
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
This chapter describes the methodologies that were employed during the study. These methods include research design, area of the study, population of the study, sampling procedures, sample size, data collection, validation and reliability of instruments, ethical concerns and data analysis procedures.

3.2 Research Design
According to Kothari (2008) and Kelvin (2008), a research design is a conceptual blueprint within which a study is conducted in order to fulfil researcher’s objectives and answer the research questions. It displays the action plan for collection and analysis of data in a manner that aims at balancing cost effectiveness and time with relevance to the research purpose. This research employed a case study design.

The data was collected from the case area, Muhimbili National Hospital, and the researcher obtained an in-depth understanding of the relationship between variables of the phenomenon which is being studied. A comprehensive information, i.e. qualitative and quantitative information, was generated. By employing both information the validity of data was magnified through triangulation. However, the qualitative data was subjected to content analysis techniques. The main advantages to this design was to enable collection of data through observation, schedules and questionnaires.

3.3 Area of the Study
The study was conducted at the Department of General Surgery of the Muhimbili National Hospital, where the phenomenon under the study was studied. The Department of the MNH was chosen because the researcher is an employee of the Hospital and working under the Department hence, data collection was expected to
be easier due to familiarity of the researcher to the study area, and the fact that the researcher didn’t have to incur much expenses to reach the area.

The Department of General Surgery serves 4 wards; there are females’ ward-9 and males’ ward-13, where general surgical cases and specialised gastrointestinal cases are admitted; and there are males’ ward-11 and females’ ward-12, where general surgical cases, and specialised thoracic surgical cases are admitted.

The Department, being one of the essential units of the National and main referral Hospital, it draws significant attention to all stakeholders in the country, hence, findings of the study will most likely have positive impact to the quality of services at MNH and of the whole country.

3.4 Study Population

Study population, also known as target population, is the number of subjects, people, events, or things within an environment that a researcher wishes to study (Oso & Owen, 2009). In this study the doctors, nurses and all in-patients under the Department of General Surgery constituted the study population which was made up of 20 permanently employed doctors, an average of 10 intern doctors who rotate in the department monthly, 85 permanently employed nurses, an average of 10 intern nurses who rotate in the department monthly.

The Department admits average of 865 inpatients every month, making an average of 2595 in-patients in three months. These made study population of 2760, and from these the researcher drew a sample (Saunders, Lewis & Thornhill, 2012). The department conducts meetings every Mondays, Tuesdays, and Fridays. With the exception of Saturdays, Sundays, and public holidays, it performs elective surgical operations.
3.5 Sample Size

The sample size refers to the number of entities, subjects, or study units which are selected from the study population. It is a subset of the large population which is targeted by the study (Kothari, 2008). This sample must be representative of the study population so as to enable the researcher to draw valid conclusions from the study, hence, its size determination and the technique used to obtain the sample are critical issues in any research study (Saunders, 2007). According to Yamena (1967), the sample size will be calculated by using the following formula;

\[
n = \frac{N}{1+N(e)^2}
\]

Where

- \(n\) = Sample size
- \(N\) = Targeted study population (2760)
- \(e\) = Level of precision (0.05)

\[
n = \frac{2760}{1+ (2760*0.05^2)}
\]

\[
n = \frac{2760}{7.9} = 349
\]

Table 3.0 below describes the expected sample distribution.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Categories</th>
<th>Cases</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doctors</td>
<td>20</td>
<td>5.73</td>
</tr>
<tr>
<td>2</td>
<td>Nurses</td>
<td>85</td>
<td>24.35</td>
</tr>
<tr>
<td>3</td>
<td>patients</td>
<td>244</td>
<td>69.92</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>349</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: MNH Data (2018)

3.6 Sampling Procedures

Two sampling techniques were employed in selecting sample elements: the Judgmental (Purposive) sampling was employed to select doctors, nurses, meeting days, and theatre sessions. It was considered because not all doctors and nurses could provide the required information due to some reasons, for instance, some being new in the practice and to the department, hence, unable to provide useful information
Also the Researcher could manage to attend the morning meetings and theatre sessions only when there were no other tasks allocated to him. In these categories of Universe the selection was based on researcher’s judgment on suitability and appropriateness of the participants and the day (Maxwell, 1956).

Stratified sampling technique was employed to select inpatients. This was because of variability in the type of diseases and difference in sex in the 4 wards which are under the Department of General Surgery. This sampling technique ensured that each ward (stratum) was adequately represented (Ackoff, 1953).

Four days and 13 days, respectively, were included in the study to assess the impact of meetings and delays in the Operating room to the performance of the Department. The Sampling culminated into a sample size of 156 members and 17 days of Observation.

3.7 Source and Type of Data
The sources of data were from observation, schedules and questionnaires. Observation was conducted in the operating rooms, where time management was assessed; and in the departmental meeting room where degree of participation and attitude towards the sessions, by the members were assessed. Schedules were applied to patients where a face-to-face interaction between patients and a research assistant was conducted, patients responding to a set of questions while the research assistant filled the schedules. Employees filled the questionnaires by responding to a set of questions, which were the same to all employees.

3.8 Data Analysis Procedures
This refers to interpretation of different variables into a meaningful information. It was accomplished manually (Owan & Bassey, 2018). Data was edited, coded, and classified based on themes. Data having common characteristics was placed in one category and presented in a narrative form. Quantitative data applied descriptive statistics.
The researcher explored individual patients and employees in order to establish human related factors which contributed to surgical care burden and barriers. He, also, explored the impact of the essential morning meetings and the quality of time management, in the main theatre, and their contribution on employee performance.

3.9 Data Management

3.9.1 Data Coding
Data collection was followed by data coding i.e. employing short words or phrases in place of sentence or paragraph in order to simplify the data analysis procedure. The codes indicated the essence and meaning of the data. According to Gibbs (2002), it is a way of establishing a framework through indexing and categorising raw data so as to establish their essence and meaning. Preliminary codes were generated, which after being refined the final codes were obtained for tabulation. It involved preparation of the coding procedures (Manual), coding of the sampled data, recoding the sample, and maintenance of coding log.

3.9.2 Data Editing/Cleaning
After coding, data was verified in order to detect and correct errors. The tabulated data are always “cleaned” and “edited”. At this stage, the initial screening of the collected data was made to access its data validity and reliability.

3.10 Validation and Reliability of Data
Data validation and reliability in this study were assessed and ascertained, respectively, as follows:

3.10.1 Data Validity
According to Saunders et al., (2007) define validity as the instrument’s ability to measure exactly the concepts it is supposed to measure. Gummesson (2000) agrees by stating that validity is the extent to which researches are able to use their method to study what they have sought to study rather than studying something else.
Hence, validity is concerned with whether the findings are really about what they appear to be about (Mohajan, 2017).

In this study validity was ascertained through: maximising construct validity where multiple sources of evidence were employed in the study, i.e. doctors, and nurses who offer surgical care in the wards and in the operating rooms; maximising criterion validity through employing different modes of data collection, i.e. questionnaires, schedules, and observation which all revealed results which are similar, i.e. lack of morale, inefficiency and poor productivity; maximising formative validity where the information retrieved from the data was good enough to enable improvement in performance such improving human resource management and improving time management; maximising sampling validity through inclusion of several sources of data and assessing several activities in the department i.e. theatre sessions, learning sessions, ward work and the referral system; maximising face validity by making sure that each question that was asked to patients and employees had relevance to the respondent; and maximising external validity in order to make generalization of conclusions, to the whole Tanzanian health system, possible.

Yin (2003) further states that it is possible to achieve high external validity when using case studies, since case studies rely upon analytical generalizations that try to generalize findings in theory. Additionally, Miles and Huberman (1994) express that external validity can be achieved if the findings of the study suggest that further research within the area of study can be made in a way where rich data can be collected and result in contributing conclusions.

3.10.2 Data Reliability
Reliability is the degree to which an experiment, test, or any measurement produces the same result on repeated trials. It is the consistence of the results when the same study is done by other researchers under the same conditions. The less the measurement errors the more the reliability of the test (Zohrabi, 2013).
Reliable data enables independent observers to reproduce the results after following the same research procedures. Reliability enables formulation of theories, and generalisation in research (Gummesson, 2000).

Reliability in this research was ascertained through keeping objectivity during observations; keeping measurement bias constant in, term of people collecting the data; and the procedures used to collect it (Saunders et al., 2000).

3.11 Ethical Concerns

The research was conducted in an ethical manner. Before the data collection, the researcher informed the respondents about the study, its importance and what was to be done with the information they provided. Any decision which was made by respondents, whether to participate or not to participate, was respected by the researcher. Besides asking for respondents’ consent, the researcher assured the respondents for confidentiality on the information they provided.

Table 3.2: Action plan for the Research Process

<table>
<thead>
<tr>
<th>No</th>
<th>Activity</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identification of broad problem Area</td>
<td>25th october, 2018</td>
<td>28th October, 2018</td>
</tr>
<tr>
<td>2</td>
<td>Literature review/survey</td>
<td>29th October 2018</td>
<td>30th November, 2018</td>
</tr>
<tr>
<td>3</td>
<td>Identification of sample</td>
<td>2nd December 2018</td>
<td>15th December, 2018</td>
</tr>
<tr>
<td>4</td>
<td>Preparation of Research Proposal and submission of research Proposal</td>
<td>22nd December 2018</td>
<td>2th February, 2019</td>
</tr>
<tr>
<td>4</td>
<td>Preparation of questionnaire</td>
<td>2th February, 2019</td>
<td>15th February, 2019</td>
</tr>
<tr>
<td>5</td>
<td>Distribution of questionnaire and conducting interviews</td>
<td>15th February, 2017</td>
<td>30th March, 2019</td>
</tr>
<tr>
<td>6</td>
<td>Collection of questionnaire</td>
<td>30th March, 2019</td>
<td>15th April, 2019</td>
</tr>
<tr>
<td>7</td>
<td>Data processing and analysis</td>
<td>16th April, 2019</td>
<td>30th April, 2019</td>
</tr>
<tr>
<td>8</td>
<td>First Draft Report writing</td>
<td>1st May 2019</td>
<td>20th July, 2019</td>
</tr>
<tr>
<td>9</td>
<td>Proofreading, editing and final writing of Project Report</td>
<td>20th July, 2019</td>
<td>30th August 2019</td>
</tr>
<tr>
<td>10</td>
<td>Report Binding and Submission</td>
<td>1st September, 2019</td>
<td>30th October, 2019</td>
</tr>
<tr>
<td>11</td>
<td>Oral defence</td>
<td>1th November 2019</td>
<td>1st November, 2019</td>
</tr>
</tbody>
</table>
CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction
This chapter describes data analysis and presentation of the findings of the research. The study was assessing factors affecting performance in surgical services in Tanzania, the case of Muinhimbi National Hospital.

4.2 Characteristics of Respondents
Data collection was achieved through the use of questionnaires for employees, schedules for patients, and observation guidelines for assessing time management in the operating rooms, and the impact of the morning meetings on the surgical services.

Questionnaires were distributed to employees who responded to a set of questions by filling the questionnaires, whereas schedules were filled by a research assistant through asking patients a set of questions through a face-to-face interaction.

The researcher attended the compulsory morning meetings which were conducted every Mondays, Tuesdays, and Fridays from 7.30 am to 9.00 am. The observed parameters were used to assess the impact of the meetings on the surgical services and the general attitude of the employees to the meetings as assessed through the degree of participation of the members.

Time utilization in the operating rooms was assessed through assessing duration between the official cutting time (8.30 am) and the actual cutting time. Fist cases on the operating list were included in the assessment. Time interval between two operations was assessed by measuring the time interval from the time a patient is taken to the recovery room to the time of induction of anaesthesia to the subsequent patient.
4.3 Employees of the Department of Surgery, MNH
A total of 29 employees who worked under the Department of Surgery were included in the study. The employees had different levels of experience in their current positions and different responsibilities.

4.3.1 Job Experience
There were 5 (17.2%) Specialists (Surgeons), 6 (20.7%) Medical Officers, and 18 (62.1%) Nurses. They made a heterogeneous group in terms of their professions and years of experience (See Table 1).

Table 4.1: Frequency Distribution of Employees According to Work Experience in Years

<table>
<thead>
<tr>
<th>Employees</th>
<th>Years of experience</th>
<th>&lt;5</th>
<th>5-10</th>
<th>11-15</th>
<th>16-20</th>
<th>21-25</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialists</td>
<td></td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Medical Officers</td>
<td></td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nurses</td>
<td></td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6</td>
<td>11</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>29</td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019

4.3.2 Promotion and Salary Increments
The study revealed that only 2 (6.9%) of employees were promoted and had their salaries increased over the last 4 years. The remaining 27 (93.1%) did not have any promotion (See Table 4.2).
Table 4.2: Frequency Distribution of Employees According to Promotion and Salary Increment within Past 4 Years

<table>
<thead>
<tr>
<th>Employees</th>
<th>Promotion and Salary increment</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Promoted</td>
<td>No promotion</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Specialists</td>
<td>0 (0%)</td>
<td>5 (17.2%)</td>
<td>5 (17.2%)</td>
<td></td>
</tr>
<tr>
<td>Medical Officers</td>
<td>1 (3.4%)</td>
<td>5 (17.2%)</td>
<td>6 (20.7%)</td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>1 (3.4%)</td>
<td>17 (58.7%)</td>
<td>18 (62.1%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2 (6.9%)</td>
<td>27 (93.1%)</td>
<td>29 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019

4.3.2 Short Course (Technical) Training

Over the past 10 years only 17 (58.6%) employees had the opportunity to attend short courses where technical training, sharing ideas, acquisition of skills and knowledge regarding current modalities of managing diseases. The remaining 12 (41.4%) employees never had that opportunity. This number included 2 specialists, 4 Medical Officers and 6 Nurses. From the researcher’s opinion this is not pleasant at all considering that these are employees who have to manage diseases by employing modern approaches and technology. It is without doubt that they may not be as efficient as they should be (See Table 4.3 & 4.4).

Table 4.3: Frequency Distribution of Employees According to Attendance for Short Courses Over Past 10 Years

<table>
<thead>
<tr>
<th>Employees</th>
<th>Short Course attendance</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not Attended</td>
<td>Attended</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Specialists</td>
<td>2 (6.9%)</td>
<td>3 (10.3%)</td>
<td>5 (17.2%)</td>
<td></td>
</tr>
<tr>
<td>Medical Officers</td>
<td>4 (13.8%)</td>
<td>2 (2.9%)</td>
<td>6 (16.7%)</td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>6 (20.7%)</td>
<td>12 (45.4%)</td>
<td>18 (66.1%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12 (41.4%)</td>
<td>17 (58.6%)</td>
<td>29 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019
Among employees who managed to attend the short courses: 13 (76.5%) had their financial requirements, i.e. fees for transport during the courses, meals accommodation, and fee for the training, covered by the Government of Tanzania; 3 (17.6%) by Non-Governmental Organisations; and only 1 (5.9%) could cover the expenses without any external support (See Fig 4.2).

Managers and higher authorities need to formulate education and training policies, and make sure the policies are well supervised and administered accordingly. Lack of awareness about opportunities for training and lack of sponsorship were the prominent reasons given for failure to attend training, the later accounting for 25% of all of the reasons. With good policies in place, employees will manage to acquire skills and knowledge constantly and this will, ultimately, boost their performance (Mazin, 2017).
Figure 4.1: Cumulative Frequency Polygon

Source: Research Findings, 2019

Figure 4.2: Pie Chart showing Percentage distribution of Course Sponsorship.

Source: Research Findings, 2019
4.3.3 Employees’ Job Satisfaction

Several factors may mould one’s satisfaction on their job, and ultimately determine the attitude and performance of an employee. According to the Fish Tank Metaphor, unfavourable factors within an organisation compromise performance of both employees and the organisation. In this study, evaluation of the level of satisfaction was done as one of the indicators for the presence of poor working environment, or rather, Dirt Fish Tank, according to the Fish Tank Metaphor.

The organisational factors which were suggested as the main cause of the dissatisfaction included lack of proper working tools, lack of adequate employees and poor motivation (see Table 4.6 & Fig. 4.5). In this study none of the employees had excellent job satisfaction.

Table 4.5: Distribution According to the Level of Job satisfaction

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Not Satisfactory</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Specialists</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6.9</td>
<td>3</td>
</tr>
<tr>
<td>Medical Officers</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>10.3</td>
<td>1</td>
</tr>
<tr>
<td>Nurses</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>37.9</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0</td>
<td>0</td>
<td><strong>16</strong></td>
<td><strong>55.1</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

**Source:** Research Findings, 2019
Figure 4.3: Stacked/Subdivided Graph Showing Percentage Distribution Depending on the Level of Satisfaction.

Source: Research Findings, 2019

Table 4.6: Frequency Distribution of Suggestions to Improve Performance Depending on Profession of Respondents

<table>
<thead>
<tr>
<th></th>
<th>Increase employees</th>
<th>Improve facilities</th>
<th>Salary increment</th>
<th>Allowance</th>
<th>Training</th>
<th>Promotion</th>
<th>Equity</th>
<th>Transport</th>
<th>Housing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialists</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Medical Officers</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Nurses</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>4</td>
<td>7</td>
<td>11</td>
<td>0</td>
<td>7</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>19</td>
<td>16</td>
<td>6</td>
<td>11</td>
<td>13</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>89</td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019
4.3.4 Factors to be tackled to Improve Working Environment

A total of 89 suggestions were identified in this study. In the descending order of frequency: lack of proper and adequate diagnostic and therapeutic facilities constituted 21.3% of all the suggestions, inadequate salaries 18.0%, lack of motivation such as promotion 14.6%, and lack of training opportunities 12.4%. In adequate number of staff constituted 14.6 percent, a proportion that suggests that there are too many patients to be attended by a given number of employees. This finding will be analysed later after analysing the patients.

The fact that more than 70% (see Fig. 4.6) of health workers at MNH were willing to work in peripheral hospital is a good opportunity for the Government to recruit employees from MNH to the health facilities in the regions, it also implies that the employees will be willing to participate in out-reach services once the Government establishes the service. Services at the lower health facilities may markedly improve once experienced MNH employees will be involved in training and offering services at the facilities as proposed above.

Figure 4.4: Stacked/Subdivided Bar Diagrams Showing Frequency Distribution of Suggestions To Improve Individual Performance

Source: Research Findings, 2019
Table 4.7: Frequency Distribution According to Profession and Willingness to Work in Health Facilities at the Regions

<table>
<thead>
<tr>
<th></th>
<th>Willing</th>
<th>Not willing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Specialists</td>
<td>4</td>
<td>13.8</td>
<td>1</td>
</tr>
<tr>
<td>Medical Officers</td>
<td>5</td>
<td>17.2</td>
<td>1</td>
</tr>
<tr>
<td>Nurses</td>
<td>13</td>
<td>44.8</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>75.8</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

*Source: Research Findings, 2019*

4.4 **Theatre Utilization at MNH**

The researcher visited the main theatre where general surgical operations were done. There were a total of 13 visits to one of the 8 operating rooms, which was chosen through a Convenient (Judgemental) Sampling. The observations were as follows: each main operating room had a waiting room for a subsequent patient. It was so designed so as to administer anaesthesia before taking the patient to the operating table. These rooms weren’t used as designed, instead patients were given anaesthesia on the operating table, a process that prolonged the interval between operations; the researcher observed that the official cutting time was 8.30 am, however, this time was only observed once when the operation started 10 minutes before 8.30 am. The rest of the days the first operations always stared late as displayed in Tables 4.8 and 4.9.
Table 4.8: Frequency Distribution of Time Wasted to Start Operations
(Beyond Official 8:30am)

<table>
<thead>
<tr>
<th>Day of Operation</th>
<th>Time wasted (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-65 (1.05)</td>
</tr>
<tr>
<td>2</td>
<td>-30</td>
</tr>
<tr>
<td>3</td>
<td>-560</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>-71</td>
</tr>
<tr>
<td>6</td>
<td>-60</td>
</tr>
<tr>
<td>7</td>
<td>-39</td>
</tr>
<tr>
<td>8</td>
<td>-0</td>
</tr>
<tr>
<td>9</td>
<td>-90</td>
</tr>
<tr>
<td>10</td>
<td>-45</td>
</tr>
<tr>
<td>11</td>
<td>-125</td>
</tr>
<tr>
<td>12</td>
<td>-45</td>
</tr>
<tr>
<td>13</td>
<td>+10</td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019

An average of 55.5 minutes were lost between operations making surgeons fail to operate more cases. This contributes to congestion of patients in the surgical wards and long waiting list for operations.
Figure 4.5: Deviation Diagram Showing Time Wasted in Opera Ting Theatre

Source: Research Findings, 2019

Table 4.9: Frequency Distribution of Time Wasted between Operations

<table>
<thead>
<tr>
<th>Day</th>
<th>No of intervals</th>
<th>Total time wasted (minutes)</th>
<th>Average time wasted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>73</td>
<td>-73.0</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>119</td>
<td>-119.0</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>123</td>
<td>-41.0</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>100</td>
<td>-33.3</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>58</td>
<td>-58.0</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>53</td>
<td>-53.0</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>70</td>
<td>-35.5</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>48</td>
<td>-48.0</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>74</td>
<td>-37.0</td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019
4.5 Morning Meeting

The Department of General Surgery conducted morning meetings every Mondays, Tuesdays, and Fridays from 7.30am to 9.00 am. During these meetings announcements from the management were made; all patients who were admitted on the previous day were presented by junior doctors, in absentia i.e. no patient was available at the meeting for verification and review of symptoms and signs by the senior doctors; and mortality report was presented. There were only 1-3 of these activities per meeting. The members of the meeting were specialists, medical officers and medical students. Nurses and anaesthetists conducted their meetings elsewhere.

The researcher observed that members always came late, beyond 7.30, the observation which necessitated the sessions to start beyond 7.30. Not only that but also a smaller proportion of members participated through asking questions, making comments and suggestions; these were categorised as Active Members.
Table 4.10: Frequency Distribution of Attendance to Morning Meeting According to Degree of Participation to Discussion

<table>
<thead>
<tr>
<th></th>
<th>Day1</th>
<th>Day2</th>
<th>Day3</th>
<th>Day4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Active</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialists</td>
<td>3</td>
<td>9.4</td>
<td>4</td>
<td>14.8</td>
<td>4</td>
</tr>
<tr>
<td>Medical Officers</td>
<td>2</td>
<td>6.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Students</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>15.6</td>
<td>4</td>
<td>14.8</td>
<td>4</td>
</tr>
<tr>
<td>Passive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialists</td>
<td>3</td>
<td>9.4</td>
<td>2</td>
<td>7.4</td>
<td>1</td>
</tr>
<tr>
<td>Medical Officers</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>11.1</td>
<td>2</td>
</tr>
<tr>
<td>Students</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>29.6</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>9.4</td>
<td>13</td>
<td>48.1</td>
<td>15</td>
</tr>
<tr>
<td>Not participating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialists</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3.7</td>
<td>4</td>
</tr>
<tr>
<td>Medical Officers</td>
<td>3</td>
<td>9.4</td>
<td>4</td>
<td>14.8</td>
<td>2</td>
</tr>
<tr>
<td>Students</td>
<td>21</td>
<td>65.6</td>
<td>5</td>
<td>18.5</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100</td>
<td>10</td>
<td>100</td>
<td>16</td>
</tr>
<tr>
<td>Grand total</td>
<td>32</td>
<td>27</td>
<td>35</td>
<td>39</td>
<td>133</td>
</tr>
</tbody>
</table>

Source: Research Finding, 2019

The other category of members who were following the discussion but not responding verbally, unlike the previous category, were categorised as Passive Members; where as members who were not following the discussion but busy with personal activities like reading books, notes, and charting through their phones were categorised as Non-participating Members. During the 4 meetings none of the medical students actively participated and there was a very suboptimal participation from medical officers and specialists.

In this study, active members constituted about 12.8% of all the members within the four-day observation, passive members about 33.8%, and members who were not following the discussion constituted about 53.4% (See Table 4.10 & Fig. 4.7).
Apparently, members were not interested in the sessions and this made the sessions lack the desired impact but a big time waste.

Figure 4.7: Stacked/Subdivided Bar Diagram Showing Frequency Distribution According to the Level of Participation In Meeting Sessions and According to Cadre

Source: Research Findings, 2019

4.6 Characteristics of Patients
A total of 127 patients were included in the study. There were 61 (48%) male patients and 66 (52%) female patients. They were either referred from other hospitals (87.4%) or they decided to be treated at MNH (12.6%) without being referred by any health facility (self-referrals).

4.6.1 Characteristics of the Referral System
The patient came from different regions of both Tanzanian main land and isles. Among all regions, patients from Dar es Salaam constituted 53 (41.7%), Tanga constituted 18 (14%), Pwani constituted 10 (7.9%), and Morogoro constituted 9
(7.1%) of all the patients (See Table 4.11). These 4 Regions together contributed about 70.1% of all patients. The lack of a zonal referral hospital which would serve these 4 regions was the most likely cause of this high contribution.

Referred patients from Dar es Salaam were 34 (85%), whereas the self-referred patients were 21 (15%). The referring hospitals were Regional Referral Hospitals (Temeke, Amana, and Mwanamyamala) which referred 34 (85%) patients, whereas district hospitals referred 5 (12.5%) patients. Only 1 (2.5%) was referred by a zonal hospital. No specific reasons for the referrals were given by the referring facilities in the referral letters, other than the note “referred for further management”, the information that doesn’t elucidate the exact reason for the referral.

Apparently, MNH is playing many unofficial roles which add to the burden of the surgical care i.e. functioning as a dispensary, as patients seek for medical treatment without being referred; as a regional hospital, by receiving patients from the district hospitals; and as a zonal hospital by receiving patients from regional hospitals. These roles, which are in addition to its official role as the Main National Referral Hospital, create a very heavy burden to its services. Without doubt, this poor referral system contributes significantly to the burden and barriers to the surgical services at MNH.
Table 4.11: Frequency Distribution According to Region, Sex and Referral Status

<table>
<thead>
<tr>
<th>Address (Region)</th>
<th>Male Referral</th>
<th>Male Self-referral</th>
<th>Female Referral</th>
<th>Female Self-referral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pwani</td>
<td>6</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Zanzibar</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Singida</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Kigoma</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Arusha</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Mara</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Iringa</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mbeya</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Simiyu</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Morogoro</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Manyara</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Songea</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mwanza</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Tanga</td>
<td>5</td>
<td>2</td>
<td>11</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Kilimanjaro</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Dar es Salaam</td>
<td>21</td>
<td>6</td>
<td>19</td>
<td>7</td>
<td>53</td>
</tr>
</tbody>
</table>

Source: Research Finding, 2019

At the country level, the study revealed 111 (87.4%) patients who were referred from health facilities in Tanzania: a total of 78 (70.2%) came from regional referral hospital, 23 (20.7%) from district hospitals and only 10 (12.7%) from the zonal referral hospitals. Self-referrals contributed about 16 (12.7%) of all patients. The later had reasons for referring themselves to MNH without following the referral hierarchy as displayed in Table 4.12.
Table 4.12: Frequency Distribution of Self-Referrals According to Reasons

<table>
<thead>
<tr>
<th>Reason for Self-Referrals</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of trust to other facilities</td>
<td>4</td>
</tr>
<tr>
<td>Previously treated at MNH</td>
<td>7</td>
</tr>
<tr>
<td>Lack of Facilities</td>
<td>0</td>
</tr>
<tr>
<td>Unspecified Reasons</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019

The lack of trust is definitely due to poor results in Lower levels which are apparent to the community. Scrutiny is needed to identify factors that lead to the poor results and measures taken. However what is evident at the study area, MNH, is most likely what other health facilities face i.e. poor motivation to employees, poor working environment, lack of working tools and facilities. Frustrated employees render poor services and poor customer care which, ultimately, lead to dissatisfaction by the customers and lack of trust, both, leading to decision to seek treatment at the MNH.

Being treated, previously, at MNH should not warrant treatment of subsequent illnesses at MNH as patients should seek for medical attention at the primary Health facilities: short of that services at MNH may always be overwhelmed.

From the findings in this study, non-adherence to the referral criteria and poor services at the lower health care facilities led to a significant number of patients who were referred to MNH. With the smaller number of patients and improved working environment the services would be relieved of the burden and, ultimately, the MNH performance might improve.

The fact that the majority of patients (70.1%) were from the coastal regions was, most likely, because the National Hospital is located within this region hence making it the most accessible higher health facility next to the hospitals within the region. Sub-consciously, the MNH is being perceived by the district and regional hospitals of the Coastal Zone as a zonal referral hospital (See Fig. 4.8).
Table 4.13: Frequency Distribution according to Referring Health facility and Sex in Dar es Salaam

<table>
<thead>
<tr>
<th>Referring Health Facility</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>District Hospital</td>
<td>2</td>
<td>5.0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>Regional Hospital</td>
<td>17</td>
<td>42.5</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Zonal Hospital</td>
<td>1</td>
<td>2.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019

Figure 4.8: Map of Tanzania Showing Regions

Figure 4.9: Stacked/Subdivided Bar Diagram Showing Frequency Distribution of Referred Patients According To Referring Health Facility and Sex of Patients, in Dar es Salaam

Source: Research Findings, 2019

Table 4.14: Frequency Distribution According to All Referring Facilities in all Regions and Sex

<table>
<thead>
<tr>
<th>Referring Health Facility</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>District Hospital</td>
<td>9</td>
<td>8.1</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>20.7</td>
<td></td>
</tr>
<tr>
<td>Regional Hospital</td>
<td>33</td>
<td>29.7</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>78</td>
<td>70.2</td>
<td></td>
</tr>
<tr>
<td>Zonal Hospital</td>
<td>5</td>
<td>4.5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>9.1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>42.3</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>111</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Findings, 2019
Figure 4.10: Stacked/Subdivided Bar Diagram Showing Frequency Distribution According to Referring Health Facility in All Regions and Sex

Source: Research Findings, 2019

Figure 4.11: Pie Chart showing frequency distribution of Referring Health Facilities in all regions

Source: Research Findings, 2019
Table 4.15: Frequency Distribution According to the Reason for Self-Referral

<table>
<thead>
<tr>
<th>Reason for Self-referral</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of trust to other facilities</td>
<td>4</td>
</tr>
<tr>
<td>Previously treated at MNH</td>
<td>7</td>
</tr>
<tr>
<td>Lack of Facilities</td>
<td>0</td>
</tr>
<tr>
<td>Unspecified</td>
<td>11</td>
</tr>
</tbody>
</table>

**Source:** Research Findings, 2019

4.6.2 Duration of Illness at Presentation

The duration of illness, as represented by the duration of symptoms, was assessed. Only 27 (21.3%) patients had illnesses whose duration was less than one week. Whereas, 28 (22%) had illnesses of duration ranging from 1-5 years (See Table 4.16).

Late presentation means more complications of diseases, advances stages of malignant diseases, lower capability of the patients to pay for services, the latter, due to spending financial resources while at the lower health facilities, traditional healers, and inability of the patient and relatives to engage, fully, in income generating activities. On the other hand these are patients who will need longer hospital stay, more investigations, surgical interventions which are bound to have poor results.

These are also patients whose basic human requirements like food, water, accommodation, and others have to be taken care of by the MNH, for prolonged period of time; and majority requiring exemption due to patients’ inability to cover the costs of investigations and treatment. All these factors add to an overwhelming burden to the hospital. Not only that, but also income generation of the hospital is compromised. They also mean more work to unsatisfied employees. Generally, all these lead to poor overall results.
<table>
<thead>
<tr>
<th>Duration (weeks)</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0&lt;1</td>
<td>27</td>
</tr>
<tr>
<td>2-3</td>
<td>20</td>
</tr>
<tr>
<td>4-5</td>
<td>20</td>
</tr>
<tr>
<td>6-7</td>
<td>4</td>
</tr>
<tr>
<td>8-9</td>
<td>20</td>
</tr>
<tr>
<td>10-11</td>
<td>9</td>
</tr>
<tr>
<td>12-13</td>
<td>13</td>
</tr>
<tr>
<td>24-25</td>
<td>4</td>
</tr>
<tr>
<td>3 years</td>
<td>5</td>
</tr>
<tr>
<td>4 years</td>
<td>4</td>
</tr>
<tr>
<td>5 years</td>
<td>2</td>
</tr>
</tbody>
</table>

**Source:** Research Findings, 2019
CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction
This chapter gives a summary of all research findings with conclusions which were deduced from the study findings. Recommendations to improve performance in surgical services at MNH were made in accordance to the research findings and conclusions.

5.2 Conclusion
The assessment of performance in surgical services culminated in identifying referral system related factors, patient related factors, employee related factors and hospital related factors, which directly or indirectly have proved to increase the burden and create a barrier.

5.2.1 General Factors
Impact of Poor Economy on the Health Sector
The poor economy in LMICs, like Tanzania, plays a major role in the deterioration of health services. This is mainly due to failure of the Governments to allocate adequate funds to the health sector. According to the Abuja Declaration (2007), the Ministry of Health should be allocated at least 15% of the yearly Budget, however, in Tanzania only 5.6% is allocated, and worse, this proportion has been deteriorating as years passed (see Figure 2.4). This disables the Ministry to fund health services adequately, as a result health institutions fail to deliver the desired services efficiently and effectively as they require funds to: acquire and employ modern diagnostic and therapeutic facilities, in their daily health care delivery activities; improve working environment; effectively training and developing human recourse; and to adequately motivate employees. In this study these emerged as among important barriers to optimal Surgical Care.
Impact of Poor Leadership and Management on the Health Sector

Poor management within the health system is a main cause inefficiency of the Referral System in Tanzania. In this study 70.2% of referred patients were referred to MNH by regional referral hospitals and 20.7% by district hospitals. However, the Hierarchy was meant to be followed step-by-step depending on the availability of resources that are required for a particular surgical care.

The more one moves towards the apex of the pyramid, the greater should be the chance for the availability of the service (See Figure 1.1). With good control, as one of the functions of managers within the health system, the services at MNH would not be burdened by the referred patients from the district hospitals which were expected to refer patients to regional hospitals: likewise, the regional hospitals would not burden the services at MNH if they referred patients to zonal referral hospitals.

Good health system management and adequate funding are the prerequisites which may enable all health facilities to deliver services that were aimed at their respective levels in order to minimise the number of referrals. The Government and other health stakeholders should invest in capacity building and motivation to health care providers; diagnostic and therapeutic equipment; and infrastructure like ICU, blood banks, operating theatres.

Geographical Misallocation of MNH

The geographical location of MNH in Dar es Salaam is inappropriate owing to the distance between it and communities which are located outside the Coastal Zone. This was well seen in this study where MNH received, from the lower Facilities, 41% of all patients from Dar es Salaam, 14% from Tanga, 7.9% from Pwani, and 7.1% from Morogoro: all accounting for 70.1% of all patients. The distance from other Regions to MNH explains why only 29.9% of all patients that were referred to MNH come from other regions other than the regions mentioned above (See Figure 4.11).
As stated earlier, MNH is the main referral hospital which should be offering the highest specialised care, hence, it should be as accessible as possible to all Tanzanian communities. Its current location makes its services fail to cover, efficiently, all communities within the country because of distance.

**Lack of a Zonal Referral Hospital within the Coastal Zone**

Absence of a public zonal hospital which should serve the regions that are located within the Coastal Zone is among the main reasons that increase burden to the services at MNH. The study has revealed that 70.1% of patients were from the regions located along the coast of Tanzania. This phenomenon may lower performance of surgical services at MNH as it leads to high workload i.e. patients who were supposed to be managed at a zonal hospital were referred to MNH.

**Inefficiency of Health Facilities in Dar es Salaam**

The regional hospitals in Dar es Salaam lack efficiency. In this study, patients from Dar es Salaam constituted 53% of all patients. Among these 85% were referred from the district hospitals and regional hospitals that are located in Dar es Salaam. The district hospital referred 12.5%, whereas the regional hospital referred 85% of the patients. The 15% of the patients, self-referrals, from Dar es Salaam further justifies the inefficiency. These facilities, according to their levels, should be able to manage most of the cases and only refer fewer patients to MNH only when higher expertise is required. Self-referrals would seek for care at lowest health facilities should the quality of services at these facilities be acceptable to the communities.

The referring facilities do not provide adequate information, on the referral letters, of the patients and no reasons for the referrals are given: this delays intervention at the receiving facility as doctors have to start gathering information from the patient so as to make a diagnosis, instead of proceeding to treatment; also, it leads to lack of data regarding factors which lead to unnecessary referrals to MNH, the information which would enable managers to identify correctable factors, within the lower health facilities, whose mitigation may lead to optimisation of performance and services at all levels within the hierarchy, and reduce workload at MNH.
5.2.2 Human Related Factors

Poor Employees’ Performance

The individual and overall performance at MNH is suboptimal. This may be justified by a significant proportion of postponed operations due to poor preoperative preparations, i.e. incomplete investigations, dehydration, poor performance of patients. This reflects lack of responsibility and accountability by laboratories technicians, nurses, doctors and lack of supervision by the managers. According to the Fish Tank Metaphor, factors like inadequate salaries and allowances, ineffective and inadequate working tools, inadequate of training opportunities, promotion etc., may explain these deficiencies. Lack of motivation, according to the Expectancy Theory of Motivation, leads to failure of the MNH to reach its goals as employees execute undesired behaviour like losing keenness in their job, doing less tasks over a given period of time, and other behaviours that do not favour good performance.

Late Presentation of Diseases

A significant proportion of patients do come to MNH too late with advanced stages of diseases. The late presentation leads to complications such as anaemia, malnutrition, distant metastases, poor performance status, to mention a few. The ultimate consequences are prolonged hospital stay, as the complications need to be treated in addition to the treatment of the primary diseases; more utilization of resources such as medicines, Blood, ICU care, and man power; poor results as these are patients whose mortality and morbidity are exponentially high, factors which may tarnish the hospital’s reputation as customers, mistakenly, hold the hospital responsible for the poor results.

On the socio-economic aspect, these are patients who have spent financial resources in the lower health facilities and whose dependants have had limited opportunities to engage themselves in income generating activities, during the course of the illness. This disables the patient to make timely payment for the services a factor which, further, contributes to prolonged hospital stay. For those who fail to pay, the hospital exempts them, an intervention which may be humane but uneconomical.
5.2.3 **Hospital Related Factors**

The hospital, according to the Fish Tank Metaphor, should provide employees with a favourable atmosphere which enhances individual performance other than the one that hinders the performance. According to the metaphor, the tank should contain clean water within which oxygen, nutrients and food are suspended to support survival and enhance the performance of fish. In this study several factor that make the “Fish Tank dirty” were identified:

**Poor Time Management**

The daily schedule of the hospital includes compulsory meeting sessions whose impact to the services is negative owing to the fact that the sessions are time-consuming, are not as educative as intended, and the sessions do not interest majority of participants. The mode of conducting the sessions should better be revised and modified, or the time that is consumed by the sessions would better be utilised for service delivery.

The morning meetings were divided into three groups: doctors’ meeting, nurses’ and anaesthetists’ meetings; all were conducted in three different venues; started and ended at different times. However, as these three categories of employees work as a team, conducting separate meetings may affect the performance of the team because one group may cause delays in starting operations, and the team may lack a common vision.

The study revealed unnecessary time waste in the operating theatre where delays in starting the operations and unnecessary long time intervals between operations were identified. There was an average waste of 114 minutes, approximately 2 hours, before starting operating; an average of 55 minutes wasted between operations making an average of 1 hour wasted between operations; in the whole theatre session there was an average of 79.8 minutes lost daily, this added to the average time that is wasted before starting operating makes 135 minutes, approximately 2 hours as total time wasted during the daily theatre sessions.
The time wasted in the theatre reduces the productivity at MNH as costs for the Input, i.e. man power, electricity, water and other facilities, is high while the Output, the suboptimal number of patients who are operated per a given time, remains low.

The low productivity of the hospital is further contributed by high running costs of the theatre compared to production due to the fact that, each operating room had an average capacity operating 3 patients per day, only on weekdays, where as the theatre constantly consumed electric energy electricity for lighting, cooling; water; and theatre workers were stationed in the theatre on day and night shifts.

**Poor Human Resource Management**

According to Bhattacharrya (2017), the Human Resource Management of MNH, in collaboration with the Government may be directly responsible for poor performance of the employees. In this study the following factors were identified: dissatisfaction on the working environment; lack of motivation; lack of timely promotion and salary increment; and lack of continuing education and suboptimal exposure to training, which are mandatory for acquisition of skills and knowledge. The nutrients, oxygen and food are deficient in the Fish Tank leading to poor performance of the fish. According to the Carrot on Stick Metaphor, these was no ‘‘Carrot on a Stick’’ a factor that might make employees less enthusiastic towards achieving the hospital’s goals, mission and vision.

**MNH Executing Roles of Lower Health Facilities**

The services at MNH are burdened due to its willingness to accept patients from home, district hospitals and regional hospitals. Patients who would, otherwise, be managed at lower health facilities are referred to MNH without proper indications, hence, unnecessarily increase in the number of patients, a work load, at MNH.
5.3 Recommendations

5.3.1 Enhancing Economic Growth and Development

Economy of the country determines the level of production and consumption of services and goods, and the vice versa. High economy enhances better health services as it enables Governments to allocate enough funds to the services: it also enhances the ability of the citizens to consume the services. In order to enhance the growth and development of the economy, the researcher is recommended the following measures:

**Good Governance**

Good governance is an essential prerequisite for good economy as it promotes good cooperation with other countries, does not favour corruption, ensures citizen participation in the development processes, and it favours democracy and freedom to speech. Lack of democracy, as one of the indicators of poor governance, may have adverse effects to economy such as facing economic sanctions other countries, lack of eligibility for donor funds interventions which may make the country fail to run developmental projects. Voting irregularities, for instance, during the presidential election in Zanzibar in 2015 made IMF, World Bank, and Bilateral Donors withdraw most of financial support to the country. In Tanzania, again, the controversial cybercrime bill, lack of rule of law, lack of free judiciary and parliamentary systems, are the other examples of factors that need intervention by the Government of Tanzania (CIA World Fact book, 2018).

**Developing the Agriculture Sector**

Developing the agriculture is one factor which may fuel the economic growth as the sector contributed about 25% of the GPD, 85% of exports, employs 80% of the labour force, and contributes 95% of food supply in Tanzania. Over the past 12 years its contribution to employment has been deteriorating (See Fig. 5.2), an observation that requires scrutiny and intervention. Its major contribution to the economy calls for measures, by the Government and policy makers, to develop this sector, through formulating and implementing policies focusing more on agriculture subsectors like
crops, livestock and fisheries in order to increase both the Gross Domestic Product and Per Capita Income (Chongela, 2015). The policies and interventions should also focus on: supporting smallholding farmers and breeders with low interest loans; establishment of irrigation schemes, so as to minimise dependency on rainfall; modernising farming and harvesting through automation; establishment of a Free Market Economy whose inexistence is exemplified by the cashew nut price-induced crisis that emerged in October, 2018 (Kolumbia, 2018); and the necessity of the Government to fund the Tanzania Agriculture Development Bank in order to enhance the bank’s ability to provide low interest loans to farmers and breeders (Deloitte, 2016).

**Figure 5.1: Tanzania Distribution of Employment by Economic Sector from 2007 to 2017**

![Tanzania Distribution of Employment by Economic Sector from 2007 to 2017](image)

**Source:** Developing the Tourism Sector
The Tourism Sector, which contributes 16% of the GDP and 25% of the total export earnings is among the sectors that should be developed so as to boost the economy (Lwoga, 2013). This may be achieved through increasing awareness of the international community through marketing the country and tourism, increasing tourism products, and improved services in the sector (Machando & Ferreira, 2018).

**Developing the Mining Sector**

The mining sector contributes 3.7% of the GDP, the contribution which may be boosted through creating mining policies which are more in favour of the country, amending the bad policies and contracts, improving taxation, processing mineral concentrates in Tanzania, and adding value to the minerals through processing them before their exportation (Shirima, 2017).

**Industrial Development**

Industrialisation in Tanzania is still underdeveloped and constituted by manufacturing (53%), processing (43%), and assembling (4%). Thanks to the Tanzania’s fifth phase Government which has come up with a vision of transforming Tanzania to a semi-industrial country, by the year 2025, and increase the sector’s contribution to the GDP from 5.6% to 40%. To achieve this goal the Government and policy maker should address and formulate policies that may solve the challenges which are, currently, faced by the industrial sector, namely: shortage of skilled labour, unfavourable taxation, corruption, unfair competition owing to importation of cheap goods, unfavourable business regulations and environment, poor technology, and inefficient value chain system (Ngowi, 2018). This sector, once developed, may fuel increased production of good and services and strengthen export trade leading to net increase in foreign currencies. Through industrialization employment opportunities will be increased and value of agricultural products, tourism products, and mining products can be increased (Msami & Wangwe, 2016).
5.3.2 Improving Performance in the Whole Health System

A joint effort by the Government and Non-governmental organisation is required to improve services at the lower health facilities, especially the district and regional hospitals in order to improve performance of surgical services and reduce workload and surgical care burden at MNH. This may be achieved through: ensuring adequate man power which is well motivated and skilled; improving infrastructure so as to improve effectiveness, efficiency and performance; ensuring presence of diagnostic and therapeutic equipment in the facilities; ensuring availability of utilities such as medicines and reagents for laboratories. Regular Continuous Medical Education should be considered mandatory to all health care providers and policies to facilitate this should be formulated and adhered to. The number of hours attended should have an impact to promotion and salary increments. This will ascertain a continuous acquisition of knowledge and skills which are among the prerequisites for improved employee performance. Further research in this aspect, however, should be done so as to generate enough knowledge which may enable formulation of more effective policies and measures.

The performance of surgical services at MNH may further be improved through establishing a zonal hospital within the Coastal Zone to serve the Dar es Salaam, Tanga, Pwani and Morogoro Regions. This measure may alleviate surgical care burden at the National Hospital. Preferably, the MNH, according to its geographical location, should be downgraded to the zonal hospital and a main referral hospital be established within the Central Zone.

The Health Insurance coverage should be increased, with a target of a covering all citizens. This will enhance affordability of the surgical services by the citizens and eliminate most of barriers to the surgical care. Not only that but also, this measure may increase efficiency and effectiveness within the health system as the health facilities will be ensured of timely payment, for the services, by the insurance companies.
5.3.3 Facilitation of Health Care Seeking Behaviour

Patients need health education which will make them understand the importance of seeking medical attention as early as symptoms emerge. Establishing regular health sessions on television and radio should be considered as ways of delivering health messages to communities, however, other sessions which gather communities, for instance, religious gatherings, political gatherings and other social gatherings should be considered too. With improved health seeking behaviour the morbidity and mortality rates that are related to surgical diseases may be minimised significantly. The early health care seeking behaviour will alleviate the surgical care burden to all health care levels and ensure early return of patients to work.

5.3.4 Optimisation of Employees’ Performance

The performance at MNH, the Fish Tank, should be optimised through enhancing individual employee performance. The work environment should be made conducive enough to favour employee high performance. Among measures which should be taken include ensuring availability of modern diagnostic and therapeutic equipment accompanied with adequate knowledge and skills employing the equipment in diagnostic and therapeutic procedures.

The Human Resource Management should improve employee job satisfaction through ensuring that employees are adequately motivated, receive their fringe benefits on time and in adequate amounts, and employee promotion is timely. Employees should be given adequate time to execute their duties instead of being obliged to attend routine meetings which lack positive impact to their knowledge. The best way to impart skills and knowledge should be bedside teaching and surgical skills training in wet and dry laboratories.

Adequate time should be allocated for service delivery as this is the primary role of the hospital. Unnecessary time consuming sessions like meetings should be minimised as a class session is not the best mode of improving one’s knowledge and information from the management to employees may be done electronically.
Poor employee performance and misconducts like absenteeism, negligence, corruption lack of accountability amongst health care providers and managers should warrant punishments like demotion, warning letters, withholding bonuses. Once these undesirable behaviours are discouraged employee performance is likely to improve. The room of communication between managers and employees should be open so that employees understand what is being expected from them by managers, their mission and vision of the hospital. On the other hand, good communication should enable managers to understand what should be done at the hospital and to employees in order to improve individual and overall performance.

5.3.5 MNH Management

Enhancing Human Resource Management

The study revealed poor management of human resource as revealed by poor job satisfaction, lack of promotion and lack of training opportunities. The Human Resource Managers should adhere to their prime roles i.e. making sure the employees regularly undergo short course training and conduct research on subjects that are related to their professions in order to improve skills, knowledge, and to prepare the employees for higher level responsibilities. Policies to ensure employees undergo the training and should be established by the Government and adhered to, and that, the hours attended in conferences, workshops, and number of research publications made should have impact on salary increments and promotion. MNH as a “Fish Tank”, has to create a supportive atmosphere that enhances performance of its employees i.e. training, good remunerations, recognition, and rewarding the employees once a good performance is revealed. According to the Expectancy Theory, this may make employees willing to work more as a reward is being expected.

According to the Expectancy Theory of Motivation and the Carrot on Stick Theory, the researcher is highly recommending a Promotion Scoring System, through which, promotion, increment of salary, and allowance should depend on: the number and quality of researches conducted by an employee, continuing education Sessions
attended by the employee, performance of the employee, and a set of skills an employee has for their current duties. These criteria will make each employee strive for the promotion, as a result, the performance, quality of services, and productivity may be optimised.

**Optimisation of Theatre Utilisation**

The study identified unnecessary time waste in the operating room. The hospitals management need to strengthen supervision in the wards where pre-operative preparations are done i.e. blood transfusion, for patients with anaemia; controlling blood Pressure, blood glucose levels and completing pre-operative investigations. Doctors, nurses, and other supportive staff in the wards and diagnostic units, according to the Carrot and Stick Theory, should be punished once the operation is cancelled or delayed due to poor preparations.

Supervision in the operating theatre should be strengthen too, and make sure that patients are sent to the operating room at least an hour before the “cutting” time; anaesthesia is administered at the waiting room, before placing the patient on the operation table, in order to shorten intervals between operations, after all that was theatre architect’s intended function of the rooms; the cutting time, 8.30 am, should be adhered to; and the time intervals between operations minimised to about 10 minutes. Once time waste is minimised the operating room will be able to offer service to more patients in a day, hence, generating more income to the hospital, reducing hospital stay and work load, and optimising the productivity of the hospital. Through increased fund generation the hospital may manage to motivate the employees better through bonuses, purchase modern diagnostic and therapeutic facilities, improve the infrastructure of the hospital and working environment, and improve the safety and quality of the surgical care. The customer satisfaction will, ultimately, improve.
The study revealed that an average of three elective operations are done in each operating room, implying that during the weekdays, Mondays to Fridays, theatre utilization is below 50% of the total hours of the weekdays, whereas Saturdays, Sundays and public holidays theatre utilization is 0%. The researcher is recommending that: the number of patients who undergo surgery should, at least, be doubled to an average of six; the operating team should operate patients in shifts, days and nights, so as to increase theatre utilisation, maximise productivity and decrease the work load; and reward should be given to surgical teams who which will reveal more production and good surgical results in order to improve the morale of the teams.

Enhancing Surgical Knowledge and Surgical Skills
The study revealed that more time is allocated for class room based learning than case based teaching at bed side. The former is conducted, at MNH, during the compulsory morning meetings. The hospital management should encourage case based teaching at bed side, outpatient clinic, and in the operation rooms as this mode of learning is more effective in imparting knowledge and skill to medical students, residents, and doctors. Classroom sessions are time consuming and not as educative as thought. Case based learning is also more economical as two services, i.e. learning and surgical care services are produced and consumed simultaneously, hence, more service delivery within a given time, hence, more efficiency and productivity.

5.3.6 Recommendation for Further Research
Further research is needed so as to generate a greater knowledge on factors that lead to inefficiency within the whole referral system. Areas which should be studied further include: factors that make patients come late to MNH; factors leading to poor performance in lower health facilities should be done. The knowledge that is going to be generated will guide policy makers and managers to plan and formulate appropriate and effective strategies which will optimise efficiency, performance, and quality of surgical care at all levels of health care delivery along the hierarchy.
In-depth research aiming at factors that hinder the growth and development of the Economy of Tanzania is a very important area that needs consideration, as it is after the identification of these factors then effective strategies and policies can be formulated so as to shift the status of the Economy from the low economy to middle economy, eventually, to high economy. This is a very important sector that requires optimal efforts as the success of developmental projects largely depends upon the ability of the Government to fund and the latter is directly proportional to the level of economy.
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Appendix A: PATIENT’S QUESTIONNAIRE

A. DEMOGRAPHIC DATA

1. Patient’s Name: ________________________________________________

2. Age: __________________________________________________________

3. Sex
   (a) Male
   (b) Female

4. Religion
   (a) Muslim
   (b) Christian
   (c) Others

5. Address
   Region: _____________________ District: _________________________

6. Level of Education
   (a) No Education
   (b) Primary level
   (c) Ordinary level
   (d) Advanced level
   (e) University level
   (f) Other (Specify) ____________________________________________
7. Profession
(a) Jobless
(b) Employed specify: ________________________________
(c) Farmer
(d) Business
(e) Other (specify): ________________________________

8. Mode of payment
(a) Cash patient;
   (i.) Public
   (ii.) Private

(b) Insurance specify:
   (i.) NHIF
   (ii.) AAR
   (iii.) Strategies
   (iv.) Resolution
   (v.) CHF

(c) Exemption
State Reason: ________________________________

B. MEDICAL HISTORY
1. Duration of symptoms on the date of reporting at MNH
   (i.) A week ( ) Specify days ________________
   (ii.) 8-14 days ( ) Specify days ________________
   (iii.) 15-21 days ( ) Specify days ________________
   (iv.) 22-28 days ( ) Specify days ________________
   (v.) Beyond four weeks ( ) Specify days ________________
2. Reasons for failing to report at MNH earlier
   (i.) Delayed at Previous Health Facilities Yes ( ) No ( )
   (ii.) Self-treatment Yes ( ) No ( )
   (iii.) Resorted to Traditional Heal Yes ( ) No ( )
   (iv.) Resorted to Prayers Yes ( ) No ( )
   (v.) Financial Constraints Yes ( ) No ( )
   If yes specify…………………………………………………..

3. Health facilities visited during the illness
   (i.) Community based / village level/ward level health facility Yes ( ) No ( )
   (ii.) District level Yes ( ) No ( )
   (iii.) Regional level Yes ( ) No ( )
   (iv.) Zonal level Yes ( ) No ( )
   (v.) National level Yes ( ) No ( )

4. Type of referral
   (i.) Self-referral Yes ( ) No ( )
   If yes specify reason…………………………………………………..
   (ii.) Referred from a health facility Yes ( ) No ( )
   If yes (Refer to referral letter)
   (iii.) History is clear and adequate? Yes ( ) No ( )
   (iv.) Physical examination is clear and adequate? Yes ( ) No ( )
   (v.) Diagnosis well stated? Yes ( ) No ( )
   (vi.) Reason for referral stated? Yes ( ) No ( )
   If yes specify…………………………………………………..

79
Appendix B: HEALTH CARE PROVIDER’S QUESTIONNAIRE

A. DEMOGRAPHIC DATA
1. Name: ______________________________________________________
2. Sex: _______________________________________________________
3. Age: _______________________________________________________  
4. Tribe: _______________________________________________________
5. Qualification / Designation: __________________________________

B. EMPLOYEE’S OPINION
1. What is the level of your job satisfaction
   (a) Very high (             )
   (b) High (             )
   (c) Low (             )
   (d) Not satisfied (             )
   (e) Specify _________________________________________________

2. Are you satisfied with your performance
   (a) Yes (             )
   (b) No (             )

3. Suggest what should be done to improve your performance
   (a) _________________________________________________________
   (b) _________________________________________________________

4. Suggest what should be done to improve overall hospital performance
   (a) _________________________________________________________
   (b) _________________________________________________________
   (c) _________________________________________________________
Appendix C: OBSERVATION IN MORNING MEETING

1. Days of meeting
   (a) Monday (             )
   (b) Tuesday (             )
   (c) Friday (             )

2. Number of members: ____________________________________________

3. Number of members participating by
   (a) Discussion (             )
   (b) Listening (             )

4. Number of members not participating
   (a) Busy with phones (             )
   (b) Sleeping (             )
   (c) Reading (             )
   (d) Chatting (             )

5. Duration of the meeting
   (a) Start (             )
   (b) End (             )
Appendix D: OBSERVATION IN THE OPERATING ROOM

<table>
<thead>
<tr>
<th>THEATRE 1</th>
<th>CUTTING TIME</th>
<th>INTERVAL BETWEEN 1(^{ST}) &amp; 2(^{ND}) OP</th>
<th>INTERVAL BETWEEN 2(^{ND}) &amp; 3(^{RD}) OP</th>
<th>INTERVAL BETWEEN 3(^{RD}) &amp; 4(^{TH}) OP</th>
<th>TOTAL NUMBER OF OP</th>
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<td>THEATRE 8</td>
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Cancellation of Operations;

1. State Number: __________________________________________________

2. State Reason/s of Cancellation for each operation

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________