THE UNITED REPUBLIC OF TANZANIA
NATIONAL AUDIT OFFICE

PERFORMANCE AUDIT REPORT ON MANAGEMENT OF PROVISION OF REFERRAL AND EMERGENCY HEALTHCARE SERVICES IN HIGHER LEVEL REFERRAL HOSPITALS

AS PERFORMED BY

THE MINISTRY OF HEALTH, COMMUNITY DEVELOPMENT, GENDER, ELDERLY AND CHILDREN

REPORT OF THE CONTROLLER AND AUDITOR GENERAL OF THE UNITED REPUBLIC OF TANZANIA

MARCH 2019

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LIST OF ABBREVIATIONS

BMC	Bugando Medical Centre
DCS	Directorate of Curative Services
ICU	Intensive Care Unit
KCMC	Kilimanjaro Christian Medical Centre
MoHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
PHSDP	Primary Health Service Development Program
PO-RALG	President's Office – Regional Administration and Local Government
RRH	Regional Referral Hospital
ZRH	Zonal Referral Hospital
MNH	Muhimbili National Hospital
MZRH	Mbeya Zonal Referral Hospital

DEFINITION OF KEY TERMS

Emergency Medicine Department

- A special area of a health facility that is dedicated to provision of time-sensitive medical care by emergency medicine trained provider equipped with basic resources to triage, resuscitate, diagnose, treat and appropriately dispose patients with medical emergencies (illness, injury and mental health).

Emergency Preparedness

- Actions taken in anticipation of an emergency to facilitate a rapid, effective and appropriate response to the situation.[1]

Health Emergency

- A patient's condition requiring immediate treatment to avert death or life long disability.

Pediatric

- The medical specialty concerned with the study and treatment of children in health and disease during development from birth through adolescence.

Referral

- A process in which a health worker at a one level of the health system, having insufficient resources (e.g. drugs, equipment, skills) to manage a clinical condition seeks assistance of a better or differently resourced health facility at the same or higher level to assist in or take over the management of a client's case.

Resuscitation

- The process of correcting acute physiological disorders (such as lack of breathing or heartbeat) in a severely sick patient received at an Emergency Department.

Triage

- Is the process of determining the priority of a patient to medical care based on the

[1] http://www.who.int/hac/about/definitions/en/

urgency and severity of their condition so as to optimize outcome.

Initiating Hospital - The hospital that starts the referral process. A point in a referral process where an outward referral is prepared to communicate the patient condition and status.

Receiving Hospital - The hospital that receives the referred patient and provides needed health care services.

The Public Audit Act No. 11 of 2008, Section 28 authorizes the Controller and Auditor General to carry out Performance Audit (Value-for-Money Audit) for the purposes of establishing the economy, efficiency and effectiveness of any expenditure or use of resources in the Ministry, Department and Agency (MDA), Local Government Authorities (LGAs) and Public Authorities and other Bodies which involves enquiring, examining, investigating and reporting, as deemed necessary under the circumstances.

I have the honour to submit to His Excellency the President of the United Republic of Tanzania, Dr. John Pombe Joseph Magufuli and through him to Parliament the Performance Audit Report on the Management of the Provision of Referral and Emergency Health Care Services in Higher Level Referral Hospitals.

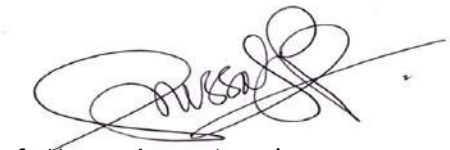
The report contains findings of the audit, conclusions, and recommendations that have focused mainly on the assessment of the adequacy of management of the Provision of Referral and Emergency healthcare services as performed by the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC).

The Management of the Ministry of Health, Community Development, Gender, Elderly and Children had the opportunity to scrutinize the factual contents of the report and came-up with comments on it. I wish to acknowledge the audited entities for the very useful and constructive discussions we had about the audit.

My office intends to carry out a follow-up audit at an appropriate time regarding actions taken by the audited entities in relation to the recommendations of this report. In completion of the assignment, the office subjected the report to the critical reviews of Dr. Hendy R. Sawe, Head of Emergency Medicine Department, Muhimbili University of Health and Allied Sciences and Dr. Yahya Abdallah Ipuge, retired Doctor of Medicine and Public Health Professional who came up with useful inputs on improving the output of this report.

This report has been prepared by Mr. Jeje D. William – Team Leader and Ms. Yuster D. Salala – Team Member under the supervision and guidance of Ms. Asnath L. Mugassa – Audit Supervisor, Mr. George C. Haule – Assistant Auditor General and Mr. Benjamin Mashauri – Deputy Auditor General.

I would like to thank my staff for their assistance in the preparation of this report. My thanks should also be extended to the audited entities for their fruitful interaction with my office.



Prof. Mussa Juma Assad
Controller and Auditor General
United Republic of Tanzania
March, 2019

EXECUTIVE SUMMARY

Delivery of healthcare services in Tanzania follows a pyramidal structure in three main categories of primary, secondary and tertiary levels. These categories are based on the capacity of the health facilities in providing healthcare services. Primary healthcare is provided by Dispensaries, Health Centers and District Hospitals. These primary level health facilities are closer to the community.

Secondary healthcare includes services provided by the regional and zonal hospitals for example Mwananyamala Hospital, Kitete Regional Hospitals, Bugando and Mbeya Zonal Referral Hospitals. Tertiary healthcare includes services provided at National and Specialized Consultant hospitals such as Muhimbili National Hospital. They offer specialized care which includes General Surgery, Dental, Obstetrics and Gynecology, Internal Medicine, Pediatric and Child Health care.

Despite the existence of regional referral hospitals in all regions, there have been notable delays in the provision of referral healthcare services and poor handling of emergency healthcare services. This triggered the National Audit Office to carry-out performance audit in this areas.

The main objective of the audit was to assess the effectiveness of the mechanism used by the Ministry of Health in managing the provision of referral and emergency healthcare services in regional, zonal and national hospitals. The audit assessed the extent and capacity of the referral hospitals in the provision of required level of healthcare services including the received health emergencies. The audit covered a period of five financial years from July 2013/14 to June 2017/18.

The audit used three main methods of data collections, which were interviews, observations and document reviews carried-out in the visited referral hospitals and the Ministry of Health.

Main Audit Findings:

There is higher congestion of patient in the higher referral healthcare facilities

The audit team found that patient population in higher referral hospitals exceeded their designed capacity. This was evidenced by a higher number of patients served compared to the designed population capacity and noted overcrowding of patients in both In-patient and Out-patient Departments of the visited referral hospitals. These were caused firstly by poorly designed hospitals as they grew incrementally from the lower levels and secondly, those referral hospitals having been established to meet administrative needs and not technical functionality.

Furthermore the higher level referral hospitals were outgrown by the population. It was also noted that 5 out of 11 visited referral hospitals had started as lower facilities and their infrastructures have not been upgraded proportionally to match the growing population. These hospitals are congested because of shortage of necessary infrastructure (beds, theatre capacity, laboratory etc.).

Furthermore, not all the services provided at higher-level referral hospitals reflect their levels. It was evident that more than 50 per cent of the patients attended at regional hospitals could have been managed at primary hospital levels.

Inadequate provision of healthcare services for referrals

The audit team found that referral healthcare services provided at referral hospitals were not adequate. Although the Ministry of Health have not established the standard waiting time, the audit noted that in the visited regional and zonal hospitals patients normally waited for 3 to 4 hours before meeting medical professionals.

It was further noted that 6 out of 7 visited regional referral hospitals could not provide all required core referral healthcare services. Among these 7, four of them were not providing internal medicine and general surgical services. The worst case scenario was in Ligula Regional Hospital in Mtwara which was noted to provide only obstetrics and gynecology and the remaining 4 out of 5 required core referral services were not provided.

Similarly, 80-100 percent of the required core referral healthcare services were provided in regional hospitals located in big cities such as Dar es Salaam, Mwanza and Tanga. The case was different for those Regional Hospitals located in the peripheral regions like Ligula, Kitete and Mpanda in Mtwara,Tabora and Katavi regions respectively.

Insufficient provision of referral healthcare services was caused by shortage of medical equipment and excessive congestion of patients in the referral hospitals that exceeded their designed population capacity. It has resulted from the insufficient number of specialists both at Zonal and Regional Referral Hospitals. Highest deficiencies were noted in regional referral hospitals with percentage shortages ranging from 43 - 95. The highest deficiencies in number of specialists were noted in Mpanda, Kitete and Ligula Regional Hospitals, which are located in remote parts of the country. The percentage shortages were ranging from 90 to 95.

Furthermore, lack of effective mechanism to ensure referral hospitals provide intended referral healthcare services include lack of plans for the provision of referral healthcare services, financial resources, absence of functioning referral mechanisms and inequitable system for allocation of medical personnel.

Inadequate provision of emergency medical care services

The audit found that there was insufficient provision of emergency medical healthcare as evidenced by the absence of sections or units with triage, resuscitation and treatments in the regional referral hospitals for the provision of such services, shortage of basic facilities and medical personnel to provide for emergency healthcare services.

All 7 visited regional referral hospitals did not have specific department or unit for handling emergency healthcare services. Instead, all patients including those in need of emergency care were attended at OPD consultation rooms without carrying out appropriate triaging procedures. In other hospitals where emergency healthcare service department or unit existed, they lacked basic items such as ABG Machine, Portable Oxygen Canister, X-ray viewer and Urine pans necessary for the provision of emergency healthcare services.

It was further observed that due to lack of functional emergency medical department or unit, there was no criterion used to sort patients based on the urgency of medical treatment. In this regard, it was not easy for healthcare workers to properly prioritize patients who required immediate attention. The audit also noted provision of insufficient training on emergency services to the available human resource. Staffs were rotating in different sections within the same Regional Referral Hospital. While in KCMC all staff except doctors were not rotated, in for Mbeya Zonal Regional Hospitals only nurses were rotated.

Since medical emergencies could happen at any time and place in the country; lack of stationed emergency medical personnel in the referral hospitals could contribute to unnecessary lifelong disability or deaths that could have been prevented if the healthcare system for emergencies had been provided with required human resources for all cadres of medical staff. From 2013/14- 2017/18, the reported average annual number of death for patients received at Emergency Medicine Department at Muhimbili National Hospital is 340.

Inadequate provision of emergency healthcare services was mainly attributed by the fact that most of the regional referral hospitals were upgraded without taking into account the required improvements of their designs to match the level of services needed to be provided.

Lack of monitoring and evaluation of performance of referral hospitals in the provision of referral and emergency healthcare services

The audit team found that the Ministry of Health has not monitored the performance of referral hospitals in the provision of referral and emergency healthcare services. This is because the Ministry of Health lacks monitoring plans and budget as well as key performance indicators for tracking the performance of the referral hospitals in this key healthcare service area. As a result, the Ministry did not have much detail on the performance of the zonal and regional referral hospitals for proper decision-making and corrective actions.

General Audit Conclusion

Despite Government efforts through the Ministry of Health towards improving provision of referral and emergency healthcare services; more interventions are needed for further improvement. Based on the facts presented in the audit, we conclude that the Ministry of Health lacks effective mechanisms in managing the provision of referral and emergency healthcare services in regional, zonal and national hospitals.

The Ministry has not managed to control the congestion of patients in referral hospitals. The current population of patients attending the referral hospitals exceeded the designed capacity for all of 11 referral hospitals sampled, to the extent that there are some incidences where two patients were sharing one bed at the same time. Further, the current referral system is not effective in controlling flow of patients to higher referral hospitals, the situation that makes the referral hospitals to provide more or less the same primary healthcare services instead of requiring specialized care. This is because:

1. There is overcrowding/congestion of patients as evidenced by the number of patients per bed capacity, at the time of the audit. This can also be explained in the context of 2 patients found sharing one bed due to lack of space;

2. There is lack of proper emergency healthcare in terms of infrastructure (triage, resuscitation, and treatment), medical equipment and human resource in regional referral hospitals visited;

3. There is inadequate infrastructure (equipment-example beds, X-ray etc.) to care for the high volume of patients presenting at these facilities, and this further creates congestions at the referral facilities, and further cause delays in care;

4. There is insufficient specialized human resources, in regions that are peripheral (as given by examples, Ligula etc.) and this, together with the shortage of infrastructure creates further congestion problem; and

5. The Ministry of Health lacks mechanisms for monitoring such as guidelines, funding and monitoring and evaluations tools.

Main Audit Recommendations

To minimize the congestion of patients in referral hospitals

The Ministry of Health, Community Development, Gender, Elderly and Children should:

1. Develop and disseminate the referral guidelines to all referral hospitals and ensure that it is effectively used. The guidelines should take into account the functionality of the referral health system including referral data management and feedback and referral communication between healthcare facilities at all levels;

2. Establish the mechanism that will control the flow of patients to referral healthcare services provided at higher level referral hospitals particularly those who are doing self-referrals; and

3. Review the current layout and standard bed capacity of the referral hospitals and prepare standard drawings and layout to ease referral and emergency healthcare services provision and flow of patients. The standard bed capacity should take into consideration the actual catchment population of the respective areas.

To improve capacity of referral hospitals to provide the needed referral healthcare services

The Ministry of Health, Community Development, Gender, Elderly and Children should:

1. Develop mechanism to ensure that referral hospitals have capacity to provide all basic core referral healthcare services;

2. Ensure that all higher level referral hospitals develop hospital plans that take into account the capacity of healthcare workers directly involved in the provision of referral healthcare services;

3. Carry-out allocation of staff according to the workload and needed specialties at the concerned referral hospitals ;

To improve the management of provision of healthcare for referred emergencies

The Ministry of Health, Community Development, Gender, Elderly and Children should:

1. Develop mechanism to ensure that referral hospitals have the necessary skilled personnel, infrastructure, equipment and consumables to provide emergency healthcare services at all times; and

2. Ensure that all higher-level referral hospitals develop hospital plans that take into account the need to build the capacity of healthcare workers to provide referral and emergency healthcare services.

To improve monitoring and evaluation in the provision of referral and emergency healthcare services

The Ministry of Health, Community Development, Gender, Elderly and Children should:

1. Enhance the existing monitoring and evaluation system that will assist in ensuring availability of all key referral data for informed decision making; and

2. Develop Key Performance Indicators (KPIs) and ensure that they are used for measuring the performance of referral hospitals in the provision of referral and emergency healthcare services.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Audit

In the medical field, the term referral is defined as a process whereby a health care provider at one level of the health system having insufficient resources or skills to manage a clinical condition seeks the assistance of a better or differently resourced health facility. The referred health facility can be at the same or higher level but equipped with enough medical resources to assist in taking over the management of the patient's case[2]. The World Health Organization defined Emergency Health Services as health care services provided in response to the perceived individual need for immediate medical treatment or care[3].

The Emergency Medicine field is somewhat new in Africa, despite this; significant development has been made from the year 2004 since a number of countries in Sub-Saharan Africa have started specialty training in Emergency Medicine. In Tanzania, the first fully equipped Emergency Medicine Department was opened at Muhimbili National Hospital in the year 2010; and specialty training was introduced in the same year at Muhimbili University of Health and Allied Science[4].

Delivery of healthcare services in Tanzania follows a pyramidal structure in three main categories of primary, secondary and tertiary levels. These categories are grounded on the capacity of the health facilities in providing healthcare services. Primary healthcare is provided by the Dispensaries, Health Centers and District Hospitals and form primary level health facilities that were closer to the community.

Secondary healthcare includes services provided by the regional and zonal hospitals, which form the highest referral point at the regional level and offers more specialty healthcare services. Examples of regional hospitals include Mwananyamala and Kitete and zonal referral hospitals are such as Bugando and Mbeya Zonal.

Tertiary healthcare includes services provided at national and specialized consultant hospitals such as Muhimbili National Hospital. They offer -

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[2] PEPFAR, USAID, and MEASURE Evaluation, *"Referral Systems Assessment And Monitoring Toolkit."* 2013

[3] World Health Organization, *"A Glossary of Terms for Community Health Care and Services for Older Persons,"* vol. 5. 2004.

[4] Reynolds TA, Mfinanga JA, **Sawe HR**, Runyon MS, Mwafongo V. Emergency care capacity in Africa: A clinical and educational initiative in Tanzania. J Public Health Policy. 2012 Dec;33(S1):S126–S137

specialized care; these specialties include General Surgery, Dental, Obstetrics and Gynecology, Internal Medicine, Pediatric and Child Health.

Tanzania health system faces diverse challenges in the provision of referral and emergency health care services. These are due to increased incidences and complexity of health emergencies ranging from disease outbreaks to natural catastrophes.

It is estimated that almost 40 percent of patients' deaths in the country is caused by the absence of appropriate health care services for emergency diseases and accidents, as reported from interviews held with stakeholders. Likewise, despite on-going efforts by the government to reduce accidents, the Emergency Medicine Department of Muhimbili National Hospital receive between 200 to 250 patients per-day, of which more than 25 percent are due to injuries[5].

The mission of the Government has been to provide basic health services according to the geographical conditions, acceptable standards, affordable and sustainable. The revised National Health Policy (2007) aimed at improving health and well-being of all Tanzanians, particularly those facing risks, and to increase life expectancy by providing health services that meet the needs of the population[6][7].

The Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) has the overall responsibility for the formulation of health-related policies, provision of hospital services, preventive services and inspection of health services in the country[8].

The Government spends between 9 and 10 percent of its annual budget on the health sector[9]. Another source of funds to the Ministry of Health is from donations by the development partners such as World Bank, European Commission and United Nations through the Health Basket Fund[10].

1.2 The motivation for the audit

The audit was motivated by the following factors:

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[5] http://www.mwananchi.co.tz/habari/Mbinu-ya-kuepuka-vifo-vya-magonjwa-ya-dharura--ajali-yatajwa/1597578-4140168-view-printVersion-pujog9/index.html Accessed on 30th of October 2018

[6] National Health Policy (2007)

[7] Health Sector Strategic Plan IV (July 2015-June 2020)

[8] http://www.moh.go.tz/en/about-ministry/roles Accessed on 5th of July 2018 and in 2017, the MoHCDGEC was handled over the mandate to oversee the RRH, before this the mandate was only at referral and consultant level.

[9] Health Sector Strategic Plan IV (July 2015-June 2020)

[10] http://www.tzdpg.or.tz/index.php?id=1164 Accessed on 5th of July 2018

(i) Delays in the provision of referral healthcare services

Despite the existence of regional referral hospitals in all regions, there have been notable delays in the provision of referral healthcare services. The Tanzania Service Availability and Readiness Assessment Report (2012) indicated that delays in the provision of referral healthcare services were mainly attributed to poor referral arrangements. The report further indicated that weaknesses in the functioning of the referral system are due to the unavailability of the key medical personnel in healthcare facilities.

(ii) Poor handling of emergency healthcare services

The Big Results Now-Star Rating Assessment Reports for Health Facilities in Dodoma and Mbeya regions published by the Ministry of Health; March and September 2016 reported several challenges associated with the provision of emergency healthcare services. Among the listed challenges were: lack of Standard Operating Procedures for handling health emergency cases; insufficient emergency medicines and medical supplies; and equipment. Other challenges include insufficient or lack of awareness of emergency protocols.

Similarly, in January 2014, the Ministry of Health reported that many children die within the first 24 hours after admission, due to poor pediatric emergency care at referral health facilities[11]. The report, further recommends the strategy to build the capacity of healthcare providers on Emergency Triage Assessment and Treatment (ETAT), and procurement and distribution of pediatric emergency equipment to referral facilities.

(iii) Inappropriate health care services delivered in public health facilities

Interviewed officials and stakeholders indicated patients' complaints on poor health care services provided in public hospitals. This was further noted to be associated with avoidable loss of people's life caused by inappropriate delivery of referral health care services[12]. The report mentioned shortage of medicines, medical facilities, and medical personnel in public health facilities as the causes for inadequate delivery of health care services.

(iv) It Promotes the Sustainable Development Goals

[11] Mid-term Review report of the National Road Map Strategic Plan to accelerate reduction in Maternal, New-born and Child Deaths in Tanzania (2008-2015)

[12] http://www.mwananchi.co.tz/habari/Kitaifa/Wagonjwa-walalama-uhaba-wa-dawa--huduma-duni/-/1597296/2526082/-/nl6q2mz/-/index.html ;Accessed on 06th July 2018

Moreover, the audit was motivated by the fact that it supports the achievement of United Nation's 2030 Agenda for Sustainable Development Goals (SDGs) specifically Goal Number 3. This goal aimed at achieving universal health coverage including access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all. Hence, improving the provision of referral and emergency healthcare will also support this SDG goal by increasing healthcare provider's awareness in delivering referral and emergency healthcare services.

Based on this background on the health system, challenges in the provision of referral and emergency health care services; the National Audit Office decided to carry-out the performance audit on the management of the provision of referral and emergency health care services. The audit aimed to establish performance problems and come-up with suggestions or possible recommendations that would ensure efficient use of the available public resources in the provision of health care services in the country.

1.3 Design of the audit

1.3.1 Audit objective

The main objective of the audit was to assess the effectiveness of the mechanism used by the Ministry of Health[13] in managing the provision of referral and emergency healthcare services in Regional, Zonal and National Hospitals.

The specific objectives were to assess:

(a) The extent to which the referral hospitals adequately provide the needed referral healthcare services;

(b) Whether the needed healthcare services for referred patients are adequately provided;

(c) Whether there are effective working mechanisms to ensure that health facilities at all levels have adequate capacities for delivering the level of healthcare services required;

(d) The extent of adequacy in managing healthcare services for referred emergencies in regional, zonal and national hospitals; and

[13] Throughout this report Ministry of Health means Ministry of Health Community Development, Gender , Elderly and Children (MoHCDGEC)

(e) The adequacy of the existing monitoring and evaluation mechanisms for the provision of referral healthcare services in the country.

In order to clearly respond to the above audit objectives, more specific audit questions and sub-questions have been prepared (see ***Appendix 2***) for more details.

1.3.2 Assessment criteria

The assessment criteria were drawn from the National Health Policy of 2007, Tanzania Quality Improvement Framework in Healthcare (2011-2016); the Health Sector Strategic Plan III, the Tanzania National Health Strategy (June 2013-July 2018); the Basic Standards for Health Facilities and the Primary Health Services Development Programme (PHSDP, 2007-2017).

(a) Control of patient congestions in higher level referral hospitals

The Tanzania Quality Improvement Framework in Health Care (2011-2016) requires the Ministry of Health to provide for measures to control the flow pattern of patients seeking healthcare services in referral hospitals; and therefore allow the referral healthcare facilities to deliver healthcare services that conform to their standard specification and design.

The Ministry of Health is required to reform the Regional Hospitals in order to competently perform their referral role of handling cases requiring specialized care, rather than providing primary healthcare (*The Health Sector Strategic Plan III: Section 4.2, Strategy No. 2)*

(b) Adequacy in the provision of referral healthcare services

Section 4.2 of the Health Sector Strategic Plan-III necessitate the Ministry of Health, to restructure regional referral hospitals in order to competently provide the referral healthcare services alongside with handling of cases requiring specialized care (*The Health Sector Strategic Plan III; 2009-2015: Section 4.2, Strategy No. 2*).

Likewise, Section 6.12 of the Health Sector Strategic Plan III (2009-2015) requires the Ministry of Health to prioritize on maintaining and improving the existing health infrastructures, equipment and means of transportation in order to meet the expected demands in the delivery of healthcare services.

The Tanzania Quality Improvement Framework in Health Care (2011-2016) requires the Ministry of Health to prioritize on improving performance in

the delivery of healthcare services. This was through improved capacity of healthcare workers and an increased number of skilled staff in working places. Also, Section 4.1.2 of the Basic Standards for Health Facilities in Hospitals at level III and IV (November 2017) requires each service units of the hospital to have a sufficient number of staff with the qualifications, training, and skills necessary to meet patient's needs.

In addition, Article 28 of Protocol on Health in the Southern African Development Community (SADC, 1999) calls for its member states to establish appropriate clinical guidelines for referrals to help in the harmonization of policies, mechanisms, procedures and strategies with regards to tertiary healthcare services.

Furthermore, in order to improve quality of provided referral healthcare services, the Tanzania National eHealth Strategy (2013-2018) calls for the Ministry of Health to facilitate on the use of an electronic communication sharing for the successful functioning of the referral system.

(c) Assurance of higher level referral hospitals to provide for required level of health care services

For improved planning and management of health professionals at all levels of referral health facilities, the Tanzania National eHealth Strategy (2013-2018) requires the Ministry of Health to strengthen and make use of an electronic Human Resources System.

Moreover, with regard to the mechanism for ensuring the strengthened system for availability of medicines and medical equipment based on quality and demand, the National Health Policy (2007) requires the Ministry of Health to collaborate with President's Office, Regional Administration and Local Government (PO-RALG) and Medical Stores Department (MSD) towards its facilitation.

The Health Sector Strategic Plan IV (July 2015 to June 2020) calls for the Ministry of Health to ensure that health facilities at zonal referral level are equipped with necessary functional medical and diagnostic equipment and supplies to deliver the required level of healthcare services.

To minimize congestions of patients in higher level referral healthcare facilities and avoid unnecessary referrals from lower levels, the Primary Health Services Development Programme (PHSDP, 2007-2017) requires the Ministry of Health to ensure that the existing referral system is operational.

(d) Adequacy in the provision of health care services for received health emergency cases

Section 1.6 of the National Health Policy (1997) requires referral hospitals to have emergency medicine and intensive care units in order to deliver health care services to patients requiring special and close consideration. Likewise, the Basic Standards for Health Facilities in Hospitals at level III and IV (November 2017) requires Zonal and National hospitals to have an Emergency Medicine Department equipped with necessary resources such as human, medical equipment and supplies to provide for urgent medical care.

Section 3.1.3(7) of the Health Sector Emergency Operation Guidelines of the Ministry of Health (2013) requires that, health personnel in respective referral health facilities formulate the Health Management Team that would ensure availability of medical resources such as equipment and supplies necessary for the provision of emergency healthcare services.

At the regional level, Section 3.1.3(6) of the Health Sector Emergency Operational Guidelines (2013) provides for the Regional Health Management Teams (RHMTs) to establish procedures that aim at building the capacity of healthcare workers who are directly involved in the provision of emergency healthcare services.

Furthermore, it is provided in the Functions of the Regional Health Management System (2nd Edition, May 2014), for referral hospitals to establish Emergency Preparedness Teams and develop their own operating manuals.

Section 4.4 of the Tanzania Quality Improvement Framework in Health Care (2011-2016), calls for the Ministry of Health to ensure availability of medical equipment and personnel necessary for attending medical and surgical health emergencies at various hospital levels. Besides, the Basic Standards for Health Facilities in Hospitals at level III and IV (November 2017) emphasizes on the availability of transport as a vital resource for the hospital and in order to adequately manage referral services, the hospital must have at least one ambulance (preferably a four-wheel-drive).

In addition, Chapter two of the Human Resource for Health and Social Welfare Strategic Plan (2014-2019) emphasized the need for the Ministry of Health to provide technical support to regional authorities towards achieving their human resource requirements.

(e) Monitoring and evaluation in the provision of healthcare services for referrals

The Tanzania Quality Improvement Framework in Healthcare (2011-2016) requires the Ministry of Health to prioritize and strengthen supportive supervision, monitoring, and surveillance of referral health facilities.

The Basic Standards for Health Facilities in Hospitals at level III and IV (November 2017) requires the Ministry of Health and Health Facilities to maintain a system for all data collected; and ensure that data is of appropriate, timely, accurate, complete and retrievable. They are also required to ensure that data collected are processed to support evidence-based decision making to inform the Health Management Team and other stakeholders to take corrective actions.

1.3.3 Scope of the audit

The main audited entity was the Ministry of Health, as it is responsible for administering the delivery of healthcare services in regional, zonal and national referral hospitals.

The audit focused mainly on evaluating the efforts made by the Ministry of Health to ensure that the mechanisms used in administering the provision of referral and emergency services are effective. This was done by assessing the extent and capacity of the Referral Hospitals in the provision of the required level of health care services. The audit also assessed the adequacy in managing received health emergencies and monitoring of activities in the provision of referral healthcare services.

Formerly, the Regional Referral Hospitals were operating under the President's Office – Regional Administration and Local Government, and currently are under the Ministry of Health. Thus, data were also collected from the Regional Secretariats in order to understand the system used in addressing problems associated with congestion of patients in regional referral hospitals.

The audit covered the entire country and data were collected from selected Regional Referral Hospitals, Zonal Referral Hospitals and National Hospital. From those regions, the national status on the provision of referral and emergency healthcare services was drawn. This was done in order to understand the practices used to ensure effectiveness in the delivery of referral and emergency healthcare services cutting across all categories of higher-level referral hospitals.

The audit covered a period of five financial years from July 2013/14 to June 2017/18. Partly, this was the period for which the Ministry of Health was implementing the Health Sector Strategic Plan III which started from July 2009 to June 2015. During this period, the Government target was to strengthen the referral system at all levels so as to ensure the appropriate treatment of patients. Thus, this period provides the proper time to

evaluate the effectiveness of the mechanisms used to facilitate the attainment of the overall government goal towards referral systems.

1.3.4 Sampling methods for data collection and analysis

(i) Sampling method used

Non-probability sampling was used to select regions and referral hospitals. Regions were first clustered into seven geographical zones namely, Southern, Northern, Southern Highlands, Eastern, Western, Central and Lake Zones.

To have a countrywide representation of referral hospitals, one region was purposively selected from each of the seven geographical zones and from each region, a regional referral hospital was selected.

The selection of regions was based on meeting a combination of criteria that included population size and a number of received referral cases at Muhimbili National Referral Hospital as explained below:

a) The estimated population size of the year 2012 in consideration of high, medium and low population sizes. In this case, the region with the high population size was selected as it have a high risk of affecting a large number of people in case the healthcare system on the provision of referral and emergency services is not working properly; and

b) The number of reported referral cases received at Muhimbili National Hospital from financial year 2012/13 to 2016/17 grouped as low, medium and high.

The selected regions were Dar es Salaam, Tabora, Mtwara, Katavi, Mwanza, Tanga, and Mbeya, whereby the regional hospitals selected were Mwananyamala, Kitete, Ligula, Mpanda, Sekou-toure, Tanga and Mbeya Regional Hospitals (see ***Appendix 5)*** for further details.

In addition, Zonal and National referrals hospitals in respective zones were also selected in order to assess their capacity to deliver referral and emergency healthcare services at those levels. The selected Zonal referral hospitals are Bugando Medical Centre (BMC), Kilimanjaro Christian Medical Centre (KCMC), Mbeya Zonal Referral Hospital (MZRH) and Muhimbili National Referral Hospital.

(ii) Methods used for data collection

Documents reviews

Various documents from the Ministry of Health and PO-RALG between the financial years 2013/14 and 2017/18 were reviewed to obtain the overall performance of the Ministry of Health as regards to the management of the provision of referral and emergency healthcare services. The reviewed documents included: Hospital Plans, Quarterly Reports, Supportive Supervision Reports, and External Hospital Performance Reports.

The reviews of documents were done in order to clarify the information collected from interviews and observations during site visits (see ***Appendix 4)*** for more details.

Interviews

Interviews were conducted with responsible officials in respective departments and Sections of the Ministry of Health and PO-RALG in order to gain insights and clarifications on the information regarding practices in the provision of referral and emergency healthcare services in the country. The interviewed officials were from both management and operational levels so as to acquire relevant information. Likewise, the interviews were conducted to confirm the information obtained from the documents reviewed (see ***Appendix 6***) for more details.

Observation

To verify the information collected from interviews and document reviews on the provision of referral and emergency healthcare services, audit team conducted site visits in selected referral hospitals to observe on the availability and set standards for an Emergency Medicine Department. The observed items were adopted from the list of items for Minimum Standards for Emergency Medicine Department of the Ministry of Health (July 2018). The observation tools were in three categories namely structural design and layout, equipment and human resource (see ***Appendix 3(a)-(c)***) for more details.

(iii) Methods used for data analysis

Collected data were analyzed using both qualitative and quantitative methods. Quantitative data was compiled, organized and summarized using excel spreadsheet and presented as descriptive statistics in frequency tables and simple bar-charts. Likewise, qualitative data collected through interviews and document reviews were categorized based on the main themes under each audit question and presented as summarized texts.

1.4 Data validation process

The audited entity, the Ministry of Health was given the opportunity to go through the draft report and comment on the information presented in the report. The Ministry confirmed the accuracy of the figures used and information presented in the report.

The draft report was also given to two subject matter experts with background on the functionality of the health system in the provision of referral and emergency healthcare services. This was done in order to obtain an expert's opinion and ascertain on the accuracy and validity of the information presented.

1.5 Standards used for the audit

The audit was conducted in accordance with the International Standards of Supreme Audit Institutions (ISSAIs) on Performance Auditing Standards issued by the International Organization of Supreme Audit Institutions (INTOSAI). These standards require that the audit is planned and performed in order to obtain sufficient and appropriate evidence to provide a reasonable basis for findings and conclusions based on audit objectives. It is believed that according to the audit objectives, the evidence obtained provided a reasonable basis for the findings and conclusions.

1.6 Structure of the audit report

The subsequent chapters of this report cover the following:

Chapter Two presents the system description, process, and relationship among key stakeholders involved in the process of ensuring the effective delivery of healthcare services for referrals and emergency in the country.

Chapter Three presents the audit findings based on the five specific objectives of this audit.

Chapter Four provides audit conclusions; and

Chapter Five outlines recommendations, which can be implemented towards improving the observed weaknesses for effective management on the delivery of referral and emergency healthcare services.

CHAPTER TWO

SYSTEM FOR THE PROVISION OF REFERRAL AND EMERGENCY HEALTH CARE SERVICES

2.1 Introduction

This chapter provides a description of the system for the provision of referral and emergency healthcare services in Tanzania. It presents the policy and legal framework governing the system for the provision of referral and emergency health care services in the country, the roles, and responsibilities of key actors involved. Furthermore, the chapter describes the process used in the provision of referral and emergency healthcare services in the country.

2.2 Policy and Legal Framework

The following are the Policies, Laws and Regulations, which govern the provision of referral and emergency healthcare services in Tanzania.

2.2.1 Policies

National Health Policy, 2007

The National Health Policy, 2007 aimed at improving the health and well-being of all people, particularly to those who are facing risks associated with their health and well-being. This is realized by putting in place a health care system that would meet peoples' needs and therefore contribute to increased life expectancy[14].

2.2.2 Goals and Objectives

The goal of the National Health Policy of 2007 is to ensure the availability of basic healthcare services provided by a reliable healthcare system that conforms to laws and guidelines. The policy also aimed at providing a platform for planning, training and allocating the number of healthcare workers with appropriate skills at all levels of healthcare facilities[15].

Furthermore, according to the Comprehensive Council Health Planning Guidelines of 2011, one of the policy objectives of the Ministry of Health is to ensure availability of a training system that guarantees the availability of adequate numbers of competent and skilled healthcare staff to manage healthcare services at all health facility levels[16].

2.2.3 Strategies and Guidelines

a) Health Sector Strategic Plan III

The Health Sector Strategic Plan III, (2009 to June 2015) aimed at improving the provision of hospital services. This was to be achieved by enhancing the quality of medical services through the implementation of Tanzania Quality Improvement Framework (TQIF, 2011-2016)[17]. The other approach was to increase access to patients in need of advanced medical care by placing a

[14] National Health Policy-2007

[15] Ibid

[16] Comprehensive Council Health Planning Guidelines (July 2011)

[17] TQIF provides guidance for introduction of quality assurance systems, including accreditation. Supervision by Regional Health Management Teams (RHMTs) and Regional Hospital staff.

suitable healthcare referral system and to establish measures that would prevent by-passing of other hospital levels.

b) Health Sector Strategic Plan IV

The Health Sector Strategic Plan IV (2015-2020) aimed at reaching all family units in order to provide them with essential health and social welfare services. Also, meet as much as possible, the expectations of the population, adhering to objective quality standards and applying evidence-informed interventions through efficient channels of health service delivery. Through the implementation of the Health Sector Strategic Plan IV, the country can strengthen capacity in emergency preparedness and response to disasters.

c) Basic Standards for Health Facilities (2017)

The Basic Standards for Health Facilities is the guideline focusing on what needs to be in place at all levels of healthcare so as to reflect the vision and mission of the Ministry of Health. The guidelines are expected to be used by the Hospital Governing Boards and Hospital Committees for planning, allocation of resources and ensuring the provision of quality health care services at all hospital levels.

d) Primary Health Service Development Program in 2007 (PHSDP)

The Ministry of Health established the Primary Health Service Development Program in 2007.The program focus areas included strengthening of the health system for referrals by improving information communication system and transport between healthcare facilities.

The specific objectives of the program was to ensure that the referral system is operational and where necessary to establish teams of consultants to provide for mobile clinics and outreach services. In addition, the program aimed at supporting health facilities in the provision of quality healthcare to minimize unnecessary referrals[18].

e) Protocol on Health in the Southern African Development Community (SADC)

In September 1998, the member states of the Southern African Development Community (SADC) agreed on a policy framework document adopted by the council in Grand Baie-Mauritius, which forms the basis for co-operation

[18] http://www.tamisemi.go.tz/menu_data/Programmes/MMAM/ (Accessed on 5th of October 2017)

under this protocol. The protocol requires a member state to co-operate and assist one another in the harmonization of policies, mechanisms, procedures, and strategies with regard to tertiary healthcare services including the establishment of appropriate clinical and administrative guidelines for referral, within and between State parties.

2.3 Roles and Responsibilities of Key Actors

2.3.1 Roles of Key Stakeholders

(i) Ministry of Health, Community Development, Gender, Elderly and Children

The Ministry of Health is responsible for:

a) Policy formulation, health legislations, regulations, and controls;
b) Resource mobilization and allocation;
c) Management support of three levels of hospitals including National, Referral and Special Hospitals;
d) Training of key professional health cadres and monitoring quality of training;
e) Supervision and inspection of the provision of healthcare services; and
f) Monitoring and Evaluation of healthcare services countrywide.

It also supports the management and facilitates implementation of healthcare services at the regional level through the Regional Secretariats. These functions are implemented under the Directorate of Curative Services (DCS), and the Directorate of Health Quality Assurance. The roles of each directorate are as detailed below:

(ii) Directorate of Curative Services (DCS)

The Curative Services Department plays a direct role in the management of tertiary healthcare services in the country. Its main roles include:

a) Formulating, reviewing and overseeing the implementation of curative health policies, laws, regulations and guidelines;
b) Overseeing the provision of general and specific curative services;
c) Coordinating the provision of pharmaceutical and diagnostic services in the provision of curative services; and
d) Coordinating the development of horizontal and other alternative medical health services.

(iii) Directorate of Health Quality Assurance

The Health Quality Assurance Department provides expertise in health quality management and improvement for sustainable quality healthcare services. Its main role is to provide professional health service inspection in order to identify weaknesses and strengths for better health service delivery. It is also responsible for developing, preparing and formulating health sector guidelines, protocols, and standards on emergency and disaster preparedness and response in the country. These roles are implemented through Health Service Inspectorate Unit and Health Emergency Preparedness and Response Unit.

The Health Services Inspectorate Unit has the following roles:

a) Prepare and disseminate healthcare services inspection and supervision policy guidelines for health services delivery, Quality Assurance/Quality Improvement policy guidelines in healthcare;
b) Liaise and collaborate with departments and bodies in all issues pertaining to inspection, supervision, Quality Assurance/Quality Improvement in healthcare;
c) Coordinate healthcare services inspection and supervision to Regional Health Management Teams with regard to quality improvements in healthcare;
d) Submit healthcare services inspection and supervision reports to relevant authorities/organs for necessary follow-up measures and actions; and
e) Monitor and evaluate the implementation of healthcare services inspection and supervision.

Health Emergency Preparedness and Response Unit has the following roles:

a) Develop, prepare and formulate health sector guidelines, protocols, and standards on emergency and disaster preparedness and response in the country;
b) Coordinate and offer guidance on the emergency preparedness;
c) Ensure the healthcare system can handle an emergency when it happens;
d) Offer short courses and training on handling emergency cases and response;
e) Coordinate short training at the regional level in order to build the capacity of the medical personnel at this level; and
f) Facilitate the conduct of emergency rehearsals for the creation of awareness and readiness among care providers.

(iv) Regional Secretariats

The Regional Secretariats (RS) oversee the management of healthcare services at the regional level. Among its roles are: to coordinate and provide advice on the implementation of Health Policy in the region.

(v) Regional Health Management Team

The Regional Health Management Team is responsible for the overall quality management of healthcare services in the region. The team has a role of coordinating preventive, curative and promoting healthcare activities in the region. It also, advises the Regional Secretariats on all matters for ensuring improvement and looking after the health status of the population within the region through advice on overall planning, implementation, delivery, monitoring and evaluation of quality healthcare services.

2.3.2 Roles of other Stakeholders

a) Ministry of Finance and Planning (MoFP)

The Ministry of Finance and Planning (MoFP) manages the overall revenue, expenditure, and financing of the Government of Tanzania including funds related to health issues. It is also responsible for preparation of central government budget and allocations to different government institutions including the Ministry of Health. Likewise, the MoFP plays an important role in the health and social welfare sector budget, allocation of funds for salaries as per approved health sector vacancies and also in income generating activities such as health insurance schemes.

b) Development Partners

Development partners support the healthcare system for service delivery through promotion and responding to the needs of the public. They play a key role by ensuring better healthcare service delivery through the provision of funding for health budgets, direct technical assistance, human resource, capacity building, equipment, and infrastructure[19].

Some of the Development Partners in the health sector include: United States Agency for International Development (USAID), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the British Department for International Development (DfID), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the Danish

[19] file:///C:/Users/user/Downloads/143-442-1-PB.pdf

International Development Agency (DANIDA) and the Japan International Cooperation Agency (JICA).

2.4 Resources for the Provision of Referral and Emergency Health Care Services

The effective provision of referral and emergency healthcare services requires human and financial resources. The Directorate of Curative Services (DCS) plays a direct role in ensuring the effective and efficient delivery of healthcare services in all hospitals in the country.

Therefore, this section provides details on allocated resources to the Ministry of Health through this Directorate as detailed below:

2.4.1 Financial Resources

(a) Financial Resources at Directorate of Curative Services (DCS)

Financing of the activities in the Department of Curative Services is primarily from the Central Government and Development Partners through the Health Basket Funding (HBF). Proportionally, from the Financial Year 2013/14 to 2017/18, the Department received funds allocated from the Central Government based on recurrent budgeting (Figure 2.1). Compared to an average annual budget received through Health Basket Funding (TZS 17.5 Billion) the Department had been receiving an average annual amount of TZS 162.5 Billion from the Central Government as indicated in figure 2.1

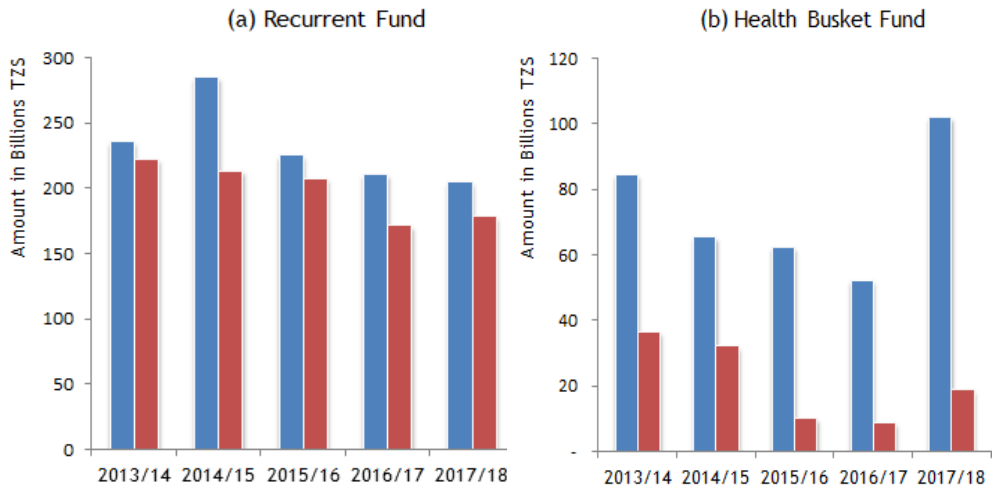

Figure 2.1: Financial Resources at Directorate of Curative Services

***Source**: Directorate of Curative Services (DCS) of the Ministry of Health and EPICOR System of the Ministry of Finance and Planning (2018)*

(a) Financial Resources at the Referral Hospitals

The following section present sources of funding for visited referral hospitals. The financial resources are from two main sources which are, own source and recurrent from the Ministry of Health as indicated in ***Appendix 8(a)*** *and* ***8(b)***.

2.4.2 Human Resources

(a) Human Resources at the Directorate of Curative Services (DCS)

To ensure smooth operations of the Directorate of Curative Services, availability and allocation of staff at each Section need to be adequate and appropriate. Table 2.1 provides a detailed description of the required staff and available staff per cadre.

Table 2.1 Allocation of Staff in the Directorate of Curative Services

Section	Required Number of Staff as per Staffing level requirement (2014-2019)	Available Number of Staff
Office of Director	15	7
Public and Private Health Services (PPHF)	30	5
Diagnostic and Healthcare Technical Services	34	6
Traditional and Alternative Medicine	6	4
Non-Communicable Diseases, Mental Health, Substance Abuse, and Oral Health Section	37	8

Regional Referral Hospital Services *(Recently established)*	Not Available	8
Total	**122**	**38**

***Source**: Directorate of Curative Services of the Ministry of Health (2018)*

(b) Human Resources at the Referral Hospitals

To ensure that referral hospitals perform their work effectively availability and allocation of the medical personnel need to be appropriate. Table 2.2 provides a detailed description of the required medical personnel and the available medical personnel.

Table 2.2: Allocation of Specialist Medical Personnel in Referrals Hospitals

Name of Hospital/Level	Specialist Medical Doctors		Percentage Available (%)
	Required Number	Available Number	
Zonal Hospitals			
KCMC	100	65	65
BMC	250	89	36
MZRH	152	45	30
Regional Referral Hospitals			
Mbeya	7	4	57
Tanga	26	12	46
Mwananyamala	29	12	41
Sekou-toure	19	6	32
Mpanda	22	1	5

Kitete	21	1	5
Ligula	21	1	5

Source: *PO-RALG and Ministry of Health Staff Establishments (2018)*

2.5 Processes for the Provision of Referral and Emergency Healthcare Services

The Standard Treatment Guidelines for clinical services of 2013 provides standardized procedures in the management of common disease conditions. The aim of the Guidelines is to provide health practitioners with standard guidance in making decisions about appropriate healthcare for specific health conditions. The guidelines describe the types as well as the processes involved in the provision of health emergency and referral services [20] as summarized in Figure 2.2.

[20] The United Republic of Tanzania; Standard Treatment Guidelines and Essential Medicines List, Ministry of Health and Social Welfare, Fourth Edition; 2013.

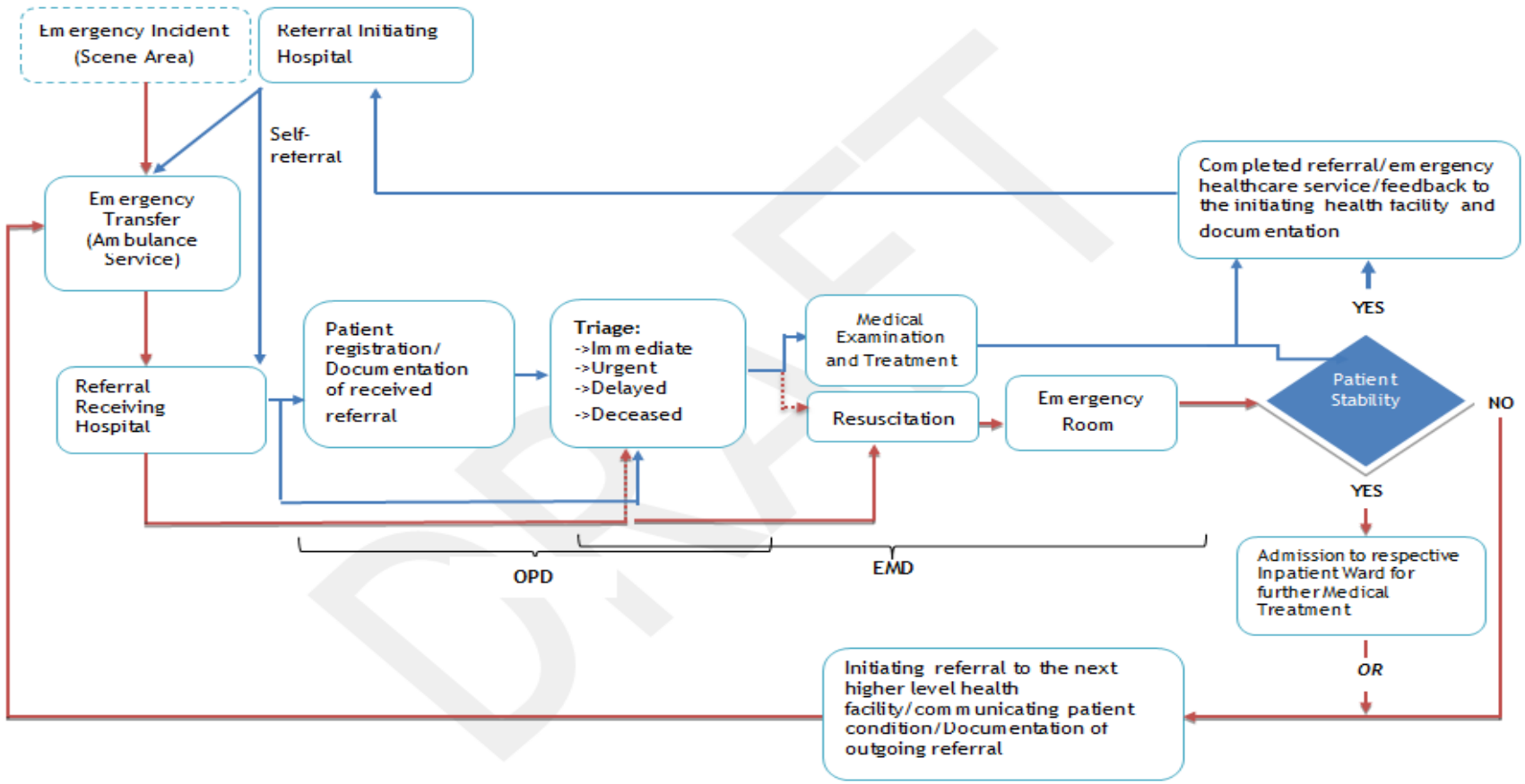

Figure 2.2: Process in the Provision of Referral and Emergency Care Services
Source: Standard Treatment Guidelines for clinical services of 2013

2.6.1 Procedures for the Provision of Emergency and Referral Healthcare Services

The summarized general procedures for patients requiring referral and health emergency treatments are described below:

Registration: Depending on the patient situation, the patients are referred to the referral hospital either through an ambulance or normal transportation means. Once the patient arrives at the higher referral hospital, the first process is registration. At this stage, clients present their referral form and register for provision of health care service at a given level of the healthcare facility. Patients requiring very urgent attention are directly received at the Resuscitation areas at EMD where they receive the initial resuscitation for stabilization prior to further processes.

***Patient examination*, resuscitation *and Treatment at the Receiving Facility*:** This is a health facility that receives and accepts the referred client's case for the provision of needed health care service. At this stage, a client's medical consultation and examination are conducted by a concerned medical practitioner. Client's details are collected based on the observed condition; thereby decision for admission and or more referral is made. It is at this stage that the medical doctor also establishes the need for further referral, whereby an outward referral is prepared to communicate the client's condition and status[21].

Likewise, referrals can be initiated in the wards, when patient has been admitted and the in-service feels that they cannot care for the patient due to: lack of necessary recourses, or skilled manpower, or the patient who has developed complications, or condition has worsened as a result of on-going treatment.

Following the client's informed consent for referral initiation, a standardized referral form is completed by filling in vital information of the client as per referral protocol requirements. This is done by the healthcare service provider responsible for medical examination before being verified by the medical-officer in-charge. The medical practitioner will also obtain the client consent by explaining to the client the purpose and reason for referral and any associated risks if a referral is not made[22].

[21] PEPFAR, USAID, and MEASURE Evaluation, "Referral Systems Assessment And Monitoring Toolkit." 2013.
[22] Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines; 2012). Wellington: Ministry of Health (URL: https://www.health.govt.nz/system/files/documents/publications/referral-glines-jan12.pdf)

Handling of cases varies based on the type of referral as explained below:

(i) Routine Referrals

These are non-emergency referrals that follow the normal procedure for client registration prior to medical examination and receiving required medical treatment. Furthermore, medical treatment is offered to the patient based on referral information received. At this stage, the decision on whether to admit the client as IN or OUT-Patient is made.

(ii) Emergency Referrals

Patience received at an Emergency Medicine Department; normally undergo medical treatment to stabilize their medical conditions before they are rated to identify the order by which they should be attended[23]. The urgency for admission to the Emergency Medicine Department is rated in categories of *most critical, emergent, urgent, less urgent and non-urgent*.

The process of rating clients for the purpose of identifying the order of urgency in treatment falls under the following four main steps:

a) Assessing and determining the severity of the presenting client condition;
b) Process clients into the appropriate level of medical urgency;
c) Determine and direct the client to appropriate treatment; and
d) Assigning the client to an appropriate medical practitioner.

Resuscitation is done to the patients with emergency cases before they are taken to the emergency room for further observation and care. The medical doctor will also refer the patient to the higher level hospital in case, that case cannot be handled at that level.

Once the patient condition has stabilized, the responsible medical personnel in the receiving facility will be required to complete referral or emergency healthcare service forms and provide feedback to the initiating health facility and proceed with documentation.

***Emergency Transportation*:** The need may arise for referrals or emergency referrals requiring the transfer of a client to the next higher level of the healthcare facility. Ambulance services are primarily responsible for transporting clients from one facility level to another. Primary healthcare facilities use available ambulances at healthcare facilities to transfer clients to the next higher level facilities for medical treatment. Primary level ambulance services operate under the District Medical Officer.

***Communication, Follow-ups and Documentation*:** Health referral has been described as a two-way relationship requiring cooperation, coordination and

[23] S. Ruyumbu, Perceptions and Challenges of using Emergency Triage Assessment Treatment Guideline in Emergency Department at Muhimbili National Hospital; Dissertation. 2012.

exchange of information between the referring and receiving health facilities.[24] Upon successful referral initiation, the referring facility makes follow-up to ensure that the client receives the intended service and that the referral is completed. It is further required that information on the results of medical treatment at the receiving facility be confirmed and documented for reference.[25] For a complete referral loop between two health facilities, feedback is given to the referring health facility with clarification of the on-going medical treatment of the client.

In addition, a referral register is used for tracking all referral records made at the healthcare facility. Documented information in register provides a basis to monitor referral patterns and trends for clients attended.

Referral Data Management and Supervision

At all health facility levels, management of the referral records is done through monitoring and supervision. Besides, the need for capacity building and other medical resources for health emergencies can be determined based on the analysis of referral cases at that facility level. This analysis may include the following:

a) Identifying cases which could have been properly managed at that level of healthcare facility without the issuance of referral;
b) Identifying cases that could have been referred to the next higher level facility but handled at that level;
c) Making follow-ups to cases that were referred to higher facility level for ensuring complete referral process; and
d) Identifying any of the issues regarding timing, promptness, and completeness of information shared with the facility at other levels.

2.6.2 Main Types of Health Emergency and Referral Cases

Types of Health Emergency Cases

Health emergency cases are handled in the Emergency Medicine Department. This Department form an integral part of the health delivery system within hospital dedicated to providing time-sensitive medical care. The services are provided by emergency medicine trained healthcare providers, equipped with basic resources to triage, resuscitate, diagnose, treat and ensure patient clinical stability before being allocated for appropriate care or discharge[26]. Health emergency is described as an acute life-threatening health condition

[24] http://www.who.int/management/facility/ReferralPhilippines.pdf (Accessed on 6th of October 2017)
[25] https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2-tool21.html. Accessed on 25th August 2017
[26] Emergency Medicine Department; Minimum Requirements (July 2018-Ministry of Health-Tanzania).

that can be seen at any level with or without a referral[27]. There are two types of health emergencies as explained hereunder:

a) General Health Emergencies

These are healthcare services given to a group of patients, and they are normally resulting from events such as accident and natural disasters for instance floods, earthquakes etc.[28]

b) Routine Health Emergencies

These are health emergencies originating within the health facility and offered to the patient within the healthcare facility or to a patient referred from the community or another healthcare facility[29]. For example when the healthcare facility does not have capacity to provide the required healthcare services.

Types of Referral Cases

Like health emergency cases, referral cases are grouped into three main categories as described below[30]:

a) ***Internal Referral***: This is normally happening within the healthcare facility, for instance from one department to another or from one unit to another department within the same health facility. This is commonly known as transfer rather than referral.

b) ***External Referral***: Normally termed as the pre-hospital emergency referral. It is a referral requiring the immediate transfer of clinical responsibilities to the most appropriate healthcare facility. They include referrals received from ambulance services or community volunteers.

c) ***Routine Referrals:*** These are cases that do not require emergency transport and may be issued by the health practitioner based on observed clinical conditions.

2.6.3 Healthcare Services Provided at Higher Level Referral Hospitals

Delivery of referral healthcare services at higher-level hospital falls into two major classifications namely; *secondary and tertiary level healthcare services*.

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[27] Interview with Emergency Medicine Physician at Muhimbili National Hospital

[28] Ibid

[29] Ibid

[30] https://www.health.govt.nz/system/files/documents/publications/referral-glines-jan12.pdf Accessed on 24th November 2017 12:21hrs

These categories are based on the capacity of the hospitals in the provision of healthcare services.

a) Secondary Healthcare Services

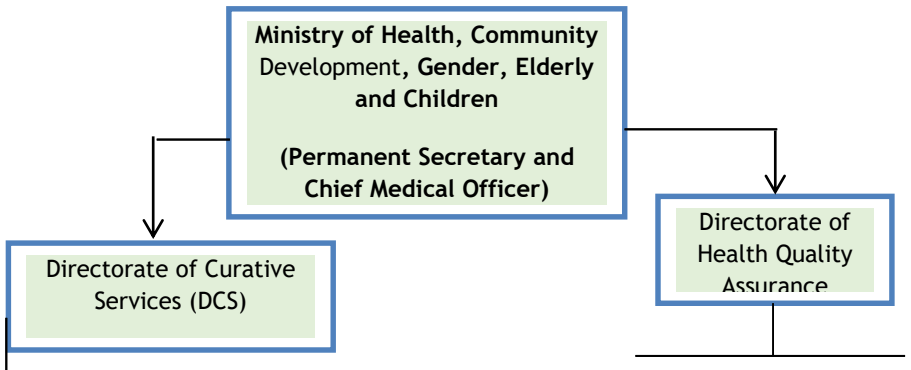
Secondary healthcare services are services provided at Regional and Zonal hospitals. The healthcare services provided include core specialized services such as Internal Medicine; Pediatric and Child Health; Obstetrics and Gynecology; Dental; General Surgical services; and other basic health care services. These specialized services are expected to be supported by specialized personnel. Healthcare facilities falling in this category are such as Ligula and Sekou-toure Regional Hospitals, Bugando and Mbeya Zonal Referral Hospitals.

b) Tertiary Healthcare Services

Hospital healthcare services at tertiary level include those delivered at National and Specialized Consultant Hospitals. They offer twenty or more super-specialized care in all five-core specialties. The five-core specialties services are General Surgery, Dental, Obstetrics and Gynecology, Internal Medicine, and Pediatric and Child Health. Muhimbili National Hospital falls under this category.

2.6.4 The Relationship among key stakeholders

The Ministry of Health has the responsibility of overseeing all aspects of healthcare services provided in Regional, Zonal and National hospitals. It is responsible for managing and supporting hospitals at higher levels by providing technical and administrative support. The relationship among key stakeholders involved in the management of the provision of referral and emergency healthcare services in the country is presented in Figure 2.3 below:



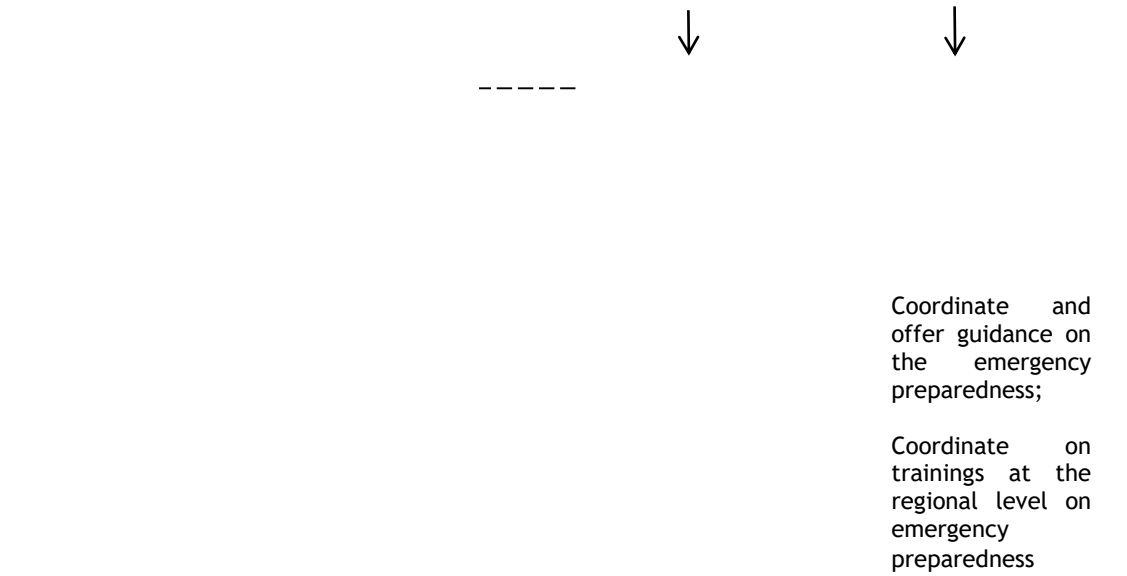


Figure 2.3: Relationship among key actors in the provision of health services

***Source**: Auditors' Analysis (2018)*

CHAPTER THREE

AUDIT FINDINGS

3.1 Introduction

This chapter presents the audit findings on the performance of the Ministry of Health in managing the provision of referral and emergency healthcare services in higher health facility levels.

The findings are addressing five sub-audit objectives covering the extent of the existence patients' congestion problem in referral hospitals; adequacy of provision of the needed referral healthcare services; effectiveness of mechanisms used to ensure adequate provision of healthcare referral services; adequacy of provision of healthcare services for a referred emergency.

It also presents the adequacy of monitoring and evaluation activities conducted by the Ministry of Health on the performance of Health Facilities in the provision of referral and emergency healthcare services in the country. The detailed findings for each of the five sub-audit objectives are presented below:

3.2 Extent of Congestion of Patient

According to the Tanzania Quality Improvement Framework in Healthcare (2011-2016), the Ministry of Health is required to control the flow pattern of patients in higher level referral hospitals and ensure that the provision of quality health care adheres to a required standard structure, specification, and design.

Analysis of the congestion of patients in 11 sampled higher-level referral hospitals was made using the population of patients served and types of health services offered against their designed standards.

The audit noted the followings:

3.2.1 Patients Population in Higher Referral Hospitals Exceeded their Designed Capacity

Reviewed Comprehensive Hospital Operation Plans (CHOPs 2013/14 to 2017/18) and the interviewed officials from the visited 11 Referral Hospitals revealed that, the population of patients in the referral hospitals exceeded their designed capacity.

This was assessed against three indicators namely; population served against the designed population, bed capacity and crowding of patients both at inpatient and outpatient departments. The results for each indicator assessed by audit team is as detailed below:

a) Higher number of patients served than the designed population capacity

The extent to which the population of patients exceeded the designed population of the visited hospitals was analyzed. The results are presented in Table 3.1.

Table 3.1: Percentage of excess population over the designed population capacity

Referral Hospital Level	Name Hospital	Designed patient population (N), based on the 2012 Census	Actual patient population size to be served (N)	Percentage of excess population (%)
National	MNH	43,625,354	51,020,337	17
Zonal	BMC	5,000,000	7,500,000	50
	MZRH	4,978,650	5,676,415	14
	KCMC	5,379,602	6,019,837	12
Regional	Mpanda	144,908	738,237	409
	Sekou-toure	2,291,623	4,954,167	116
	Mbeya	1,000,000	1,899,018	90
	Mwananya mala	1,775,049	2,351,346	33
	Kitete	2,226,692	2,652,514	19
	Tanga	2,045,205	2,337,046	14
	Ligula	1,270,854	1,351,038	6

Source: *Data from visited Referral Hospitals (2018) and Comprehensive Hospital Operation Plans (CHOPs)*

As seen in Table 3.1, the actual population served exceeds the designed population capacity of the healthcare facilities at all levels i.e. National, Zonal and Regional hospitals. The percentage excess range from 6 to 409% with the highest rate noted in the regional level compared to the Zonal level.

The highest percentage of excess population at the Zonal level is 50 whereas at the regional level it goes up to 409. This shows that the situation is critical at the regional levels compared to the Zonal.

b) The Overcrowding of patients in both inpatients and outpatients departments

Further analysis was made by the audit team through observations of the status of the overcrowding of patients at both inpatients and outpatients departments of the visited referral hospitals. The congestion of patient was noted in all 11 visited referral hospitals and at both In-patients and Out-patients Departments. This also proves that there is high congestion of patients in the higher- level referral hospitals.

c) More than one Patient were sharing one bed

Through site visits in the referral healthcare facilities, the audit observed that patients were sharing beds especially on the maternity wards. At Muhimbili National Hospital, patients were sleeping on the floor. This observation proves that there is congestion at the referral hospitals. The actual number of patients sleeping in a bed against the standard at peak seasons for the 11 visited referral healthcare facilities is as presented in Table 3.2:

Table 3.2: The Status of Patient per Bed for the 11 Visited Referral Hospitals

Referral Hospital Level	Name Hospital	Standard Number of Patient Per Bed	Actual Number of Patient Per Bed
National	MNH	1	1
Zonal	BMC	1	2
	MZRH	1	2
	KCMC	1	1
Regional	Ligula	1	2
	Mbeya	1	2
	Sekou-toure	1	2
	Tanga	1	2
	Mwananyamala	1	2
	Mpanda	1	2
	Kitete	1	2

Source: *Auditors' Analysis of the responses from interviewed officers of the visited referral Hospitals (2018)*

From Table 3.2 the audit team noted that 9 referral hospitals have experienced the situation whereby more than one patient sleep in one bed at a time while the standard requires that one patient to sleep in one bed. The extreme scenario was noted in Ligula Regional Hospital whereby it was noted that sometimes 2 mothers with their newborns share one bed at the same time.

Only two hospitals namely MNH and KCMC have avoided the patients bed sharing. Muhimbili have cases whereby patients use mattress to sleep on the floor and KCMC have cases whereby they keep extra beds on the corridors.

Furthermore, interviews held with officials from Ligula Regional Hospital revealed situations whereby two mothers who are in postnatal share the same bed with their newborn. This situation is mostly evidenced during the peak time (which is the month of September to December) in the maternal and pediatric wards. With this experience, it is evidenced that the current population served by these referral hospitals exceed their original designed capacity.

The main reason for overcrowding of patients in higher- level referral healthcare facilities was mismatch between the capacity of the hospital and the health demands of the catchment population. This mismatch was attributed to administrative upgrade of hospital status without associated infrastructure and human resource upgrade as detailed below:

Poorly designed hospitals as they grew incrementally from lower level

Interviews held with officials at Tanga, Mwananyamala and Sekou-Toure Regional Hospitals revealed that, medical facility structures were initially designed to cater for a lower level healthcare facilities such as health centers and District Hospitals. They grew incrementally from lower level healthcare facilities to regional referral hospitals without upgrading the available infrastructures. For example, Mpanda Referral Hospital medical infrastructures were designed to cater for Municipal hospital, before it was upgraded to regional referral hospital. The same infrastructure is inadequate for the higher expected level of services which required specialists care as per the requirement of the Ministry of Health Human Resources for Health (HRH Strategic Plan 2014).

Similar information was mentioned by the interviewed officials from the Regional Administrative Secretariat at Mpanda, revealing that overcrowding is the consequences of upgrading lower levels hospitals without improving their infrastructures. The status of the visited referral healthcare facilities and their original designed level is as indicated in Table 3.3.

Table 3.3: Current and original Level of visited Referral Hospitals

Name of the Hospital	Originally Designed Level	Current Level	Year upgraded to the current level

MNH	National Hospital	National Referral Hospital	2000
BMC	Zonal Referral and Consultant Hospital	Zonal Referral Hospital	1985
MZRH	Regional Hospital	Zonal Referral Hospital	1983
KCMC	Zonal Referral Hospital	Super Specialty Hospital	2000
Mbeya	Regional Hospital	Regional Referral Hospital	2010
Sekou-toure	Health Center	Regional Referral Hospital	2010
Tanga	Health Centre /post for Malaria Patients	Regional Referral Hospital	2016
Mwananyamala	Maternal and Child Health Center (MCH,) 1973	Regional Referral Hospital	2010
Mpanda	Mpanda Municipal Hospital	(Designated) Regional Referral Hospital	2018
Kitete	Regional Hospital	Regional Referral Hospital	2012
Ligula	Regional Hospital	Regional Referral Hospital	1964

Source: Data from the visited referral hospitals

Table 3.3, shows that 5 out of 11 visited referral healthcare facilities were upgraded from lower to the current higher level. However, the Ministry of Health did not upgrade their infrastructures to match with the level of services. As a result, the spaces and infrastructures were limited to accommodate the level of healthcare services and current patient population.

Similarly, from Table 3.3, it can been seen that Ligula has been a Regional Hospital for a period of 54 years since it was established as compared to Mpanda which was Municipal hospital until 1 year ago. Thus, the requirements of Ligula were to have a yearly improvement of infrastructure to match the needs of the population, while Mpanda would require a re-design to match the requirements of Regional Referral Hospital.

This situation was evidenced by the observed regional hospitals that were under rehabilitation and renovations as part of upgrading spaces to provide for the needed healthcare services. Table 3.4 presents the healthcare facilities that were undergoing rehabilitations.

Table 3:4: Status of Rehabilitation and Upgrades

Name of the Hospital	Total Number of Rehabilitat	Categories and type of Rehabilitation

	ion and Upgrades Conducted	Upgrading of hospital Infrastructures[31] (Renovation and Rehabilitation)	Construction of mortuary shed, operating theatre, water treatment plant, toilets, pharmacy unit, fence, Maternity Ward II	Re- Painting of Buildings	Installation of medical equipment and utilities facilities
National Referral Hospital					
MNH	12	9	3	-	-
Zonal Referral Hospitals					
BMC	29	12	13	3	2
MZRH	25	25	-	-	-
KCMC	3	3	-	-	-
Regional Hospitals					
Mbeya	2	2	-	-	-
Sekou-toure	3	3	-	-	-
Tanga	7	4	3	-	-
Mwanan yamala	4	3	1	-	-
Mpanda	2		2	-	-
Kitete	2	1	1	-	-
Ligula	4	4	-	-	-

***Source**: Analysis of Annual Reports (2018)*

As indicated in **Table 3.4**, all 11 referral hospitals were undergoing rehabilitation while they have started to operate as a higher- level referral hospital. It also shows that healthcare facilities undergo several cycles of rehabilitation since established. However, the rehabilitation did not raise the standard of the healthcare facilities to be equivalent to its current level. Photo 3.1(a) and 3.1(b) presents the examples of the observed rehabilitation in the visited healthcare facilities. For more details regarding the number and type of rehabilitation and upgrades made in the 11 visited higher-level referral hospitals refer ***Appendix 7***.

Further, the audit noted that the rehabilitation aimed at either increasing the capacity to cover the population increased or to add the services that were not available.

[31] ICU, Theatre, Wards, Buildings, laboratory, Clinics, CSSD, Offices, Hostel, Store, OPD, Administration Blocks

Photo 3.1(a): An Emergency Medicine Department under construction as observed at Tanga Regional Referral Hospital (*Photo taken on 27th November 2018, Tanga*)

Photo 3.1(b): Expansion of an Emergency Medicine Department at Bugando Medical Center (*Photo taken on 6th December 2018, Mwanza*)

During site visits at Tanga, Sekou-Toure and Mwananyamala Regional Hospital, the audit noted that the Outpatient Departments (OPD) are highly overcrowded with patients. For hospitals administering methadone treatment like Mwananyamala Regional Hospital, the number of patients in the OPD has substantially increased to between 1,000 to 1,500 patients per day.

Likewise, in all visited regional hospitals, maternal attendances was observed to be very high, which attracted the construction of maternity buildings with complete space to provide services for both outpatients and inpatients.

***Photo 3.2*:** Maternity ward as observed at Mpanda Regional Referral Hospital (*Photo was taken on 14th August 2018, Mpanda*)

Referral Hospitals were established to meet administrative needs and not technical functionality

Through the interviews with officials from 11 visited referral hospitals, the audit team was informed that, decisions for establishing the available regional referral hospitals were made to meet administrative needs and not technical functionality of the hospitals. As a result, no improvements in the medical infrastructures were made to increase the capacity of the healthcare facility to provide the intended healthcare services. For example, Mpanda Regional Hospital, which was initially serving as Municipal Hospital (Mpanda Municipal Hospital), is currently assuming the roles of the Regional Referral Hospital, and is the highest referral point for all District Hospitals within the region.

An increase of the catchment population and annual patients served in the healthcare facility

The audit noted that, the upgrading of healthcare facilities to high level has also significantly increased the catchment population leading to overcrowding of patients in the referral hospitals. Interviewed officials from Sekou-Toure and Ligula Regional Referral Hospitals revealed that Ministry of Health did not improve medical infrastructure in the hospitals to match with the increased number of population, by considering the increased catchment population. For example, Ligula Regional Hospital has ten beds in the postnatal ward for normal delivery. These are not sufficient to cater for the needs of Mtwara District Council and Ligula Municipal Council.

The percentage increase in the catchment population for the visited healthcare facilities is presented in Table 3.5 below:

Table 3.5: Percentage of excess population to the designed Capacity

Referral Hospital Level	Name of Hospital	Designed Patient Population (N), Based on the 2012 Census	Actual Patient Population Size to be Served (N)	Average Annual Patient Population Served 2015 (N)	Average Annual Patient Population Served 2018 (N)
Zonal	BMC	5,000,000	7,500,000	244,348	240,012
	MZRH	4,978,650	5,676,415	280,000	259,616
	KCMC	5,379,602	6,019,837	175,332	220,414
Regional	Mbeya	1,000,000	1,899,018	36,568	49,973
	Sekou-toure	2,291,623	4,954,167	170,203	129,310
	Tanga	2,045,205	2,337,046	126,070	216,038
	Mwananya mala	1,775,049	2,351,346	850,757	912,000
	Mpanda	144,908	738,237	74,585	55,656
	Kitete	2,226,692	2,652,514	67,902	49,616
	Ligula	1,270,854	1,351,038	10,080	68,798

***Source**: Comprehensive Hospital Operation Plans (CHOPs) and Interviews*

Table 3.5 shows that the catchment population has increased for all 11 visited referral healthcare facilities. In a similar manner, from 2015 to 2018 the average annual populations served increased for 7 out of 11 referral healthcare facilities. It was also noted that, despite the increasing in population, the medical facilities and infrastructures remained the same.

For the catchment population, both zonal and regional referral hospitals indicated an increasing trend. Annual average patients served has shown a decrease trends for Mbeya Zonal hospital and the 3 regional hospitals namely, Kitete, Mpanda and Sekou-toure Regional Hospitals. For all 4 referrals hospitals, the decreasing trend was due to challenges in the documentation of patient's records caused by migration on the use of information systems; for instance, use of MTUHA Books and GoT-Homis that led to underestimation of the served patient records. For Mpanda Regional Referral Hospitals, the decreasing trend was also due to an increased number of private healthcare facilities, which resulted to minimal utilization of healthcare services offered at regional hospital levels.

Standard bed capacity don't reflect the actual patient population

Through observations of the actual overcrowding and interviews held with officials of the visited healthcare facilities, it was noted that actual design bed capacity does not reflect the actual situation on the ground. The auditors compared the standard bed capacity against the design capacity for the visited healthcare facilities, the results are as presented in Table 3.6:

Table 3.6: Comparison of Standard and Designed Bed Capacity

Referral Hospital Level	Name of the Hospital	Standard bed capacity	Design/Actual Bed Capacity
National	MNH	600+	1,500
Zonal	BMC	401 – 600	950
	KCMC	401 – 600	634
	Mbeya	401 – 600	553
Regional	Tanga	151 – 400	412
	Sekou-Toure	151 – 400	315
	Mwananyamala	151 – 400	254
	Kitete	151 – 400	250
	Ligula	151 – 400	232
	Mbeya	151 – 400	179
	Mpanda	151 – 400	160

***Source**: Basic Standards for Health Facilities (2017) and Interviews*

As indicated in **Table 3.6**, the design bed capacity falls within the range of the standard bed capacity for 9 referrals hospitals visited. The designed bed capacity for the 2 healthcare facilities i.e. BMC and Muhimbili exceeded the standard bed capacity. However, as presented earlier, the actual situation in all facilities indicated that there was overcrowding of patients as observed by the auditors. According to the standards given by the Ministry of Health, none of the regional hospitals was below the standard bed capacity.

This shows that either the Ministry has not updated the standard bed capacity or the standard did not consider other factors that reflect the actual situation. Thus, if the Ministry will rely on this standard, it will not be able to solve the actual overcrowding facing the existing healthcare facilities.

The absence of Lower Level Referral Hospital

Through the interviews held with officials from the visited healthcare facilities, it was noted that the congestion of patient was also caused by the absence of Municipal and District hospitals in some of the regions. The availability of District Hospitals in the visited regions as presented in Table 3.7.

Table 3.7: Availability of District/Municipal Hospital in the Visited Regions

Referral Hospital Level	Name Hospital	Availability of Municipal/ District Hospital
Regional	Mbeya	√
	Kitete	X
	Mpanda	X
	Tanga	√
	Sekou-toure	√
	Mwananyamala	√
	Ligula	X

***Source**: Comprehensive Hospital Operation Plans (CHOPs) and Interviews*

As indicated in Table 3.7, 3 out of 7 visited Regional Hospitals namely Ligula, Mpanda and Kitete did not have District /Municipal hospitals. Therefore, the Regional Referral Hospitals in those regions operate as both Municipal and Regional Hospitals. Therefore, the absence of the District/ Municipal hospitals has contributed to high congestion of patients in Ligula, Kitete and Mpanda Regional Hospitals.

Further, even for the regions with District /Municipal hospitals, the audit team noted that they had inadequate capacity to provide services that are within their mandate. For example, pregnant mothers were referred to Regional Referral Hospitals for caesarean operations that could have been done at District/Municipal Hospitals. This is because of lack of medicine, or lack of anaesthetist on call. As a result, it created congestions at Regional Referral Hospitals.

Lack of effective mechanism for controlling self-referrals

It was noted that, the Ministry of Health lack an effective mechanism to ensure that patient adheres to the referral procedures. Through the interviews held with officials from the visited Regional Hospitals, it was noted that there is a tendency of patients to by-pass lower level hospitals. Some patients prefer higher-level hospitals, believing that they have better healthcare services.

Interviews held with officials from the visited regional hospitals, indicated that patients pointed out that higher -level hospitals are equipped with enough medical expertise and have a high quality healthcare services. Assurance for availability of doctors and nurses who are well appreciated by patients for their good services made the community and individual patients to prefer these referral hospitals especially when looking for specific doctors and nurses.

Exemption of Maternal Services on referral procedures

The congestion of patient was also contributed by the exemption of some of the healthcare services to pass through the referral processes. For instance,

maternal clinic visits and services are free at all levels of services. In this regard, a pregnant mother rationally would attend higher and safer services at the referral hospitals.

Consequence of High Congestion of patients in the referral Hospitals

High congestion of patient in referral hospitals has resulted into the following:

(a) High workload to the available human resource

The audit team noted that overcrowding of patients in the referral healthcare facilities, has resulted in a high workload to the available human resource. The available medical personnel attends almost 45 patients per day on clinic days, while the standard requires that they attend 20 per day. This is because the available staffs are far fewer than the recommended patient ratios at this level of service. Thus, the high workload constrained staff and at times re-allocation is done within the same shift time due to the pressure of patients requiring other services.

Further, according to the revised staffing level guidelines most hospital wards were required to attend 20 patients per day. The extent of workload in the selected hospital wards of the visited Regional Hospital is as presented in Figure 3.1 below:

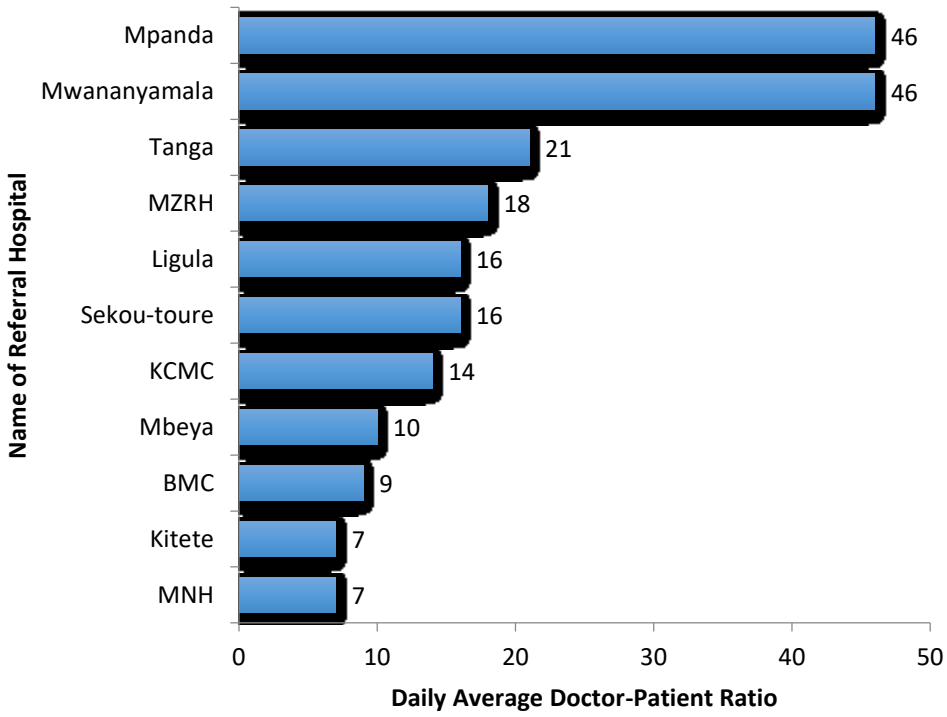


Figure 3.1: Daily Average Doctor-Patient Ratio in the visited Referral Hospitals

Source: *Data from the visited referral hospitals and Auditors' Analysis (2018)*

As it can be seen in the Figure 3.1, there is high workload for doctors in the regional hospitals than in the zonal hospitals. The highest ratio was noted in Mbeya, Mwananyamala and Mpanda Regional Hospitals where the annual ratio goes above 10,000 patients per one doctor.

The reason for this highest workload in those regions is the fact that they have high shortage of doctors compared to other regions and at the same time, their catchment population is also higher.

Despite above analysis, the audit team observed challenges in data records of patients' attended per day in visited referral hospitals that led to low average doctor-to-patient ratio in other visited referral hospitals.

(b) Available medical equipment are overworked/over used

The audit noted that high congestion of patient has resulted in overuse of the available medical equipment in the referral healthcare facilities. Taking an example of the most required/essential medical equipment in referral hospitals such as x-rays, ultrasounds, laboratory facilities such as Chem 7 Machine (*Photo* 3.3) were overused beyond recommended capacity level/ usage rate depending on the technology being used.

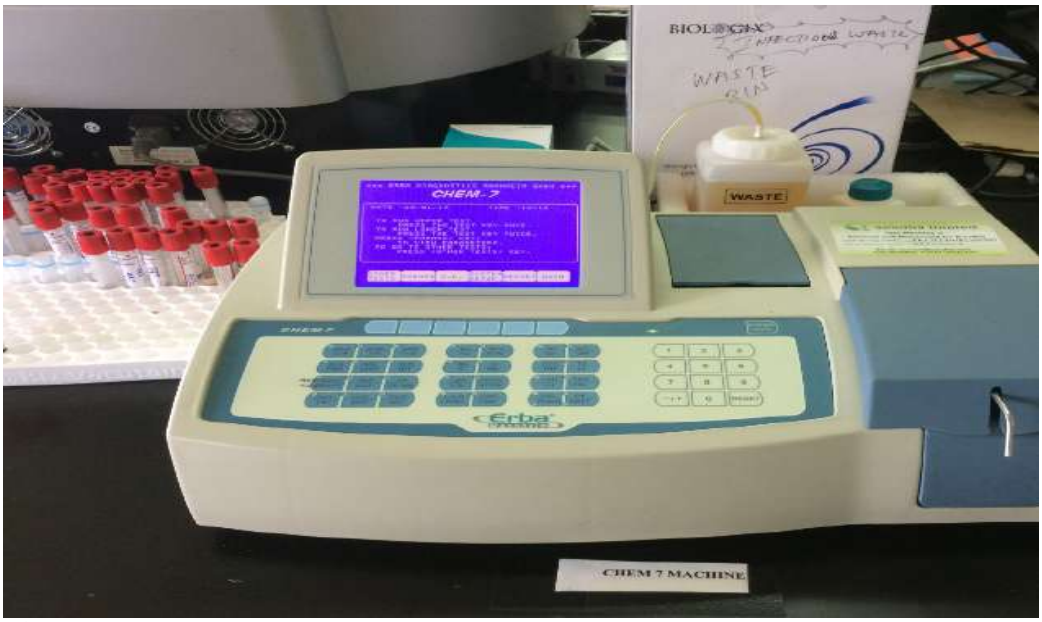


Photo 3.3: Observed Chem 7 Machine at Ligula Hospital used for running one sample at a time, which is the oldest technology (Photo was taken on 28th January 2019, Mtwara)

The audit team made analysis of the usage rate for the selected most essential medical equipment in the visited regional hospital. The results are presented in Table 3.8.

Table 3.8: Usage rate for the essential medical equipment in Various Regional Referral Hospitals

Name of the Regional Hospitals	**Ultrasounds**		**x-rays**	
	Recommended usage rate (*number of patients scanned per hour*)	Actual usage rate (*number of patients scanned per hour*)	Recommended usage rate (*number of patients imaged per hour*)	Actual usage rate (*number of patients imaged per hour*)
Mbeya RRH	2	8	4	10
Sekou-toure RRH	2	10	4	20
Tanga RRH	2	2	4	6
Mwananyamala RRH	2	3	4	3
Mpanda RRH	2	10	4	5
Kitete RRH	2	4	4	10
Ligula RRH	2	5	4	8

Source: *Analysis of Interviews, (2018)*

As indicated in Table 3.8, above, in all regional hospitals x-rays and ultrasounds were operated above the recommended rate, with the extreme case noted in Sekou-toure and Mbeya Regional Hospital.

The audit noted further that, majority of the medical equipment such as x-rays and chem 7 Machine were using old technology and their turnover/ efficient was very low. Thus with the high congestion of patients they were exhausted. This means that only a certain number of patients can be attended per day and equipment has to be rested. Sometimes equipment were overheating especially the old type of x-rays and some of the laboratory examination equipment (Ligula Laboratory equipment as an example). Thus, they affect the timely provision of the healthcare services. In addition, over-utilization of medical equipment would lead to frequent breakdown and also might lead to erroneous results, hence compromising the quality of healthcare provided.

(c) Quality of healthcare services rendered can be compromised

The audit team noted that, staffs were overworked and carried out duties for long hours, some with a shift of 12 hours without resting. It was also noted that the same team of staff when attending long queues at OPD did many other operations. This situation has high risk for compromising the quality of healthcare provided.

3.2.2 Not all services provided at Higher- Referral Hospitals reflects their respective levels

As illustrated in Section 4.2 of Health Sector Strategic Plan III, the Ministry of Health was required to reorganize the Referral Hospitals and ensure that they deliver healthcare services reflecting their roles as referral hospitals. However, through the interviews held with officials in the visited referral hospitals, and the review of star-rating assessment reports, it was found that, healthcare services provided were not reflecting the respective levels of the hospitals. This was indicated by the followings:

i) Presence of patients cases received at regional hospitals that could have been managed by primary levels

The review of star-rating assessment reports, 2018 Kitete, Sekou-toure and Ligula regional referral hospitals were handling cases that could have been handled at the primary healthcare facilities. The interviewed officials at Mpanda, Kitete regional referral hospitals and Mbeya zonal referral hospitals indicated that most of the patients attended in regional referral hospitals could have been managed at primary hospital levels, confirmed this. For example, Malaria, Coughs and UTI cases handled at referral hospitals could have been managed by the primary healthcare facilities.

This is contrary to the Section 4.2 of Health Sector Strategic Plan III of 2009 to 2015 that requires the regional hospitals to perform their referral role of

handling cases requiring specialized care, rather than providing primary healthcare services.

This was mainly caused by a lack of an effective mechanism for controlling self-referrals. It was further noted that most patients prefer higher - level hospital services and tend to bypass lower-level hospitals believing that, higher - level hospitals are equipped with enough medical expertise. As a result of these self-referrals, even patients who can be managed at lower level hospitals do attend the regional hospitals, due to patients' lack of confidence in healthcare services delivered at lower level healthcare facilities.

Other factors include lack of municipal or district hospitals in some regions like Kitete, Mpanda, and Ligula and as presented in Table 3.8 in section 3.2.1 above.

ii) Unavailability of the required speciality core basic referral healthcare

It was noted that not all regional hospitals were delivering the 5 core referral healthcare services. The basic and core 5 referral healthcare services that covers internal medicines, pediatrics and child health, obstetrics and gynecology, dental and general surgical services were not available in some of the visited regional hospitals.

Table 3.9 presents the extent of the availability of required healthcare services in the visited regional referral hospitals:

Table 3.9: Availability of required speciality healthcare services in the regional hospitals

Name of Regional Hospital	Specialty Core Referral Healthcare Services					Percentage of Service Available (%)
	Internal Medicine	Pediatric and Child Health	Obstetrics and Gynecology	Dental	General Surgical services	
Mwanany amala	✓	✓	✓	✓	✓	100
Sekou-toure	✓	✓	✓	✓	X	80
Tanga	✓	✓	X	✓	✓	80
Mbeya	X	✓	✓	X	✓	60
Mpanda	X	✓	✓	X	X	40
Kitete	X	✓	X	✓	X	40
Ligula	X	X	✓	X	X	20

***Source**: Interviews and Review of Basic Standard of Health Facilities (2018)*

As it can be seen in Table 3.9, 6 out of 7 visited regional referral hospitals could not provide all required specialty core healthcare services. Four out 7 regional health services were not providing internal medicine and general

surgical services. The worst-case scenario was noted in Ligula hospital, which was not providing 4 out of the 5 required core referral services.

Further, Table 3.9 indicates that 80-100% of the required core referral healthcare services were provided in Regional hospitals which were located in big cities such as Mwananyamala, Sekou-toure and Tanga Regional Hospitals. The case was different for Regional Hospitals located in the peripheral regions like Ligula, Kitete and Mpanda. Reasons for provision of services in regional referral hospitals that do not reflect their levels:

Regional referral hospital lack functioning technical equipment

The audit team noted that most of the regional referral hospital either lack or have malfunctioning technical equipment. It was also noted that regional hospitals were also using medical equipment with outdated technology that failed to deliver the level of anticipated services. This necessitated cases which can be handled at regional hospitals to be referred to the Zonal Hospitals, thereby causing congestion of the patients at these levels.

Analysis of the availability of functioning of two common medical equipment necessary at the regional hospitals was done and the results are presented in Table 3.11:

Table 3.11: Status availability of medical equipment

Name of Regional Hospital	X-ray Machines		Ultrasound Machines	
	Availability	Status	Availability	Status
Mbeya	*Yes*	Functioning but it needs frequent maintenance and repair because it is more than 18 years since purchase and installment	*Yes*	Functioning
Kitete	*Yes*	Functioning	*Yes*	Functioning
Mpanda	*Yes*	Functioning	Yes	Functioning
Tanga	*Yes[2]*	All Functioning	*Yes[6]*	All Functioning
Sekou-toure	*Yes*	1 Functioning, 1 not functioning	*Yes[2]*	Both functioning

Name of Regional Hospital	X-ray Machines		Ultrasound Machines	
	Availability	Status	Availability	Status
Mwananyamala	*Yes*	Not Functioning (Currently on corrective maintenance, awaiting back panel importation)	*Yes*	currently not functioning (They use VSCAN for obstetric and emergency patients)
Ligula	Yes	Not functioning	Yes	Functioning

***Source**: Interviews and Auditors' Analysis (2019)*

Table 3.11 shows that, 3 out of 7 regional hospitals have x-ray machine, which were either not functioning or outdated. This was noted in Sekou-toure and Ligula Regional Hospitals. The case was different for ultrasound machines. These were available in the 3 out of 7 referral hospitals and all were functioning. As a result, patients in need of the services that demand the use of these machines were referred to Zonal hospitals. Failure of referral hospital to provide the healthcare services reflecting their levels has resulted into overcrowding of patients in zonal hospitals which eventually have the following consequences:

Available human resource is overworked: The audit team noted that due to overcrowding of patients who leads to mismatch of provider to patient ratio, the available human resources were overworked. It was noted that medical personnel attend more than 46 patients per day, while the standard requires 20 patients per day. Refer to figure 3.1.

Available medical equipment are exhausted: The audit team noted that equipment such as x-rays facilities, laboratory facilities are exhausted; this means only a certain number of patients can be attended per day and equipment has to be rested to avoid overheating of for instance, x-rays.

Quality of healthcare services rendered can be compromised: The audit team noted that, the quality of care is compromised where the staff are overworked and carry on duty for long hours. Some staff had a shift of 12 hours without rest. In addition, many operations are done by the same team of staffs who attend long queues at OPD.

In addition to these factors, inadequate management of the provision of referral and emergency health care services contributes to high congestion of patients in referral hospitals. The subsequent subsections provide the details of the causes for the inadequate/ineffective system for management of referral and emergency health care services in the country and to what extent the Ministry of Health has played its part in addressing those reasons.

3.3 Adequacy in the provision of health care services for referrals

The adequacy for the provision of referral health care services was measured using various dimensions. These include the timely provision of referral services, the sufficiency of the referral services offered and the capacity of the facilities in delivering the required healthcare services in terms of personnel and medical facilities. Patient accessibility to the referral services in terms of location and cost was also assessed. The results are as detailed below:

3.3.1 Delays in the provision of referral healthcare services

The audit team noted that there were delays in the provision of referral healthcare services. This was indicated by significant long waiting time before patient is attended. Although the Ministry of Health have not established the standard waiting time, the interviewed officials in the visited regional and zonal hospitals indicated that, patients normally takes between 3 to 4 hours before being attended.

The audit observed shorter patient queues at the consulting rooms but the queues increased as patients converged to laboratory investigations and pharmacy for medications. According to the agreement made by member states of the Southern African Development Community (SADC), Article No. 28 of 1999 which calls for establishment of an appropriate clinical and administrative guidelines for referrals and to help harmonize the mechanisms and procedures used in the provision of health care services at tertiary level hospitals. It is evident that the Ministry of Health failed to complete the referral guidelines, which are still on the drawing board. Therefore, the Ministry did not come-up with mechanisms to minimizing lengthy of time experienced by referred patients before being attended.

Furthermore, through the interviews held with officials from the visited referral hospitals and observations made by auditors at the registration section, it was noted that referred patients take a considerable length of time before they are registered. This was evidenced in Kitete and Ligula Regional Referral Hospitals. In average, it takes not less than 3 hours before the patient is registered.

The analysis of the time for the few selected sections is presented in Table 3.11:

Table 3.11: Average patient waiting time for the visited referral hospital

Name of Referral Hospital	Average Waiting Time (HRS)	Common Areas with Delays
National Referral Hospital		
MNH	4-6	Consultation Rooms, Billing Systems and Laboratory

Zonal Referral Hospital		
BMC	2.5	Clinics (Surgical Outpatient Department, Medical Outpatient Department and Pediatric Outpatient Department)
MZRH	3-4	Consultation, Diagnostics (Laboratory and Radiology) and Pharmacy
KCMC	6	Laboratory and OPD
Regional Referral Hospital		
Mbeya	3 - 4	OPD, Laboratory, RCH and X-Ray
Sekou-toure	1	OPD
Tanga	2 - 3	Registration and Laboratory
Mwananyamala	3 - 5	Laboratory, OPD and Registration (when the system is down)
Mpanda	3 - 4	Laboratory
Kitete	5	Registration, Consultation Room, Laboratory and Radiology
Ligula	3	Laboratory and OPD

***Source**: Auditors' Analysis for the interviews held with officials from the Visited referral hospitals*

Reasons for delays in receiving referral healthcare services include

(a) Overcrowding/high population of patients in the referral hospitals

Through the interviews held with officials from Kitete and Mbeya regional referral hospitals, it was revealed that prolonged patient waiting time in higher-level referral hospitals were due to overcrowding of the patients who could be served at the lower facilities level. The extent of high population of patient in the referral hospitals and reasons thereof has been detailed in Section 3.2.1 above.

(b) Few numbers of medical personnel and specialists

The audit noted that some delays were caused by a few numbers of medical personnel such as medical doctors and the laboratory technicians in most referral hospitals, leading to mismatch between service provider and patient. In all visited hospitals, the audit noted a shortage of more than 50 per cent of the required medical personnel in all five core healthcare sections (see details in Table 3.14).

(c) Medical laboratories that are not fully equipped or are provided with out-dated medical equipment

Through the interviews with officials[32] of the visited referral hospitals, it was noted that the medical laboratories were not fully equipped with the required medical equipment. In some cases, the medical laboratories had out-dated medical equipment (e.g. Chem 7) that was mul-functioning. This contributed to unnecessary laboratory service delays, and compromised efficiency and quality of healthcare provided to patients. This scenario was noted in Ligula and Sekou-toure regional hospitals as detailed in Table 3.12.

(d) Insufficient number of windows to serve patients

Interviewed officials from the visited referral hospitals also indicated that service windows were insufficient to serve the current population served in the referral hospitals. This case was mainly experienced in Kitete regional referral hospital. This also contributed to delays in provision of healthcare services. Photo 3.4 below shows the real situation at Kitete Regional Hospitals.

Photo 3.4: Patients waiting to be attended from a single allocated service window at an OPD, Kitete Regional Referral Hospital (*Photo was taken on 20th August 2018, Tabora*)

[32] Head of Emergency Medicine Department at Mbeya Zonal Referral Hospital

The delays in the provision of healthcare referral services pose a high risk of deaths to patients, which could have been controlled if there were no delays in the provision of the needed healthcare services.

3.3.2 Insufficient provision of referral healthcare services

The Health Sector Strategic Plan III, Section 4.2 (Strategy No.2) requires the Ministry of Health to reform the regional hospitals so that they can competently perform their referral role for handling and managing cases requiring specialized care. However, the audit noted that the referral healthcare services were not sufficient, indicated by unavailability of the required core referral healthcare services.

From the interviews held with several officials from the visited referral hospitals, the audit team noted that some of the required core healthcare services were not available in the visited referral hospitals. As presented in Section 3.2.2 and Table 3.10, the visited regional hospitals, could only provide 20-60 percent of the basic required referral healthcare services.

Reasons for the insufficient provision of referral healthcare services

(a) Poor layout of the infrastructure

Through interviews with respective Medical Officers-In-Charge for each of the visited 7 regional referral hospitals, it was revealed that the working space was limited and could not accommodate additional medical personnel.

(b) Lack of Medical Specialists to match the service demand

There is lack of specialist medical doctors trained in the provision of core referral healthcare services. Table 3.12 present the extent of the availability of medical personnel in the visited regional hospitals.

Table 3.12: Extent of Availability of Specialist Medical Personnel

Name of Hospital/Level	Core Referral Health Care Services **'Required(Available)'**				
	Internal Medicine	Pediatric and Child Health	Obstetrics and Gynecology	Dental	General Surgical services
National Hospital:					
MNH	104(36)	58(25)	28(24)	20(20)	36(18)

Zonal Hospitals:					
BMC	45(18)	35(15)	31(16)	8(4)	82(25)
MZRH	16(5)	8(7)	9(5)	3(1)	8(2)
KCMC	25(11)	20(12)	25(5)	9(6)	31(28)
Regional Hospitals:					
Mbeya	2(0)	1(1)	4(4)	1(1)	1(1)
Sekou-toure	3(2)	3(1)	3(3)	3(1)	3(0)
Tanga	4(2)	4(1)	3(0)	1(1)	5(2)
Mwananyamala	4(3)	4(4)	4(4)	1(1)	4(2)
Mpanda	3(0)	3(1)	3(2)	2(0)	3(0)
Kitete	2(0)	3(2)	3(0)	3(1)	2(0)
Ligula	2(0)	2(0)	3(1)	1(0)	3(0)

***Source**: Data from Visited Referral Hospitals*

Table 3:12 shows that, 4 out of 7 regional referral hospitals visited did not have the specialist for the internal medicine. Among these regions, three of them were located in the remote area with the exception of Mbeya Regional Referral Hospitals. Similar situation was noted for the general surgical services.

This huge discrepancy was due to shortage of specialist medical personnel in the country. For the available few were mostly allocated without taking into consideration the patient's workload and level of services to be provided.

(c) The absence of fully equipped operating ambulance vehicle

The audit team noted that, each of the visited Regional Referral Hospitals had at least one ambulance vehicle. However, not all of the available ambulances were properly functioning. Some were not equipped with necessary medical equipment and supplies. Photo 3.5 presents examples of ambulances with shortage of equipment in the visited regional hospitals.

Photo 3.5(a): A non-functioning ambulance vehicle observed at Bugando Medical Center

Photo 3.5(b): A functioning ambulance vehicle not provided with necessary basic

Photo 3.5(c): Inside an operating Ambulance Vehicle observed with missing emergency

(*Photo was taken on 6th December 2018, Mwanza*)

emergency medical equipment as observed at Sekou-Toure RRH (*Photo was taken on 4th December 2018, Mwanza*)

medication at Kitete RRH (*Photo was taken on 20th August 2018, Tabora*)

(d) Use of old technology ambulance

The audit noted that the ambulances used in some of the referral hospitals were using old technology. This affects their operational efficiency and has high running and maintenance costs. This case was noted in Sekou-toure Regional Hospital.

(e) Delays in the supply of the needed medical reagents

Interviews held with officials from Mwananyamala regional referral hospital revealed that sometimes there are delays in supply of the needed medical reagents (for instance minor items such as reagent to assess full blood picture).

(f) Emergency medical equipment are not mounted and used

The audit team observed and noted from interviews held with officials from Tanga regional referral hospital that, although the Emergency Medicine Unit had been rehabilitated, the available emergency medical equipment were not mounted and used.

Photo 3.6: The observed pile of unpacked boxes with emergence medical equipment and unused patient beds (all items intended to be used in EMD) at Tanga Regional Referral Hospital (*Photo was taken on 27th November 2018, Tanga*)

Insufficient provision of referral healthcare services delivered at the regional level is one major reason for unnecessary congestions at higher referral levels (i.e. zonal and national hospital levels). It also has cost implications and delay

healthcare services provision to patients with urgent need for medical treatment.

3.3.3 Insufficient number of referral healthcare facilities

The audit team noted that the available number of referral health facilities is not sufficient to meet the demands, especially for the Zonal Hospitals. Currently there are three (3) zonal hospitals. The required number is six (6) based on the available geographical zones.

3.3.4 Zonal Referral Hospitals are not easily accessible / not properly located

Section 6.2 of the Health Sector Strategic Plan III (Strategic Objective 1) requires the Ministry of Health to provide a mechanism that would increase access for patients in need of advanced medical care. For this case, the Ministry of Health was to ensure availability of adequate referral systems and establish measures to prevent bypassing healthcare services provided at lower health facility levels. The audit noted that the available referral healthcare facilities are not easily accessible by patient. They are improperly located in respective zones as indicated by the followings factors:

(a) Uneven distribution of zonal referral hospitals/ absence of zonal hospitals in some zones

The audit team noted that despite the on-going Ministries' strategies towards ensuring availability of zonal referral hospitals, some of the zones do not have zonal referral hospitals. For instance, Southern and Central zones do not have zonal referral hospitals; as a result, it creates more congestion of patients to Muhimbili National Hospital.

Absence of these zonal hospitals has created a high population of patients in nearby zonal hospitals in other zones; where they are forced to serve a large number of populations compared to the designed population to be served. For instance, Bugando Medical Center which serves as tertiary referral point to eight (8) regions in the Lake and Western zones namely Sekou-toure, Mara, Kagera, Shinyanga, Kitete, Kigoma, Simiyu and Geita. Mbeya zonal referral hospital also serves six (6) regions namely, Mpanda, Njombe, Rukwa, Ruvuma, Iringa and Mbeya.

Establishing zonal referral hospitals in these zones would help to minimize reliance on referral healthcare services provided at respective zonal and national referral hospitals and prevent unnecessary patient congestions.

(b) The absence of regional referral hospitals in some of the regions

The audit noted that there was absence of regional referral hospitals in the newly established regions; for instance, Simiyu, Njombe, Mpanda, and Geita regions. The patients seeking referral health care services are required to travel almost more than 100 Kilometers to access specialized healthcare in the regional hospitals. Table 3.13 presents the average distance a patient will travel within the region before he/she can reach the regional hospitals.

Table 3.13: Average Distance to Nearby Regional Hospitals

Name of Region	Nearby Regional Referral Hospital	Average Distance (in Km)
Mpanda	Mbeya RRH	561
Njombe	Mbeya RRH	229
Geita	Sekou-Toure RRH	119
Simiyu	Sekou-Toure RRH	108

Source: Auditors' Analysis (2018)

(c) Short distance to the zonal referral hospital

Interviewed officials from Mbeya Regional and Zonal hospitals revealed that at times patient's preference to higher level referral healthcare services is associated with the distance to that hospital. For instance, Mbeya regional and zonal hospitals are closely located to the extent that the patient flow to the zonal hospital is much higher compared to that at the regional hospital. This is because patient would prefer zonal hospitals believing that they do offer better healthcare services.

Delays in the implementation of the Ministry of Health's plans contributed to poor access to referral hospitals. The consequences of poor access to referral hospital include:

***High congestion of patients in national level hospitals*:** Absence of the zonal and regional hospitals, have increased the flow of patients in national hospitals and some of the zonal hospitals. For instance, lack of zonal hospital in the southern and central zones necessitates Ligula regional referral hospital to refer their patients to Muhimbili national hospital. If there was a zonal hospital located in the southern zone it could reduce the congestion at Muhimbili national hospital.

3.3.5 Disparity in Costs of Ambulance Transport Services

Section 6.12 of the Health Sector Strategic Plan III (Strategic Objective 1) provides for the Ministry of Health to maintain and improve the existing healthcare infrastructure, equipment, and means of patient transportation so as to meet demands in the delivery of healthcare services.

Despite affordable costs of healthcare services and provision of exemptions for most of the patients, the audit team noted challenges associated with the cost of ambulance transportation as described below:

(a) Varying cost of ambulance transport services

Through interviews with several officials from the visited referral hospitals, the audit team noted the presence of low direct costs of care that patients ought to pay but it was also noted that most of the served patients are exempted (average of 50 to 80 percent). In addition, it was further noted that normally patients share ambulance transportation costs for cold case referrals compared to hot referrals costs are directly paid by hospitals.

The summary of ambulance cost for the visited regional referral hospitals was done and the results are presented in Table 3.14 below:

Table 3.14: Ambulance cost Charged to Patients in the Visited Regional Hospitals

Name of Regional Hospital	Cost Charged to Patients (TZS)
Kitete	300,000 - 600,000
Tanga	400,000 - 500,000
Mwananyamala	NIL
Sekou-toure	NIL
Mbeya	NIL
Mpanda	0 - 600,000
Ligula	NIL

***Source**: Auditors' Analysis (2018)*

As indicated in the **Table 3.14**, there are variations of cost charged for transportation in various visited referral hospitals, ranging from TZS 300,000-600,000. While in other regional referral hospitals patients were not charged at all.

(b) Patients bear high transportation costs relating to ambulance services

The audit team noted that some patients paid the full price of the ambulance costs; others paid half price, while others do not pay anything at all.

Furthermore, the review of the published report '*Star-Rating Assessment'* for Kitete Regional Hospital (April 2018) highlighted a situation in which transferred patients were required to share costs for allowances payable to accompanying Nurses (TZS 80,000/-), ambulance drivers (TZS 60,000/-) and fuel costs (TZS 500,000/-). The audit team noted that these practices differ (no cost sharing) for regional referral hospitals that are not located far from the zonal or national referral hospitals.

The main reason for the variation of cost includes:

(a) Different procedures used in cost-sharing across referral healthcare facilities

It was noted that there are different procedures used in cost-sharing across referral health facilities for the provided ambulance transportation services. It was revealed through the interviews held with officials from Mbeya Zonal Hospital that received patients bear high-priced transportation costs for the provided ambulance services.

(b) The absence of referral guidelines

The audit team was informed that different referral hospitals especially those issuing hot referrals of patients requiring ambulance transfer had been practicing varying ambulance transportation costing due to the absence of referral guidelines that would have been used to establish and specify formal procedures for hospitals to abide with.

The audit team also observed that some of the costs that were to be shared by individual referred patients could have been fully compensated by hospitals in absence of the mandatory requirement for hospitals to share 50 percent of their revenue collections to Medical Stores Department (MSD) to cater for medical costs.

The variation of cost has resulted into:

Provision of services inequitably among public health facilities: The audit team noted that that the delivered referral healthcare services could have been provided more equitably among public health facilities to avoid overcrowding in health facilities with low transport cost.

Differential treatment of referred patients with similar medical conditions: The audit team noted that with the variation of costs have resulted in some patients with similar medical conditions getting a higher level of service when they attend a referral hospital with low transport costs.

3.3.6 Insufficient Number of Trained Medical Personnel

Basic Standards for Health Facilities (2017) requires that each of the service units within hospitals to maintain a sufficient number of trained staff with skills that are necessary to meet patient needs. The standards also provide for consistency for staffing levels that meet current guidelines of the Ministry of Health.

(a) Insufficient number of Specialist Medical Personnel

From the interviews held with officials from visited hospitals[33], it was revealed that despite being provided with medical equipment, referrals issued to tertiary hospital levels (Zonal and National Hospitals) are due to lack of specialists healthcare services that ought to be available at regional hospitals. For instance, referral hospitals at Kitete, Ligula, Mpanda, and Mbeya are completely missing at least one of the specialist cadres for the list of five common health care services that ought to be provided at these levels. As presented in Table 3.12 above, all of the visited referral hospitals have shortage of medical specialist averaging above 50 percent of their requirement.

This was further supplemented by the fact that even for the few regional hospitals with available specialty medical personnel few are trained or fully equipped in the handling of received health emergency cases. Table 3.15 shows the extent of shortage of staff from the total number of specialist in the Referral and Emergency Healthcare Departments.

Table 3.15: Percentage Deficiency of Specialist Medical Personnel

Name of Hospital/ Level	Specialist Medical Doctors				Specialist Medical Personnel Trained in Emergency Medicine		
	Required Number	Available Number	Deficiency (%)		Required Number	Available Number	Deficiency (n)
Zonal Hospitals:							
MZRH	152	45	70		10	1	9
BMC	250	89	64		8	4	4
KCMC	100	65	35		5	1	4
Regional Referral Hospitals:							
Mpanda	22	1	95		1	0	1
Kitete	21	1	95		2	0	2
Ligula	21	1	90		3	0	3
Sekou-toure	19	6	68		3	0	3

[33] Bugando Medical Center and Sekou-toure Regional

Mwanany amala	29	12	59		2	0	2
Tanga	26	12	54		3	1	2
Mbeya	7	4	43		2	0	2

Source: *Health Sector Staff Establishment and Interviews with the Ministry of Health Officials (2018)*

Table 3.15 shows that the Zonal and Regional referral Hospitals, greatly lack specialist personnel with the highest deficiencies noted in the regional referral hospitals with a percentage shortage ranging from 43-95. The highest deficiencies ranging from 90 to 95 percent were noted in Mpanda, Kitete and Ligula Regional Hospitals. The interviewed officials from these regional referral hospitals said that the Ministry of Health have not allocated adequate numbers of staff that correspond to the staff establishment in these regions and even the few allocated specialists have opted to shift to other regions that are not too remotely located (further inland). It was further noted that the existing staff establishment has not taken into account the increased number of population for respective regions.

(b) Lack of Training to Medical Personnel at Regional Referral Health Facilities

Through interviews and data collected using the observation tool on the trainings required for staff working on an Emergency Medicine Department, the audit team noted that none of the middle-level staff were trained in Basic Life Support Courses, Basic Emergency Nursing or Basic Emergency Care especially in regional referral hospitals.

Also, through the reviewed Star-Rating Assessment Reports (Sekou-Toure) and Kitete RRHs, 2018); the audit team noted presence for the cadre of medical staff who are not specifically trained in the management of critical care patients or advanced training on the use of ICU patient-monitoring equipment. Table 3.16 presents the status of availability of trained staff in the visited hospitals:

Table 3.16: Training Status of the Mid-Level Staff in Emergency Units

Name of Referral Hospital	Training		
	Basic Life Support	Basic Emergency Nursing	Basic Emergency Care
National and Zonal Hospitals:			
MNH	✓	✓	✓
BMC	✓	✓	X
MZRH	✓	✓	✓
KCMC	✓	X	X

Regional Hospitals:			
Mbeya	X	X	X
Sekou-toure	X	X	X
Tanga	X	X	X
Mwananyamala	X	X	X
Mpanda	X	X	X
Kitete	X	X	X
Ligula	X	X	X

Source: *Interviews notes (2018/19)*

Table 3.16 indicates that deficiency for the required cadres of medical personnel required for the provision of the core referral healthcare services is more common among the visited Regional than at Zonal Referral Hospitals.

Lack of prioritization of training to the Medical Personnel at the Referral Hospital was the main reason for the absence of trained officials in regional hospitals. It was also associated with lack of dedicated budget towards continuous medical education at the Regional Referral Hospitals.

Officials at Emergency Medicine Department in Muhimbili National Hospital explained that the conducted trainings on emergency healthcare were solely based on the initiatives of and administered by the Muhimbili University of Health and Allied Sciences (MUHAS) in collaboration with Emergency Medicine Association of Tanzania (EMAT), ,as a result, contributing to selective members for their attendance. Photo 3.6 provides details of initiatives of EMAT in the delivery of emergency medicine trainings.

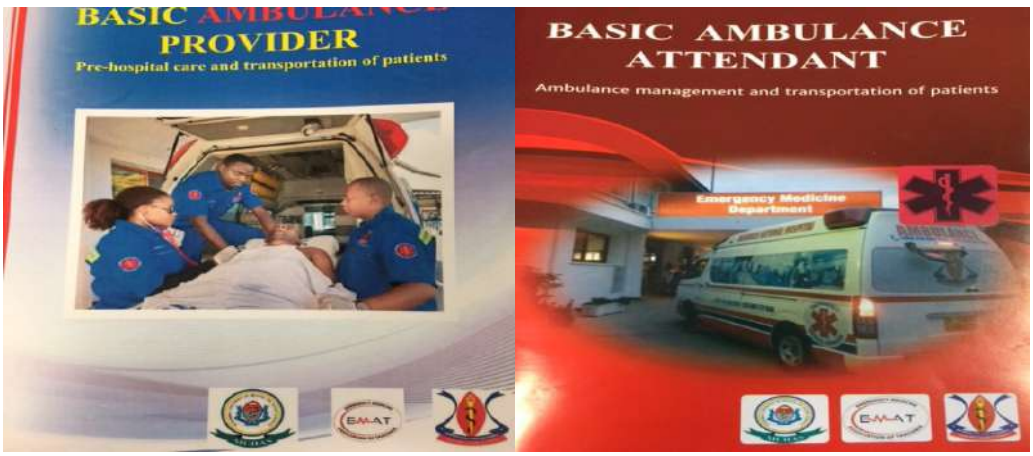


Photo 3.7: Training resource materials used for Basic Emergency Health Care training provided at Emergency Medicine Department, Muhimbili National Hospital (*Photo was taken on 18th December 2018, Dar es Salaam*)

Since regional referral hospitals are the highest referral points within respective regions most regional referral hospitals are the ones suffering from

lack of staff with minimal requirements on basic emergency trainings. The audit team noted that there are potentially unnecessary causes of loss of life for emergency cases that could have been saved by having staff with basic emergency training.

3.4 Effectiveness of the Mechanism to Provide Referral Healthcare Services

This section outlines responses on the effectiveness of the mechanism to provide for referral health care services in the visited referral hospitals. The audit team assessed four elements to ensure effectiveness of the mechanisms for the provision of referral healthcare services which are; the availability of hospital plans, availability of sufficient resources, the mechanism to ensure equitable distribution of medical personnel and overall functioning of the referral system.

The audit team also noted that the Ministry of Health lack effective mechanisms for the provision of referral healthcare services, as indicated by the following factors:

3.4.1 Inadequate Implementation of the Available Plans

The audit team noted that in all visited regional referral hospitals the referral system is not functioning well despite having plans. This is due to weaknesses on critical paths that include shortage of human resources with correct skills-mix; availability of technical equipment and laboratory services; and inadequate flow patterns which is a function of building designs to accommodate the needed referral health care services.

Through reviews of the individual hospital comprehensive plans and quarterly progress reports, it was noted that despite being considered critical towards enhancing the capacity to deliver required referral health care services, other planned hospital activities were partially implemented. The extent of implementation is as presented in Table 3.17.

Table 3.17: Percentage of Implementation of the Planned Activities (2016/17)

Name of Regional Referral Hospital	Procurement of Medical Equipment		Procurement of Medical Supplies		Capacity Building (Training of Health Care Workers)	
	Planned	Implementation status (%)	Planned	Implementation status (%)	Planned	Implementation status (%)
Mbeya	Yes	78	Yes	87	Yes	0

Sekou-toure	Yes	*Not reported*	Yes	50	Yes	25
Tanga	Yes	*Not Available*	Yes	*Not Available*	Yes	*Not Available*
Mwananyamala	Yes	*Not Available*	Yes	*Not Available*	Yes	*Not Available*
Mpanda	Yes	87	Yes	85	Yes	*Not reported*
Kitete	Yes	>95	Yes	>95	Yes	*Not reported*
Ligula	Yes	(40-60)	Yes	(40-60)	Yes	(40-60)

***Source**: Implementation Reports for Comprehensive Hospitals Operation Plans (2016/2017*)

As it can be seen in **Table 3.17**, all regional referral hospitals have plans in place linked to referral matters, covering medical equipment, medical supplies and training to health workers. The percentage implementation of the training planned intervention was noted to be below 50 for all 7 regional hospitals.

Inadequate implementation of the planned activities may result into Compromised quality of healthcare services expected to be provided at a particular hospital level as in terms of the number of medical equipment and/or personnel. It may also accelerate Self-referrals as a result of patients' dissatisfactions.

3.4.2 Inadequate Resources to Provide for the Needed Referral Healthcare Services

Section 4.4 of the Tanzania Quality Improvement Framework in Healthcare (2011-2016), calls for the Ministry of Health to ensure availability of equipment and personnel necessary to attend medical and surgical health emergencies at various hospital levels. Besides, the Basic Standards for Health Facilities in Hospitals at level III and IV (November 2017) emphasizes on the availability of transport as a vital resource for the hospital and in order to adequately manage referral services, the hospital must have at least one ambulance (preferably a four-wheel-drive).

Despite the availability of regional referral hospitals in most of the regions in the country, the audit team noted that regional hospitals have a shortage of both financial, human resources as well as medical equipment. The extent of the shortage is presented below:

(a) Shortage of medical infrastructures

The audit noted that the regional referral hospitals have shortage of medical infrastructures in terms of supplies, equipment and skill-mix for the available healthcare workforce for each of the visited referral hospital. This was indicated by lack of the needed reagents in the laboratory. For example, Mwananyamala Regional Hospital at a certain point in time could not perform full blood picture due to lack of the reagents.

(b) Use of Outdated Technology of Infrastructure

Audit team noted the presence of infrastructure with outdated technology in Health Facilities with basic medical infrastructure. The outdated technology was seen on the use of old model x-ray machines in most of the visited Regional Hospitals. In Ligula Regional Hospital, the audit team found out that they are still using the old technology of Chem 7 Machine which causes delays in laboratory services.

(c) Insufficient Human Resources

Generally, there is a deficiency in the required number of specialist medical personnel mostly in regional referral hospitals compared to hospitals at the zonal level as detailed in Table 3.17. For instance, referral hospitals at Kitete, Ligula, Mpanda, and Mbeya regions are completely missing at least one of the specialist cadres for the list of five common healthcare services that ought to be provided at that level.

(d) Inadequate allocation of financial resources

Through the review of the budget and Medium Term Expenditure Framework from the visited referral hospitals, it was noted that inadequate financial resources are budgeted for the referral activities.
The main reasons identified for the inadequate resources include:

Financial Sustainability: The audit team noted that the reason behind lack of needed resources is attributed to financial sustainability which is undermined by exemptions. It was noted that more than 50 percent of received patients in higher level referral hospitals were exempted.

Delays in the procurement process of the needed medical resources: The audit team noted that there is lack of medical equipment, which is caused by delays in the procurement process. For instance Mwananyamala Regional Hospital experienced delays in the process for procurement of new theatre bed. The procurement took almost a year compared to the expected period of 30 days. Therefore, in this context, the referral hospitals are not in a position to provide needed referral healthcare services as expected according to their level.

Inadequate resources to provide for the needed referral healthcare services was said to weaken delivery of healthcare services as a result of unavailability of medical personnel or incorrect staff skill-mix to provide for the needed referral health care services. It has also led to provision of unsatisfactory quality of healthcare services in the referral hospital. Furthermore, lack of human resources to provide for basic referral healthcare services tend to lower the credibility of services offered in public referral hospitals.

3.4.3 Inequitable Distribution of the available Medical Personnel to referral Hospitals

The Tanzania National Health Strategy (2013-2018), Strategic Objective No. 5 requires the Ministry of Health to strengthen an electronic human resources management system. This was to improve the planning and management of health professionals at all health facility levels.

The analysis of staff data received from the visited referral hospitals, the audit team noted inequitable distribution of medical staff. This was indicated by understaffing in most of the visited regional hospitals. The audit team analyzed the ratio of medical doctors to the patients served in each of the visited referral hospitals and the results are as presented in Table 3.18:

Table 3.18: Allocation of Medical Personnel versus Patient Population being served

Name of Referral Hospital	Allocated Number of Medical Doctors and Specialist	Actual Number of Patients Population served in the Year 2018	Average Provider-Patient Ratio
National and Zonal Hospitals:			
MNH	328	316,800	7
MZRH	100	259,616	18
KCMC	106	220,414	14
BMC	182	240,012	9
Regional Hospitals:			
Mwananyamala	82	912,000	46
Mpanda	5	55,656	46
Tanga	43	216,038	21
Sekou-toure	33	129,310	16
Ligula	18	68,798	16
Mbeya	21	49,973	10
Kitete	30	49,616	7

***Source*:** Data from the visited Referral Hospitals (2018)

Table 3.18 indicates that some of the regions have high ratio of medical doctors to patients, which indicates uneven distribution of doctors and the noted overcrowding of medical doctors in some regions. The interviewed officials also mentioned that to bridge the staff shortage gaps available empty slots are filled in by long working hours and overtime. It was also indicated that in Kitete and Sekou-toure regional hospitals the available skilled staff are rotated in different sections and it was normal for them to face re-assignment to other sections at any time depending on the workload in that partcular day.

Reasons for inequitable distribution of the medical human resources include:

(a) Underestimation of the population being served

The audit team further noted that other referral hospitals are understaffed due to under-estimations of the populations being served. For instance, it was revealed by the Regional Medical Officers of the visited regions that due to the presence of Muhimbili National Hospital and three Regional Referral Hospitals, the Ministry of Health tend to underestimate the number of medical personnel allocated within a region which creates a burden to the available hospitals.

(b) Staff Establishment was not periodically updated

Officials from Sekou-toure and Tanga regional referral hospitals indicated that the reason behind having an inadequate number of medical personnel with correct skills-mix is due to the use of staff establishment which is not periodically revised to take into consideration the actual conditions of the workload in individual referral hospitals. Staff establishment does not take into account the increasing population of the catchment area.

Unequal distribution of medical doctor's poses a potential high risk for compromising the quality of healthcare services offered due to the pressure of high workload. The audit team also noted that due to shortages, despite given incentives, the available health workforce can be overstretched and ultimately compromise the quality of healthcare services offered which in turn is a risk to patients being treated.

3.4.4 Inadequate Functioning of Referral System

The audit noted that, referral system used is not effective. This was noted through observations made in the visited hospitals whereby the practices used for regional referral hospitals was not functioning effectively when compared to Zonal and National Hospitals.

The ineffectiveness was noted in the following areas:

(a) The absence of Referral Guidelines and Protocols

The audit team noted that in most of the visited referral hospitals there were no referral guidelines. It was further noted through officials from the visited Zonal Hospitals that they had developed internally used Standard Operating Procedures for managing referrals for which there is little awareness among health care providers.

(b) Inadequate Referral Recording System

The audit team observed that record-keeping system for both incoming and outgoing referrals was done using individual patient files and there was no health facility using proper referral registers. Likewise, despite the use of the medical records data capture systems, it was noted from the interviews held with Regional Referral Health Management Team members from the visited Zonal Hospitals that there is a situation for which received referral cases at several Hospital Departments are not recorded in these systems making it difficult for tracking and management.

The audit team further noted the uncoordinated or non-uniform mechanism used by hospitals to provide feedbacks for both incoming and outgoing referrals. It was revealed through the interview with officials at Kitete and Mpanda regional hospitals that for all referrals received from lower hospital levels; they neither give feedback to received referrals nor receive feedback from higher referral hospitals for outgoing referrals. The interviews held with Regional Health Management Team members of the visited regional hospitals indicated that despite verbal feedback to all received referrals, there was no evidence for the used procedure and for the most part feedback of outgoing referrals are given to critical cases only.

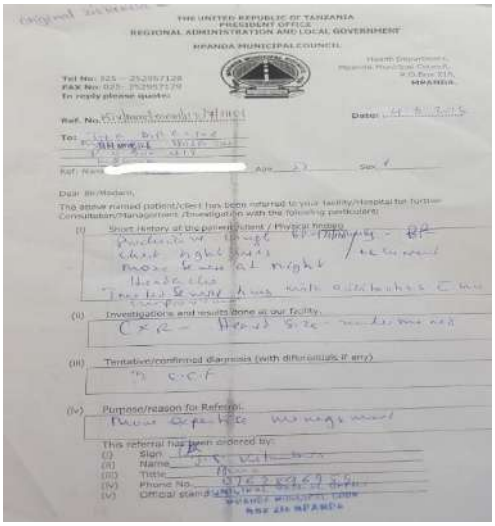

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
MPANDA MUNICIPAL COUNCIL
MPANDA

Photo 3.8(a): Observed locally designed and used Referral Form at

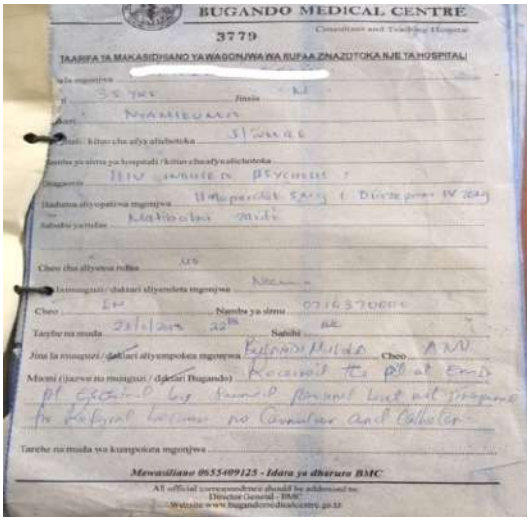

BUGANDO MEDICAL CENTRE
3779
TAARIFA YA MAKASIDIISANO YA WAGONJWA WA RUFAA ZINAZOTOKA NJE YA HOSPITALI

Photo 3.8(b): Observed locally designed and used in the Lake Zone

Mpanda Regional Referral Hospital (*Photo was taken on 14th August 2018, Mpanda*)

for RRHs referring patients to BMC (*Photo was taken on 4th December 2018, Sekou-toure*)

Reasons for Inadequate Referral Recording System

(a) Lack of referral guideline: The Acting Medical Officer In-charge revealed that lack of referral guidelines was among major contributing factors towards poor management, documentation of referral records and differed mechanism used in all hospitals.

(b) Lack of awareness of the use of referrals registers: The audit team noted that officials from the visited Regional Referral Hospitals indicated the existence of the problem of lack of awareness among healthcare providers on the use of referral registers in the recording of referral information. As a result most of the patient information was not captured in the system.

(c) The data system used in Health Facilities does not include component of referrals: The audit team noted that most of the data system used in the health facilities does not take into account the component of referral that it is difficult to get the records of incoming and outgoing referrals.

The audit team further noted that inadequate referral recording system has resulted into lack of statistics of incoming and outgoing referrals which could help in analysing the causes of referrals to most of the hospitals and help the management in decision making. It has also resulted into failure of the management to identify weaknesses that has impacts to delivered healthcare services and those related to their day-to-day hospital operations.

3.5 Adequacy of Provision of Health Care Services for Emergencies

The audit team analyzed the adequacy of provision of emergency healthcare services through assessment of emergency healthcare services; and availability of well-capacitated units/sections for handling emergency cases provided by referral hospitals in terms of equipment and medical personnel.

It was noted that the emergency healthcare services provided at a higher level of referral hospitals were not adequate. The details of the findings are as presented below:

3.5.1 Insufficiently Provided Emergency Healthcare Services

As illustrated in Section 3.1.3(6) of the Health Sector Emergency Operations Guidelines of the Ministry of Health (2013) that there will be established

procedures by respective Regional Health Management Teams targeting at building capacity of medical personnel directly involved in the provision of emergency health care services at the regional level.

Likewise, as part of the minimum requirement for establishing hospitals at the regional level, the Basic Standard for Health Facilities (Volume 3, 2017) highlighted for the provision of casualty/emergency preparedness and response services as well as the availability of an ambulance or working arrangements for the emergency transfer of patients.

The audit team noted deficiencies in the provision of emergency healthcare services mostly in hospitals at the regional level. This was revealed during interviews and observations made by the audit team on the availability of minimum set for a pre-defined number of items that ought to be available in casualty or emergency department. It was noted that there is no specific departments or units for emergence healthcare services in all visited regional referral hospitals. In other hospitals where there is emergence healthcare service department or unit, they were lacking basic items such as ABG Machines, X-Ray Viewer, Portable Oxygen Canister and Urine Pans necessary for provision of emergency healthcare services.

The following sub-sections provide details of the reasons for insufficiency in handling of emergency healthcare services provided in the visited referral hospitals:

3.5.2 Absence of Sections for the provision of Health Care Services for Emergencies

Despite the requirements by the National Health Policy (2007) for all Referral Hospitals to have an Emergency Medicine Department to provide for emergency healthcare services, the audit team noted the shortage of medical infrastructures necessary for provision of emergency healthcare services in all seven (7) visited Regional Referral Hospitals.

For instance, observations made at the visited referral hospitals and review of the Star Rating Assessment Report of the Ministry of Health (April 2018), revealed the absence of an Emergency Medicine Department or designated area to attend received emergency patients.

Reasons for absence of Emergency Medicine Sections

Upgrading of the Referral Hospitals without improving their designs

It was noted that the action of upgrading hospitals from District to Regional levels without improving the design and layout was among the main reason for the lack of the required structures to support provision of emergency healthcare services in Regional Referral Hospitals. This is because most of the

available Hospitals at the District level were not well equipped with medical infrastructures that are necessary to provide for emergency healthcare services. The audit team observed the Structural Designs and Layout that were under continual renovations, for instance, EMD at BMC (Photo 3.1(b)).

The absence of emergency sections has resulted into lack of proper triaging procedures. This is because all patients including those in need of emergency care were attended at OPD consultation rooms with no appropriate triaging procedures. It was further observed that despite the lack of functional Emergency Department, there was no criterion used to sort patients based on the urgency of medical treatment. In this matter, it was not easy for healthcare workers to properly prioritize the patients who require immediate attention.

3.5.3 Shortage of Basic Facilities for handling Emergencies in Higher-level Hospitals

Section 3.1.3(7) of the Health Sector Emergency Operations Guidelines of the Ministry of Health, 2013 requires Health Management Team in referral health facilities to ensure availability of sufficient medical resources such as equipment and supplies to provide for emergency healthcare services.

Through interviews and observation made by the audit team in the visited hospitals, it was noted that the hospitals have a shortage of basic emergency infrastructures and medical equipment for handling emergency cases.

The assessment of the availability of the basic facilities made by the audit team indicated an average score of more than 50 percent on the availability of basic emergency items compared with an observed average score of 39.6 percent in Regional Referral Hospitals.

The common missing items in the design and layout were *Isolation rooms*, *Fire Detection Devices*, *clinical cubicle/room designated for use by children*, *Procedure Room*, *Nurse Station*, *Emergency Pharmacy* and *Medical Gas Rooms*. While for the medical equipment, most of the common items that were missing included *Ophthalmoscopes*, *ABG Machines*, *Portable Oxygen Canister*, *Suture Tray*, *X-ray viewer*, *Bedpans*, *Urine pans* and *Forceps Maguils* (Figure 3.2).

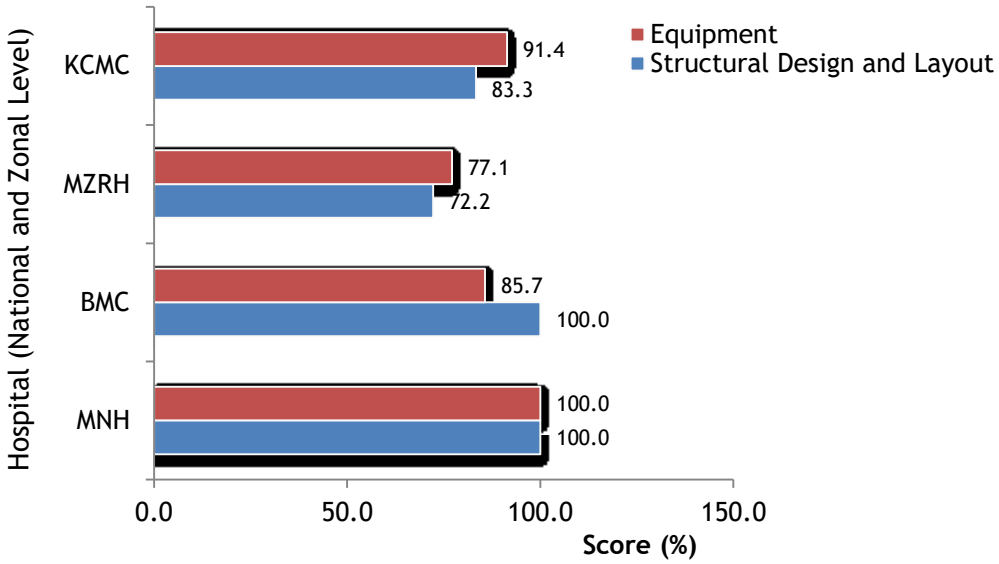


Figure 3.2: Percentage score on the availability of Basic Requirement for EMD

***Source**: Observation/Auditor Analysis (2018)*

Figure 3.2 indicates that the absence of medical equipment is high among Regional Referral Hospitals compared to Zonal and National Referral Hospitals.

Despite on-going renovations, Figure 3.2 indicates that zonal hospitals are observed to be in a relatively good conditions for the minimum list of items required to be available at an EMD in accordance to their structural designs and layouts (above an average score of 50 per cent).

Table 3.19: Availability of Basic Requirement for EMD at Regional Hospitals

EMD/Observed Item for:	Regional Referral Hospital/ percentage of availability of basic requirement for EMD (%)						
	Sekou-toure	Mwanan yamala	Mbeya	Mpanda	Ligula	Kitete	Tanga
Structural Design and Layout	36	31	0	0	0	0	0
Equipment	57	43	0	0	0	0	0

Source: Observation/Audit Analysis (2018)

Photo 3.9(a)-(d) shows observed situation in one of the visited regional referral hospital showing weakness in the provision of emergency health care services

Photo 3.9(a): Patient's resuscitation room with no emergency equipment for treatment

Photo 3.9(b): An Emergency Ambulance with missing essential drugs for the treatment of a patient during transportation to a referral hospital

Photo 3.9(c): Triaging area for patients at OPD that operate with no criteria for identification of patients with the urgency of medical treatment.

Photo 3.9(d): Observed patient in a critical medical condition waiting in a queue to follow on registration procedures before medical consultation and treatment.

All photos (3.8(a)-(d)) were taken on 20th August 2018, Kitete

3.5.4 Shortage of Medical Personnel to Provide for Emergency Healthcare Services

Sub-section 4.4 of the Tanzania Quality Improvement Framework in Health Care (2011-2016) requires the Ministry of Health to ensure the availability of

medical personnel necessary to attend medical and surgical health emergencies at different levels of health facilities as part of reducing congestion of patients at higher level referral hospitals.

Despite the presence of cadre of staff who are working in respective Intensive Care Units (ICUs), the audit team noted lack of medical personnel to exclusively provide for emergency healthcare services in all visited Regional Referral Hospitals as compared to Zonal Hospitals. Availability of basic medical cadres for Emergency Specialists, Critical Care Nurses, and Medical Doctors were assessed and the result is as presented in Table 3.20.

Table 3.20: Availability of Medical Staff to provide for Basic Emergency Services

Name of Hospital/Level		Medical Cadre		
		Emergency Physician	Critical Care Nurses	Medical Doctors[34]
Zonal Hospitals:	Required Number → **(N)**	**(1)**	**(8)**	**(7)**
BMC		2	0	9
MZRH		1	1	11
KCMC		1	0	6
Regional Hospitals:	Required Number → **(N)**	**(1)**	**(8)**	**(7)**
Mbeya		0	0	20
Sekou-toure		0	0	3
Tanga		1	0	2
Mwananyamala		0	0	6
Mpanda		0	1	5
Kitete		0	0	15
Ligula		0	0	2

***Source**: Auditors' Analysis of data from the Ministry of Health, 2019*

[34] In absence of emergency doctors in the EMD of the regional hospitals, there is a tendency of pooling doctors from other department to handle the emergencies as they come to the hospital. Each of them participates in the exercise. This leads to increased number of the doctors reported to be in emergency department.

Table 3.20 indicates that emergency physicians were missing in almost all visited regional referral hospitals as compared to zonal hospitals.

It was further revealed that visited Regional Hospitals lack emergency medical staff. This problem is attributed to the fact that the emergency medicine is a new field in the country. It was also said that previously EMDs in Regional Hospitals were not institutionalized; instead patients requiring emergence services were treated under the umbrella of OPD and ICU. Therefore, for this new development and requirement for EMDs, these cadres of the staff are still in the process of being established.

Since medical emergencies can happen any time and to any place in the country; the lack of stationed emergency medical personnel in the referral hospitals could contribute to unnecessary lifelong disability or deaths that could have been prevented if the health system for emergencies had been provided with required human resources for these cadres of medical staff.

3.6 Monitoring and Evaluation in the Provision of Referral Health Care Services

To ensure delivery of quality healthcare services in referral health facilities, it is the requirement of the Tanzania Quality Improvement Framework in Health Care (2011-2016) that the Ministry of Health prioritize and strengthen the supportive supervision, monitoring and ensure surveillance in the performance of referral health facilities.

Likewise, as described in the Health Sector Strategic Plan IV (2015-2020) which requires the Ministry of Health to plan for Monitoring and Evaluation systems with focus on decision making based on health data, collection and analysis, also providing stakeholders with access to health data and giving quarterly feedback on performance to health service providers for immediate action.

Generally, the audit reveals the presence of unsatisfactory mechanisms used for monitoring and evaluation of delivered healthcare services in higher levels of referral hospitals for the reasons described in the subsequent sections.

3.6.1 Absence of Plans to Monitor and Evaluate Higher level Referral Services

Despite the presence of Health Sector Strategic Plans III and IV, reviews of documents for Hospital Plans and interviews held with officials from the Ministry of Health revealed the absence of specific plans established to monitor health care services provided at higher level referral hospitals. Interviewed officials from the Directorate of Curative Services, indicated that the available M&E system is meant for the whole Ministry. So far the Ministry of Health has not yet established a sole mechanism for monitoring the provided clinical services at higher level referral hospitals.

Among the mentioned reasons for absence of plans were:

(a)The department of monitoring is not well resourced

Based on the discussions that were held with officials from the Ministry of Health, it was further revealed that the Directorate of Curative Services is not well resourced in terms of the number of staff (refer Table 2.1 in Chapter II of this report) and also there is no internally organized system to monitor clinical health care services provided by hospitals at all referral levels.

Therefore, based on the fact that EMD is the new approach towards strengthening the health services provided at Regional Hospitals, it is important then that their establishment and operationalization require close monitoring and support.

The absence of M&E plans for the provided clinical services in higher level referral hospitals may result into failure to provide progress feedbacks towards the set targets that would be achieved through improvements.

(b) Indicators for monitoring were not for higher-level referral hospital

This was further noted from the written responses of officials at Directorate of Policy and Planning of the Ministry of Health and review of the signed Health Basket Funding Memorandum of Understanding (HBF MoU, 2015-2020) between the Government and Development Partners. The identified monitored performance indicators were from the health facilities operating under Local Government Authorities (LGAs) and none was available for higher level referral hospitals.

3.6. Lack of Key Performance Indicators for Referral and Emergency Activities

The audit noted the currently available Key Performance Indicators at the Ministry of Health do not reflect the broad range for the list of referral healthcare services ought to be provided at higher-level referral hospitals. Despite having in place performance indicators for health facilities under LGAs, it is evident from the submitted quarterly HBF Score Cards[35] (2015 to 2017) that the monitored performance indicators were mainly focused on Reproductive, Maternal, Newborn and Child Health (RMNCH) interventions. Figure 3.3 below shows the list of RMNCH Score Card Indicators monitored by the Ministry of Health for the period started January to March 2015.

[35] RMNCH Score Card is a tool for the Ministry to track performance, strengthen accountability and drive action

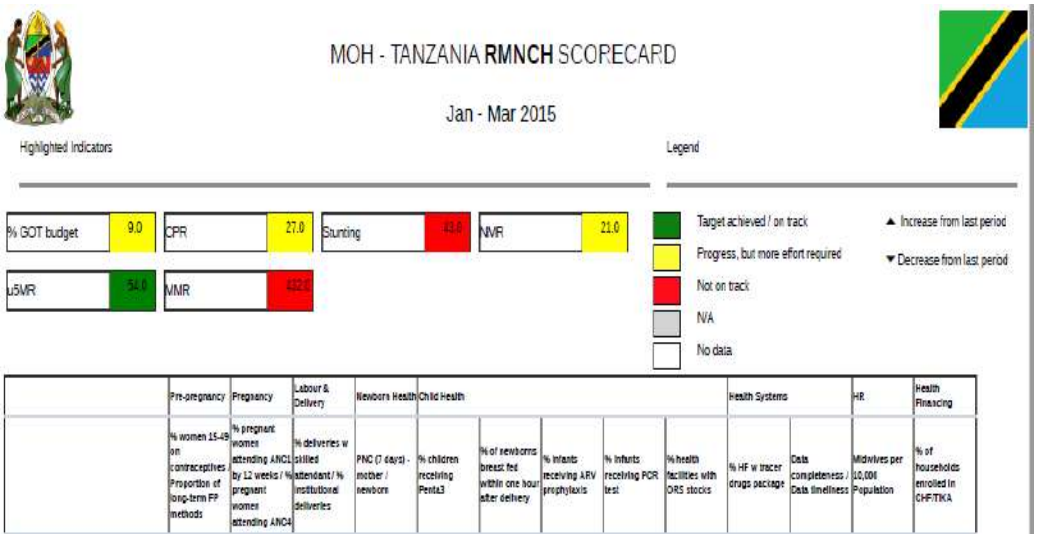


Figure 3.3: RMNCH Scorecard (Jan-March 2015); Ministry of Health (2018)

The following Key Performance Indicators (KPIs) as regards to planning for medical equipment, human resources, capacity building, emergency preparedness, and ambulance services were assessed (Table 3.21). For each of the visited hospitals, it shows at least one key indicator item was incorporated in their respective plans.

Table 3.21: Performance Indicators in respective Hospital Plans (2013/14-2017/18)

Name of Hospital	Performance Indicator as for:				
	Medical Equipment	Human Resources (HRH)	Capacity Building	Emergency Preparedness and Response	Ambulance Transportation Services
Zonal Hospitals:					
BMC	✓	✓	✓	✓	✓
MZRH[36]	✓	✓	✓	X	✓
KCMC	✓	✓	✓	✓	✓
Regional Hospital:					
Mbeya	✓	X	X	X	X
Sekou-toure	✓	✓	✓	✓	X
Tanga	✓	✓	✓	X	X
Mwananyamala	✓	✓	✓	X	✓
Mpanda	✓	X	X	X	X
Kitete	✓	X	✓	X	X
Ligula	✓	✓	✓	X	X

✓ = *Available and X = Not Available*

***Source*:** Comprehensive Hospital Operation Plans (CHOPs, 2013/14-2017/18) and Strategic Plans

3.6.3 Ineffective Communication of the M&E results to Relevant Stakeholders

The Ministry of Health was required to communicate its M & E results to relevant stakeholders for effective corrective action. Interviewed officials from the Directorate of Curative Services (DCS) indicated that; despite access to health data from the Health Management Information System (HMIS), the mechanisms used by the Ministry of Health towards ensuring effective and informed decision making were not operative.

The audit team noted there was less awareness among healthcare providers on issued recommendations as regards to evaluation results on the provision of referral health care services. For instance, the recommendations issued after the conduct of quality assurance assessments are communicated at higher level hospital management through advice on their incorporation in individual hospital plans.

This was further noted through interviews held with officials from the Directorate of Health Quality Assurance that despite information being shared

[36] Mbeya Zonal Referral Hospital Strategic Plan (2016-2026)

with respective Regional Medical Officers (RMOs), Regional Administrative Secretariats (RAS) and District Medical Officers it is not clear which mechanism is used by the Ministry of Health towards ensuring respective cadres are informed of the assessment results.

3.6.4 M&E Reports do not address the Challenges for Referral and Emergency Services

Despite the mentioned interventions towards addressing the emerging challenges in the provision of health care services, the audit team noted through interview with officials from the Directorate of Policy and Planning of the Ministry of Health that none of the interventions meant to specifically address prevailing challenges for ensuring effective delivery of referral and emergency health care services but rather targeted general hospital services.

Likewise, it is uncertain on which means of verification were used by the Ministry of Health for conducted external hospital performance assessments[37] since the reported referral and emergency challenges for triaging, emergency preparedness equipment and guidelines are not a reflection of the actual situation on the ground (Table 3.22). This was revealed during the review of the External Hospital Performance Assessment report of August 2018 at Mbeya Regional Referral Hospital.

[37] JICA Project in Collaboration with the Ministry of Health

Table 3.22: Availability of Resources for Emergency and Referral Services

Name of Regional Referral Hospital	Guidelines and SOPs for Emergencies	Triage System	Trained Health Care Workers on Handling of Emergencies	Medicines and Equipment for Handling Emergencies	Operating Emergency Preparedness Team
	Assessment Report Results / Observed Actual Condition' (✔ =available/ ✘ =not available)				
Mbeya	✔ / ✘	✔ / ✘	✔ / ✘	✔ / ✘	✔ / ✘
Sekou-toure	✔ / ✘	✘ / ✘	✘ / ✘	✘ / ✔	✘ / ✔
Tanga	✔ / ✔	✘ / ✘	✔ / ✘	✘ / ✘	✘ / ✔
Mwanan yamala	✔ / ✘	✘ / ✘	✔ / ✘	✘ / ✔	✘ / ✔
Mpanda	✔ / ✘	✘ / ✘	✔ / ✘	✘ / ✘	✘ / ✘
Kitete	✘ / ✘	✘ / ✘	✘ / ✘	✘ / ✘	✘ / ✘
Ligula	✘ / ✘	✘ / ✘	✔ / ✘	✘ / ✘	✘ / ✘

Source: External Hospital Performance Assessment Reports (2017/18) and Observation

Analysis from Table 3.22 shows presence of significant difference of the assessment reports and observed situation in 3 out of 7 assessed regions. The noted large variation was seen in Mbeya referral regional hospital. This situation if not analyzed properly and left unchecked may result in using misleading reports in decision making processes.

CHAPTER FOUR

AUDIT CONCLUSION

4.1 Introduction

This chapter presents the conclusion based on the overall objective and specific objectives of the audit, as detailed hereunder.

4.2 Overall Conclusion

Despite Government efforts through the Ministry of Health towards improving provision of referral and emergency healthcare services; more interventions are needed for further improvement. Based on the facts presented in chapter three of this report, we conclude that the Ministry of Health lacks effective mechanisms in managing the provision of referral and emergency healthcare services in Regional, Zonal and National Hospitals.

The Ministry has not managed to control the congestion of patients in referral hospitals. The current population of patients attending the referral hospitals exceeded the designed capacity for all of 11 referral hospitals sampled, to the extent that there are some incidences whereby two patients were sleeping in one bed at the same time. Further, the current referral system is not effective in controlling flow of patient to higher referral, the situation that makes the referral hospitals to perform more of the primary healthcare services instead of those requiring specialized care.

These were attributed by mismatch of available infrastructure and the available human resources, incremental population growth and administrative upgrades of lower hospitals to regional hospitals without undertaking corresponding infrastructural upgrades. Lack of basic infrastructure for handling emergency cases and basic specialties (Pediatric, Internal Medicine, Surgery, Obstetrics and dental) at the Regional level were also among the causes.

4.3 Specific Conclusions

4.3.1 Inadequate Provision of the Needed Referral Healthcare Services

The Ministry of Health has not ensured that the referral hospitals adequately provide the needed referral healthcare services. This is because the referral hospitals did not have adequate capacity in terms of human resources, medical equipment and infrastructures necessary for provision of referral healthcare services.

As a result, the higher level referral hospitals are not providing all the required core speciality healthcare services. Furthermore, a patient takes a considerable time ranging from 3-4 hours before they are attended.

Inadequate provision of referral healthcare services has accelerated the congestion of patients to the Zonal and National hospitals which again affect quality of healthcare services due to high workload to the medical personnel and staff available in the respective referral hospitals.

4.3.2 Inadequate of Provision of Healthcare Services for Emergencies

The Ministry of Health has not ensured that the referral hospitals emergency healthcare services provided are adequate. Regional referral hospitals have limited capacity in terms of sufficient infrastructure such as areas for triage, resuscitation and treatment areas, human resource and medical equipment for provision of the emergency healthcare services. Because of this all patients including those in need of emergency care were attended at OPD consultation rooms with no appropriate triaging procedures.

The action of the Ministry of Health to upgrade the Referral Hospitals without improving their designed and infrastructure capacity was the main cause for insufficient provision of emergence healthcare services.

4.3.4 Lack of effective mechanisms for Managing referral Systems

The Ministry of Health lack effective mechanism for managing health referral system. This was indicated by the absence of referral guidelines; as a result, referral hospitals do provide the referral healthcare services without adequately following the required procedures for initiating, receiving and its documentation of the referral cases. Similarly, the Ministry lack effective mechanism for controlling self-referrals. This has resulted into high congestion of patients to the higher level referral hospitals.

4.3.5 Lack of Monitoring and Evaluation of the Performance of Referral Health Facilities

The Ministry of Health did not have mechanisms for monitoring and evaluation of the provision of referral healthcare services. This is because The Ministry of Health has neither the plan nor developed one and has also failed to make use of key performance indicators for effective monitoring and evaluation mechanism of the provision of referral health care services. Furthermore, the M&E results were not properly communicated to the relevant stakeholders.

CHAPTER FIVE

AUDIT RECOMMENDATIONS

5.1 Introduction

The audit findings and conclusion indicate the presence for weaknesses on the provided referral and emergency health care services in higher-level referral hospitals. Suggestions for improvement of the audited areas in controlling congestions of patients, improving capacity of Referral Hospitals, referral procedures and monitoring and evaluation of health care services have been identified.

The National Audit Office believes that the recommendations that have been given in this report need to be fully implemented so as to improve the operations in the provision of referral health care services in higher-level referral hospitals. The suggested audit recommendations take into account the assurance for the presence of Economy, Efficiency, and Effectiveness in the use of the available public resources.

5.2 Main Audit Recommendations

5.2.1 To minimize the congestion of patients in referral hospitals

The Ministry of Health, Community Development, Gender, Elderly and Children should:

1. Develop and disseminate the referral guidelines to all referral hospitals and ensure that it is effectively used. The guidelines should take into account the functionality of the referral health system including referral data management and feedback and referral communication between healthcare facilities at all levels;

2. Establish the mechanism that will control the flow of patients to referral healthcare services provided at higher level referral hospitals particularly those self-referrals; and

3. Review the current layout and standard bed capacity of the higher-level referral hospitals and prepare standard drawings and layout to ease the provided referral and emergency healthcare services and flow of patients. The standard bed capacity should take into consideration the actual catchment population of the respective areas.

5.2.2 To improve capacity of referral hospitals to provide the needed referral Healthcare services

The Ministry of Health, Community Development, Gender, Elderly and Children should:

1. Develop mechanism to ensure that referral hospitals have capacity to provide all basic core referral healthcare services;

2. Ensure that all higher level referral hospitals develop hospital plans that take into account the capacity of healthcare workers directly involved in the provision of referral healthcare services;

3. Carry-out allocation of staff according to the workload and needed specialties at the concerned referral hospitals ;

5.2.3 To improve the Management of Provision of Healthcare for Referred Emergencies

The Ministry of Health, Community Development, Gender, Elderly and Children should:

1. Develop mechanism to ensure that referral hospitals have the required capacity to provide emergency healthcare services; and

2. Ensure that all higher level referral hospitals develop hospital plans that take into account the need to build the capacity of healthcare workers to provide referral and emergency healthcare services.

5.2.4 To improve Monitoring and Evaluation in the Provision of Referral and Emergency Healthcare Services

The Ministry of Health, Community Development, Gender, Elderly and Children should:

1. Enhance the existing monitoring and evaluation system that will assist in ensuring availability of all key referral data for informed decision making; and

2. Develop Key Performance Indicators (KPIs) and ensure that they are used for measuring the performance of referral hospitals in the provision of referral and emergency healthcare services.

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APPENDICES

Appendix 1: List of Recommendations and Responses from Auditee

This part provides details on the general comment and the list of responses on the planned actions and implementation timelines based on the issued audit recommendations.

General Comment:

Important issues were raised in the performance audit and those critical areas that impacts health delivery system including infrastructure, organization of referral system, human and financial resources availability and utilization as well as emergency preparedness and response were well covered and areas that need to be strengthened revealed. The Ministry commits itself to implementing agreed solutions within its mandate and available resources.

Specific Comments:

S/N	Recommendations to the Ministry of Health	Comments from the Ministry of Health	Planned Action(s)	Implementation Timeline(s)
1.	Develop and disseminate the referral guidelines to all referral hospitals and ensure that it is effectively used. The guidelines should take into account the functionality of the referral health system including referral data management and feedback and referral communication between healthcare facilities at all levels	The ministry Of Health has seen the need to develop the referral guidelines as stated in Health Policy and its implementation plans including HSSP IV. Whereby to date there is draft of referral system guidelines to be finalised and disseminated to all health facilities.	-Drafted guideline to be shared and discussed with Management at Ministerial level; -To be presented to various stakeholders in order get inputs; -To be presented to Technical Working Groups for accommodating all necessary inputs; and	By September,2019

S/N	Recommendations to the Ministry of Health	Comments from the Ministry of Health	Planned Action(s)	Implementation Timeline(s)
			-Finalization and signing of guidelines ready for dissemination at all levels.	
2.	Establish the mechanism that will control the flow of patients to referral healthcare services provided at higher level referral hospitals particularly those who are doing self-referrals	Strengthening referral system from primary, Secondary and Tertiary health care services using innovative Gate keeping mechanisms.	1. In collaboration with PO-RALG, the MOHCDGEC is implementing Primary Health Service Development Program(PHSDP) to improve service delivery at primary health care facilities, until December, 2018; 2. Insurance Schemes to adhere to Referral Guidelines; 3. Introduction of Bypass fees; and 4. Introduce patient electronic registry system at all levels.	By June, 2020
3.	Review the current layout and standard bed capacity of the higher level referral hospitals and prepare standard drawings	The current guidelines for standard bed capacity for higher levels referral	To review the existing standard guidelines of bed capacity, drawings and layout.	By June, 2020

S/N	Recommendations to the Ministry of Health	Comments from the Ministry of Health	Planned Action(s)	Implementation Timeline(s)
	and layout to ease the provided referral and emergency healthcare services and flow of patients. The standard bed capacity should take into consideration the actual catchment population of the respective areas	hospitals it will be reviewed time.		
4.	Develop mechanism to ensure that referral hospitals have capacity to provide all basic core referral healthcare services	Referral Hospitals will serve as centers of medical excellence and referral in the Country and as the hubs for technical innovation to be disseminated to lower levels	**Human Resource for Health (HRH):** -To ensure adequate skill mixed health care personnel with regular CPD; and -To improve quality and quantity of trainees from training institutions. **Infrastructure:** -To improve infrastructure for medical services provision including medical equipment.	By 2025
5.	Ensure that all higher level referral hospitals develop hospital plans that take into	To ensure all levels have plans which are healthcare workers centred for	-To conduct capacity building on proper health	By June, 2020

S/N	Recommendations to the Ministry of Health	Comments from the Ministry of Health	Planned Action(s)	Implementation Timeline(s)
	account the capacity of healthcare workers directly involved in the provision of referral healthcare services	implementing their annual plans.	care planning to Hospital Management Team; and -Introduce Work load indicator staff needs (WISN).	
6.	Carry-out allocation of staff according to the workload and needed specialties at the concerned referral hospitals	The Ministry will adopt the WISN approach for allocating Specialist.	-To develop data base for all specialists; and -Redistribution Of specialists according to the needs.	By June, 2020.
7.	Develop mechanism to ensure that referral hospitals have the required capacity to provide emergency healthcare services	The MoHCDGEC will put systems and structures in place to provide emergency healthcare services at referral hospitals.	-Strengthen Emergency Medical Departments at national, zonal and some regional referral hospitals; -Emergency staff training at MUHAS/MNH; and -Renovation of Morogoro and Tumbi RRH to handle emergency care especially RTAs. Ambulance Bay being constructed at both Facilities.	By June, 2020.

S/N	Recommendations to the Ministry of Health	Comments from the Ministry of Health	Planned Action(s)	Implementation Timeline(s)
8.	Ensure that all higher-level referral hospitals develop hospital plans that take into account the need to build the capacity of healthcare workers to provide referral and emergency healthcare services	The MoHCDGEC will put systems and structures in place to provide emergency healthcare services at referral hospitals	-Strengthen Emergency Medical Departments at national, zonal and some regional referral hospitals. - EMD assessment conducted in 10 RRH. Draft layout drawing has been developed and will be used for renovation	By June, 2020
9.	Enhance the existing monitoring and evaluation system that will assist in ensuring availability of all key referral data for informed decision making	The MoHCDGEC will continue to enhance and improve existing Monitoring and Evaluation Systems.	-By harmonising data collecting tools and systems. -To conduct regular DQA -To emphasis on the importance of data use at all levels.	By June, 2020.
10.	Develop Key Performance Indicators (KPIs) and ensure that they are used for measuring the performance of referral hospitals in the provision of referral and emergency healthcare services	The MoHCDGEC will continue to use the existing KPIs) as stipulated in CHOP Guidelines.	The KPIs will be used to assess the performance of referral hospital in quarterly and annual basis.	By April, 2019.

Appendix 2: Audit Questions and Sub-Audit Questions

This part provides details on the list of main audit questions and sub-audit questions used based on the specific audit objectives.

Audit Question 1: To what extent is the problem of patients' congestion in referral Hospitals common?	
Sub Question 1.1	*Does the population of the patients in the referral hospitals correspond to their designed capacity?*
Sub Question 1.2	*Are the healthcare services provided in referral hospitals reflect the level of services required for that facility?*

Audit Question 2: Are the needed healthcare services for referred patients adequately provided?	
Sub Question 2.1	*Are the needed healthcare services for referred patients provided on a timely manner?*
Sub Question 2.2	*Are the needed healthcare services for referred patients sufficiently provided?*
Sub Question 2.3	*Are there sufficient numbers of referral health facilities that meet needed referral healthcare services in the country?*
Sub Question 2.4	*Are the available referral health facilities properly located for easily accessible to the referred patients?*
Sub Question 2.5	*Do the referred patients afford the cost of the provided health care for referral services?*
Sub Question 2.6	*Are the medical personnel at referral facilities provided with appropriate training to deliver needed referral healthcare services?*
Sub Question 2.7	*Are there effective mechanisms for providing feedback for referral services received at higher facility levels?*

Audit Question 3: Are there effective and working mechanisms to ensure healthcare referral services at all levels of Health Facilities are adequately provided?	
Sub Question 3.1	*Are the existing plans effective to ensure referral health facilities have adequate capacity to deliver the required level of healthcare services for referrals?*
Sub Question 3.2	*Are the referral healthcare facilities adequately provided with sufficient resources that are necessary to deliver the required level of healthcare services for referrals?*

Sub Question 3.3	*Are there mechanisms to ensure equitable distribution of available medical personnel in referral healthcare facilities?*
Sub Question 3.4	*Are there functioning referral systems for the provision of healthcare for referral services?*

Audit Question 4: Are the healthcare services for referred emergency adequately provided in health facilities at the levels of regional, zonal and national hospitals?

Sub Question 4.1	*Are the healthcare services for referred emergency sufficiently provided?*
Sub Question 4.2	*Are there sections/departments exclusively located for the provision of healthcare services for referred emergency?*
Sub Question 4.3	*Are the available emergency sections/departments equipped with essential medical equipment to provide healthcare services for referred emergency?*
Sub Question 4.4	*Is there enough number of medical personnel (e.g. Emergency Specialist Medical Doctors and Critical Care Nurses) exclusively for the provision of healthcare services for referred emergency?*

Audit Question 5: Do the Ministries adequately monitor and evaluate the performance of Health Facilities at all levels in the provision of healthcare service for referral services in the country?

Sub Question 5.1	*Are there plans to ensure effective monitoring and evaluation system/mechanism for the provision of referral healthcare services?*
Sub Question 5.2	*Do the Ministries effectively develop and make use of the key performance indicators for monitoring and evaluating the existing mechanisms for the provision of healthcare for referral services in the country?*
Sub Question 5.3	*Are the results for M&E on the provision of health care for referral services effectively communicated to all relevant stakeholders for informed decision making?*
Sub Question 5.4	*Are the results from M&E effectively used to accommodate emerging challenges in the provision of healthcare for referral services?*

Appendix 3(a): Structural Design and Layout for EMD

This part provides for the list of items observed during site visit in regional, zonal and national referral hospitals.

Item No.	Category	Item Name and Description
1	EMD must operate structurally and functionally within a hospital	separate resuscitation area/room to receive and manage emergency presentations with monitoring and resuscitation equipment
2	Minimum components of the structural flow	Ambulance bay/ambulance reception
		Relative Waiting area
		Isolation room
		Decontamination area
		Registration, social welfare and billing (cashier) rooms
		Triage (*Triage Area*)
		Basic primary Assessment
		Basic Secondary Assessment
	General treatment area/ rooms/ cubicles ***(****Note: Number of Treatment rooms depends on overall bed capacity****)***	Minimum of one examination beds per room
		Doctor's Consultation table.
		One (1) Doctor's Chair
		Two (2) Patients Chairs
		One (1) Nurse's chair
		Hand wash basin (with elbow tap/sensor including accessories [Alcohol Hand rub])
		Air conditioned room
		Fire detection device
		Door
		Window
		Should have cross ventilation and sufficient light
		Internet connectivity, power source, intercom
		Provide access between adjacent rooms (four rooms should be interconnected).
		Make provision for ceiling hung railing and curtain
		At-least one clinical cubicle/room designated for use by children.

Item No.	Category	Item Name and Description
	Resuscitation rooms (*Note: Number of resuscitation rooms depend on number of acutely and trauma patients seen in particular hospital*)	Provide working station with chairs, tables and computers.
		Provide head-bed trunk to accommodate two beds with two ports for vacuum. Three ports for oxygen, one port for medical gas.
		Provide for ventilator machine
		Provide two wall mounted cardiac patient monitor
		Provide ECG Machine
		Provide for point of care ultrasound machine
		Procedure Room
		Nurse station
		Emergency Pharmacy
		Point of Care (POC) test area
		Medical gas room
		Patients toilet facility

Appendix 3(b): Minimum Set of Equipment for EMD

This part provides details on the tool used to assess the minimum set of equipment for an Emergency Medicine Department.

Item No.	Item Name and Description	
1	**Patient cardiac monitors** *(Note: All resuscitation rooms and procedure rooms must have at least one fixed cardiac monitor (with minimum of four parameters)*	Blood Pressure (and Mean Arterial Pressure)
2		Heart Rate (and rhythm)
3		Saturation of Oxygen
4		Temperature
5	**Defibrillator** ***(****The EMD must have at* ***least one defibrillator*** *(this defibrillator must be manual, with pacing capabilities)****)***	
6	One **Mobile ultrasound with minimum of three probes** ***(i.e****. abdominal probe, cardiac probe and vascular probe****)***	
7	**ECG Machine** *(The EMD must have at least one mobile ECG machine that has a* ***minimum of 12 leads)***	
8	**Mobile ventilator** *(The EMD must have at least one mobile ventilator machine that has a capacity for both adult and pediatric population)*	
9	**Laryngoscope** *(The EMD must have* ***at least two sets*** *of laryngoscopes for incubation and other purposes)*	
10	**Ambu-bags** *The EMD must have* ***at least two sets*** *of ambu-bags, one set for adult and one set for pediatrics)*	
11	**Otoscopes** *(The EMD must have* ***at least two sets*** *of otoscopes)*	
12	**Ophthalmoscopes** *(The EMD must have* ***at least two sets*** *of ophthalmoscopes)*	
13	**Nebulizer machine** *(All resuscitation rooms and procedure must at least one have portable (or wall mounted) nebulizer machines)*	
14	**ABG Machine** *(EMD must have* ***one*** *ABG machine as a POC test tool)*	
15	**Portable oxygen canister** *(EMD must have* ***at least two*** *portable oxygen canisters to allow for transport of patients)*	
16	**Weighing scale**	

Item No.	Item Name and Description
	*(EMD must have **at least two set of** weighing scale. One for adult and one for pediatrics. One shall be placed at the triage. The weighing scale must have capacity to measure weight and height at the same time)*
17	**Consumable cabinets** *(All resuscitation rooms, procedure and treatment rooms must have walls mounted consumable cabinets that will be used to stock the regular consumable such as cannula, catheter, syringes etc. This will allow easy access and quick action during times of emergency)*
18	**Crash Trolley (cart)** *(All resuscitation rooms and procedure rooms must be equipped with a crash trolley that is stocked with necessary emergency drugs and consumables for resuscitation)*
19	**Waste bins (leg operated)** *(All resuscitation rooms, procedure rooms, triage, and treatment rooms must be equipped with sets of leg-operated waste bins in line with quality assurance recommendations of the MoHCDGEC)*
20	**Suction Unit** *(All resuscitation rooms and procedure must have at least one suction unit (or wall mounted).*
21	**Equipment tray** *(There must be at least one equipment tray (mobile) in each resuscitation rooms and procedure must have at least one suction unit (or wall mounted).*
22	**Suture tray** *(There must be at least 4 suture tray sets of the entire EMD)*
23	**X-ray viewer** *(All resuscitation rooms, procedure and treatment rooms must be installed with X-ray viewers)*
24	**Glucometer machines** *(There must be at least 3 glucometer machines for the entire EMD)*
25	**Bed pans** *(There must be at least 6 bedpans for the entire EMD)*
26	**Urine pans** *(There must be at least 4 bedpans for the entire EMD)*
27	**Forceps Maguils** *(There must be at least 4 forceps maguil in the entire EMD)*
28	**Drip stand** *(There must be at least 2-drip stand for each resuscitation room and procedure room)*
29	**Blood pressure machine** *(There must be at least 1 blood pressure machine (ideally manual) for each of the resuscitation, procedure, triage and treatment rooms)*

Item No.	Item Name and Description
30	**Small fridge** *(There must be at least 1 small fridge to ensure cold chain is maintained for some medication and vaccines)*
31	**Sterile gauze drum** *(There must be at least 2 gauze drum for the entire EMD)*
32	**Cheatle forceps and Jar** *(There must be at least 2 cheatle forceps and jar for the entire EMD)*
33	**Patients Stretchers** *(There must be at least 8 patient stretchers the entire EMD)*
34	**Patient wheel chairs** *(There must be at least 10 patient wheelchairs for the entire EMD)*
35	**Patient bed** *(All resuscitation rooms, procedure rooms, and treatment rooms must have at least one patient bed)*

Appendix 3(c): Human Resources for EMD

This part provides details on the tool used to assess the requirement for Human Resources for an Emergency Medicine Department

Item No.	Category	Item Name and Description
1	EMD Personnel	Permanent stationed staff
		The clinical oversight for the EMD has been provided by emergency medicine trained specialist with at least masters of medicine in emergency medicine
2	Training requirement for EMD staff	Basic and Advanced Life Support course (BALS) *(If Yes, How many)*
3		Basic Emergency Nursing *(If Yes, How many)*
4		Basic Emergency Care (BEC) *(If Yes, How many)*
5		Paediatric Emergency Care Training (PECT) *(If Yes, How many)*
6		Basic Life Support (BLS) *(If Yes, How many)*
8		Advanced Life Support (ALS) *(If Yes, How many)*
9		Primary Trauma Care (PTC) *(If Yes, How many)*
10	Minimum staffing level per shift	Doctor
11		Nurse
12		Health Attendants
13		Pharmacist
14		Social Welfare
15		Medical Records
16		Cashier

Appendix 4: List of Key Documents Reviewed

This part provides details on the list of the key documents reviewed during the audit and the reasons for reviewing.

S/N	Document Name	Reason(s) for Reviewing
	Documents from the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC)	
1	National Health Policy	To understand on the policy statements as regard to the objectives in the strengthening the functioning of the health system in the country.
2	Health Sector Strategic Plans	To understand on the long term strategies put by the Ministry of Health towards ensuring functioning referral health system.
3	Basic Standards for Health Facilities	To understand the standard requirements for health facilities at different levels to provide for health care services.
4	Primary Health Service Development Program	To understand on the development strategies put by the Ministry of Health towards ensuring effective delivery of health care services in the country.
5	The Standard Treatment Guidelines for Clinical Services	To understand on the statements as regard to clinical guidelines on the steps in the provision of emergency and referral health care services.
6	Emergency Medicine Department Minimum Requirements	To understand on the minimum requirements for established Emergency Medicine Departments in higher level referral hospitals in the country.
Documents from the President's Office – Regional Administration and Local Government (PO-RALG)		
1	RHMT Strategic Plans	To understand on the strategies towards improving health services delivery in respective regional referral hospitals.
2	RHMT Annual Reports	To understand and assess on the implementation status of the health services plans with target to improve health services delivery in respective regions.
Documents from the Higher Level Referral Hospitals		
1	Hospital Strategic Plans	To understand on the hospital strategies put forward to enhance the provision of referral and emergency health care services.
2	Comprehensive Hospital Operation Plans (CHOPs)	To understand and assess on the operational items identified and prioritized towards effective delivery of referral and emergency health care services.
3	External Hospital Performance	To understand on the performance and challenges identified as regard to management

S/N	Document Name	Reason(s) for Reviewing
	Documents from the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC)	
	Assessment Reports (EHPA)	in delivery of referral and emergency health care services.

Appendix 5: Details of Criteria Used to Select Regions

This part provides for the details on the criteria used to select regions and the supporting reasons for their selection.

Region	Criteria					
	Geographical zone	Population Size in the region (Based on 2012 Census)		Average Annual Received Number of Referral Cases to MNH (2011/12-2016/17)		Other supporting reasons for selection
		< 2 = Low ≥ 2 = High		< 200 = Low ≥ 200 and < 1000=Medium ≥ 1000 = High		
		Size (in Millions)	Rank	Cases Received (N)	Rank	
Dar es Salaam	Eastern	4.4	High	45,447	High	Despite being populated, the region offers the tertiary level healthcare services in the category of both National and Zonal Super Specialist Hospitals namely Muhimbili Orthopaedic Institute (MOI), Ocean Road Cancer Institute (ORCI) Comprehensive Community Based Rehabilitation in Tanzania (CCBRT).
	Northern	**Kilimanjaro**				

Kilimanjaro and Tanga		1.6	Low	72	Low	Kilimanjaro was selected because it registered very low cases of referrals at Muhimbili National Hospital (MNH) but also it has an operating zonal referral hospital (KCMC).
		Tanga				Tanga was selected as it has the highest population size in this zone and is located mid-way between Northern and Eastern zones for which we want to assess the underlying reason(s) leading to the most preferred health facility in case of referrals and emergencies compared to the nearest referral health facilities
		2.0	High	1,069	High	

						(KCMC and MNH).
Ligula	Southern	1.3	Low	426	medium	It is ranked lowest in terms of population size and registered a medium number of referral cases received at Muhimbili National Hospital (MNH).
Mpanda	Western	0.6	Low	--	--	Although it has no registered referral cases, it has low population size compared to other regions in western zone.
Kitete	Central	2.3	High	499	Medium	It is the highest populated region in this zone with a medium number of reported referral cases. Dodoma was not selected as it was covered during the pre-study (planning phase).

Mbeya	Southern Highlands	2.7	High	423	Medium	It is the highest populated region in this zone with a medium number of reported referral cases.
Sekou-toure	Lake	2.8	High	564	Medium	Despite being populated, the region has a tertiary level health facility in the category of Zonal Super Specialist Hospital namely Bugando Medical Centre (BMC).

Appendix 6: List of Interviewed Officials

This part provides details on the list of interviewed officials and the reasons for selecting the officials.

Entity	Interviewed Official	Reason(s) for Interview
Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC)	Director of Curative Services (DCS) Director – Health Services Inspectorate and Quality Assurance Middle Level Officials – Health Services Inspectorate and Quality Assurance Middle Level Officials – Health Emergency Preparedness and Response Unit Directorate of Policy and Planning	To get information on: • Efforts towards ensuring strengthening capacity to provide health care services in higher level referral hospitals; • Efforts towards ensuring capacity and preparedness of higher level referral hospitals to deliver emergence health care services; and • Efforts to ensure monitoring and evaluation on the provided health care services in higher level referral hospitals.
President's Office – Regional Administration and Local government (PO-RALG)	Regional Medical Officers (RMOs) Regional Health Secretaries (RHS) Selected Members of Regional Health Management Teams (RHMTs) Regional Health Officers (RHOs)	• To understand the strategies in place put by the regional secretariats on managing the provision of health care services for referral and emergence in Regional Referral Hospitals; and • To understand the strategies with regard to planning, implementation and monitoring towards ensuring improved referral and emergency health care services delivery in Regional Referral Hospitals.

Entity	Interviewed Official	Reason(s) for Interview
Muhimbili National Hospital (MNH)	Ag. Director - Medical Services Ag. Director – Outpatient Department Director – Emergence Medicine Department	• To understand the extent of congestions of patients at this level and the underlying causes for received referrals; and • To get the views towards challenges in the provision of emergence health care services in the country.
Zonal Referral Hospitals (ZRHs)	Directors Generals (DGs) Hospital Secretaries Head of Departments – Emergence Medicine Departments Middle Level Officials – Emergence Medicine Departments	To understand and assess the extent of congestions of patients and implementation of the plans towards ensuring effective delivery of referral and emergency health care services.
Regional Referral Hospitals (RRHs)	Medical Officers In-charges Hospital Secretaries Head – Emergency Departments/Units Hospital Matrons/Patrons	• To get information on the common causes for received and outgoing referrals as well as assessing the capacity to deliver health care services for referral and emergencies; and • To get the information on the challenges faced in the provision of health care services for referrals and emergencies.

Appendix 7: Status of rehabilitation and Upgrades in the visited Referral Hospitals

This part provides details on the number and types of rehabilitation and Upgrades that were made in the 11 visited higher level referral hospitals in the country.

Name of the Hospital	Number of Rehabilitation and Upgrades Conducted	Areas Upgraded
MNH	12	• ICU 1; • ICU 2; • Neonatal ICU; • Maternal ICU; • Pediatrics ICU; • Main Operating Theatre; • Obstetrics and Gynecology Theatre; • Dental Theatre; • Renal Dialysis Unit; • Maternity II; • NHIF Clinic; and • Internal Roads.
BMC	29	• Construction of BMC at Oncology • Rehabilitation of G4 clinic (SOPD) • Rehabilitation of VIP wards • Rehabilitation of K4 for shifting Pharmacy from G4 • Installation of water pump at Chakula Barafu • Installation of cobalt 60 machine at Oncology • Construction of generator shed at Chakula Barafu • Construction of toilet at Engineering office • Construction of Serengeti guest house fence • Construction of mortuary shed • Renovation of Infusion room at Pharmacy • Construction of EMD shed for waiting area • Renovation, and installation of CT scan at Nuclear Medical area

Name of the Hospital	Number of Rehabilitation and Upgrades Conducted	Areas Upgraded
		• Extension of External Pharmacy • Construction of New compounding unit • Re- painting of CTC Building • Re- painting of Oncology Building • Re- painting of NHIF Building • Construction of waiting area at oncology • Renovation of plumbing and Electrical system block C and B students hostel • Construction of water treatment plant student hostel • Extension of 5 operating theatre room at e2 • Renovation & expansion EMD department • Renovation of K4 consultation room • Renovation of molecular Biology (Lab) • Renovation of E9 ward • Renovation of molecular Biology (lab) • Renovation of E7 Private wing Construction of MDR Building
MZRH	25	• 10 Wards; • 4 Clinics; • Theatre; • CSSD; • Engineering; • Laboratory; • Interns Hostel; • Pediatric Ward; • Main Store; and • Medical Records
KCMC	3	• Emergency Department • Burn Unit; and • Cancer Care Center.

Name of the Hospital	Number of Rehabilitation and Upgrades Conducted	Areas Upgraded
Mbeya	2	• Internal Medicine; and Obstetrics and Gynecology
Sekou-Toure	3	• OPD Reception; • Pharmacy; and • MAT Clinic.
Tanga	7	• Internal roads; • Theatre; • Change of building to become ICU, • Maternity Ward; • building and operating theatre; • rehabilitation of grade one; Mortuary building; • mental health building; and • Change of OPD to Emergency Department.
Mwananyamala	4	• General OPD; • IPD; • Maternity Block; and • Obstetric Theatre.
Mpanda	2	• Construction of Maternity Wing; and • Construction of Diagnostic Wing.
Kitete	2	• Old Laboratory to be Dental Unit; and • Rest House.
Ligula	4	• Mortuary • Male Surgical Ward • Renovation for Bima Outpatient Block; and • New OPD/Administration Block

***Source**: Analysis of Annual Reports (2018)*

Appendix 8(a): Financial Resources in Visited Regional Referral Hospitals (in Millions TZS)

This section provides details on the financial resources in visited Regional Referral Hospitals

Name of Referral Hospital	Financial Year									
	2013/14		2014/15		2015/16		2016/17		2017/18	
	Budgeted	*Disbursed*	*Budgeted*	*Disbursed*	*Budgeted*	*Disbursed*	*Budgeted*	*Disbursed*	*Budgeted*	*Disbursed*
Mbeya RRH	900	792	1,200	804	1,200	1,204	1,500	1,771	1,500	2,045
Sekou-toure RRH	896	852	950	473	754	226	1,380	666	3,000	1,549
Tanga RRH	896	852	950	473	754	226	1,380	666	3,000	1,549
Mwananyamala RRH	1,870	1,502	2,929	2,223	2,785	2,478	10,048	9,162	10,758	10,228
Mpanda RRH	469	455	485	326	745	521	973	681	1,088	761
Kitete RRH	n/a	n/a	n/a	n/a	771	769	1,642	1,431	1,676	1,246
Ligula RRH	n/a	n/a	1,220	803	902	496	1,000	939	1,432	1,175

Source: Data from visited Referral Hospitals (2018)

Appendix 8(b): Financial Resources in Visited Zonal and National Referral Hospitals (in Millions TZS)

This section provides details on the financial resources in visited Zonal and National Hospitals

Name of Referral Hospital	Financial Year									
	2013/14		2014/15		2015/16		2016/17		2017/18	
	Budgeted	*Disbursed*	*Budgeted*	*Disbursed*	*Budgeted*	*Disbursed*	*Budgeted*	*Disbursed*	*Budgeted*	*Disbursed*
MNH	105	71,153	111,432	78,600	160,055	111,737	176,962	125	164	126
BMC	27,806	18,101	22,682	18,101	31,006	23,114	34,523	24,401	39,956	22,649
MZRH	1,380	664	802	1,580	484	68	484	228	226	162
KCMC	956	463	933	196	474	115	474	118	222	122

Source: Data from visited Referral Hospitals (2018)