REPUBLIC OF KENYA

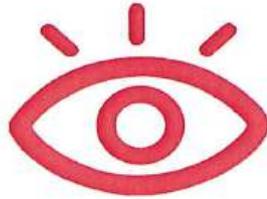## OFFICE OF THE AUDITOR-GENERAL
Enhancing Accountability

AUDITOR-GENERAL'S PERFORMANCE AUDIT REPORT ON PROVISION OF EMERGENCY MEDICAL CARE SERVICES IN KENYA

NOVEMBER 2025

VISION
Making a difference in the lives and livelihoods of the Kenyan people

MISSION
Audit services that impact on effective and sustainable service delivery

OUR CORE VALUES
Integrity • Credibility • Relevance • Accountability • Independence

I am pleased to present this performance audit report on Provision of Emergency Medical Care Services in Kenya. My Office carried out the audit under the mandate conferred to me by Article 229 (6) of the Constitution of Kenya, 2010, to confirm whether or not public money has been applied lawfully and in an effective way. In addition, Section 36 of the Public Audit Act, 2015 requires the Auditor-General to examine the economy, efficiency and effectiveness with which public money has been expended.

Performance, financial and compliance audits form the three-pillar audit assurance framework that I have established to give focus to the varied and wide scope of the audit work done by my Office. The framework is intended to provide a high level of assurance to stakeholders that public resources are not only correctly disbursed, recorded and accounted for, but that the use of the resources results in positive impact on the lives and livelihoods of the Kenyan people. The main goal of our performance audits is to ensure effective use of public resources and promote service delivery to Kenyans.

The report is submitted to Parliament in accordance with Article 229 (7) of the Constitution of Kenya, 2010 and Section 39 (1) of the Public Audit Act, 2015. In addition, I have submitted copies of the report to the Chief of Staff and Head of Public Service, Principal Secretary, The National Treasury and the Principal Secretary, State Department for Medical Services.

FCPA Nancy Gathungu, CBS
AUDITOR-GENERAL

27 November, 2025

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

Abbreviation	Definition
A&E	Accident and Emergency
ALS	Advanced Life Support
ACLS	Advanced Cardiac Life Support
BLS	Basic Life Support
CHMT	County Health Management Team
CHP	Community Health Promoter
EMC	Emergency Medical Care
EMTS	Emergency Medical Technicians
HDU	High Dependency Unit
HMT	Hospital Management Team
ICU	Intensive Care Unit
INTOSAI	International Organization for Supreme Audit Institutions
KEBS	Kenya Bureau of Standards
KEMSA	Kenya Medical Supplies Authority
MOH	Ministry of Health
OPD	Outpatient Department
SDG	Sustainable Development Goal
UN	United Nations
WHO	World Health Organization

DEFINITION OF TERMS

Accident and Emergency Department: It is a designated unit in a health facility which should operate 24-hour services to provide initial treatment for a broad spectrum of illnesses and injuries which may be life threatening and require immediate attention, as well as, facilitate continuity of care.

Ambulance: An appropriately equipped and authorized vehicle, either land-based, waterborne or airborne designed or adapted to treat and convey a patient in an emergency care situation, marked in such a way as to indicate the category of medical care and transportation of the said vehicle and staffed with licensed ambulance service personnel.

Bystander: Any person who is near a medical emergency or disaster, who is not a trained emergency medical care practitioner.

Dispatch: Notification of emergency medical services personnel with type, severity and location of the incident, and subsequent mobilization of response units to the scene of the incident.

Medical Emergency: Means an acute situation of injury or illness that poses an immediate risk to life or health of a person or has the potential for deterioration in the health of a person or if not managed in a timely manner, would lead to adverse consequences in their well-being.

Pre-hospital Care: Medical care provided to patients in settings other than a hospital, and who are planned or intended to be transported to the nearest most appropriate healthcare facility for further care or evaluation.

Introduction

1   The Kenya Emergency Medical Care Policy, 2020-2030 defines emergency medical care services as a system that coordinates essential emergency care functions at the scene of injury or illness, during transport and through to emergency departments, and early inpatient care.

2   Out of the approximately 45 million deaths in Low and Middle-Income Countries each year, 24.3 million or 54% are due to conditions that can be potentially addressed by pre-hospital and emergency medical care.

3   The Ministry of Health is responsible for health policy, regulatory functions and technical assistance to counties on emergency medical care services. County governments take a lead role in the implementation of emergency medical care policies and provision of medical services at the community and hospital level.

Motivation for the Audit

4   The Senate Committee on Health, in its report dated 24 May, 2022, recommended the Auditor-General to conduct a performance audit on provision of ambulance and emergency and intensive care unit services in counties. This was triggered by cases of negligence and untimely response to emergency medical cases.

5   Emergency medical care is a constitutional right, and the Kenya Emergency Medical Care policy and Strategy outlines intervention measures for a working emergency medical care system in the Country. However, there has been an increasing number of deaths or worsening conditions of injured persons due to untimely and uncoordinated medical emergency response in the Country.

Audit Objectives

6   The main objective of the audit was to assess the extent of delivery of emergency medical care services by the Ministry of Health and county governments in order to ensure timely response to emergencies. Specifically, the audit sought to assess:

   i.   The extent of availability of emergency medical care services at the community level;

   ii.   Whether the transport system for emergency medical care is appropriately equipped to ensure timely response to emergencies; and

   iii. The extent of delivery of emergency medical care services at healthcare facilities.

Audit Scope

7   The audit focused on the provision of emergency medical care services in public health facilities in the Country by the Ministry of Health and county governments. This includes public awareness on pre-hospital emergency services at the community level, ambulance services and hospitals' emergency medical care services. The audit covered four (4) financial years, 2021/2022 to 2024/2025, and was carried out between March 2023 and February 2025.

Methods Used to Gather Audit Evidence

8   The audit team reviewed documents and records that relate to provision of emergency medical care services; held interviews with the key staff of the Ministry of Health, county government officials, including the County Health Management Teams, Hospital Management Teams, Emergency Operation Centre Management Teams, and other health officials. The audit team conducted physical verification of emergency departments and ambulances in the sampled one hundred and fourteen (114) health facilities.

Summary of the Key Audit Findings

A. Limited Availability of Emergency Medical Care Services at the Community Level

i. *Low Level of Public Awareness on Response to Medical Emergencies*

9   A survey administered to 615 members of the public at the sampled health facilities revealed that; only 8% had been sensitized on how to handle emergencies, 26% were aware of the numbers to call in case of an emergency, and only 21% of the respondents had basic first aid skills. The low level of public awareness on response to emergencies was attributed to inadequate number of community units and community health promoters, resulting in insufficient dissemination of information to the public on response to emergencies.

B. Inefficient Ambulance Transport System

i. *Delay in Ambulance Response Time*

10   Review of eight (8) out of the sixteen (16) sampled counties, whose ambulance dispatch records were available, revealed delays in ambulance response time, ranging from twenty (20) to sixty (60) minutes. The review indicated that only Machakos County dispatched ambulances on time. The delayed response time was majorly attributed to non-establishment and inefficiencies in ambulance dispatch centres, inadequate number of ambulances, ill-equipped ambulances, inadequate fuelling and maintenance of ambulances, and insufficient ambulance staff.

ii. *Non-establishment and Inefficiencies in Ambulance Dispatch Centers*

11   The Country lacks a national ambulance dispatch centre to centrally coordinate ambulance services. However, twelve (12) out of the sixteen (16) sampled counties had ambulance dispatch centres. Despite the twelve (12) counties having ambulance dispatch centres, there were inefficiencies in their operations caused by; lack of a real time electronic system for tracking ambulances and recording call logs,

insufficient communication gadgets, lack of toll-free numbers for ease of communication by the public, insufficient personnel, challenges with internet connectivity, and lack of backup generators.

iii. *Inadequate Number of Ambulances*

12   Ten (10) out of sixteen (16) counties had the required number of ambulances to serve their population, while six (6) counties had deficits ranging from one (1) to thirty (30) ambulances in a county. The inadequate number of ambulances was attributed to non-functional ambulances, as 92 out of the sampled 269 ambulances, representing 34%, were non-functional. Further, the ambulances lacked necessary equipment and staff, did not have sufficient fuel and were not well maintained.

C. Inefficient Hospital Care for Medical Emergency Cases

i. *Limited Availability of Functional Accident and Emergency Departments*

13   Level 6, Level 5, and Level 4 hospitals are expected to have separate accident and emergency departments for adults, adolescents and paediatrics, which should be equipped and staffed to provide rapid and varied emergency care. The audit established that the four (4) sampled Level 6 hospitals had established accident and emergency departments for adults, adolescents, and paediatrics. Further, eleven (11), representing 73%, out of the sampled fifteen (15) Level 5 hospitals had operational accident and emergency departments, however, they lacked a separate accident and emergency department for paediatrics. Only three (3), representing 9%, out of the sampled thirty-three (33) Level 4 hospitals had accident and emergency departments, but none had a separate paediatric section.

ii. *Insufficient Personnel Attending to Emergency Patients in Hospitals*

14   Analysis of staff data revealed that seven (7) of the fourteen (14) Level 4 and Level 5 facilities that had accident and emergency departments did not meet the minimum requirement for at least ten (10) accident and emergency nurses, they each had between one (1) to four (4) of these nurses. As a result of the shortage of accident

and emergency nurses, emergency patients were attended to by general nurses who did not have the Kenya Registered Accident and Emergency Nursing qualification, which equips nurses with training to handle critical situations and deliver advanced emergency medical treatment.

15   Further, the audit established that the estimated nurse to patient ratio, within 24 hours, in the departments receiving emergency patients ranged from 1:5 to 1:100 in the sampled Level 4 facilities and 1:8 to 1:122 in sampled Level 5 facilities. This is contrary to the WHO requirement that the nurse-to-patient ratio should not exceed 1:4 at the accident and emergency department. The audit team also established that Level 3 and Level 2 facilities experienced a shortage of both clinical officers and nurses.

iii.   *Inadequate Essential Equipment for Handling Emergencies*

16   Accident and emergency service areas typically must have their own diagnostic equipment for the timely provision of emergency medical services. The audit established that the sampled health facilities did not have adequate equipment for the provision of emergency medical services. This included equipment for airway breathing, monitoring and circulation, diagnostic equipment for emergency examinations, and other essential equipment for emergency medical care services. For instance, 90% of the sampled Level 4 and 46% of the sampled Level 5 hospitals lacked piped oxygen, while 84% and 80% lacked ventilators, respectively. All sampled Level 2 and Level3 facilities lacked piped oxygen. Further, out of the sampled facilities, 83% of Level 2 and 62% of Level 3 facilities lacked oxygen cylinders.

17   Shortage of essential equipment leads to missed or delayed diagnosis that can lead to adverse outcomes for the patients, including increased risk of complications, permanent disability or fatalities. Further, the shortage of imaging equipment results in increased referrals for cases that can be handled at lower-level facilities, thereby contributing to delays in treatment. The audit also established that there were

inconsistent supply of medical drugs and consumables for the provision of emergency medical care.

iv. *Inadequacies in Provision of Critical Care Services*

a. *Lack of Intensive Care Units and High Dependency Units in Level 4 and Level 5 Hospitals*

18   The audit established that 90% of the sampled Level 4 hospitals and 33% of the sampled Level 5 hospitals did not have intensive care units and high dependency units. In addition, there was inefficient provision of critical care services in facilities that had operational critical care units. This was attributed to inadequate bed capacity, owing to inadequate equipment, inadequate staff, and inadequate medical commodities.

b. *Inadequate Bed Capacity in Intensive Care Units*

19   It is a mandatory requirement for Level 4, Level 5 and Level 6 hospitals to have six (6), twelve (12) and twenty-four (24) functional Intensive Care Unit beds, respectively, as per the Kenya Medical Practitioners Hospital Checklist for Categorization of Health Institutions, 2019. Out of the fifteen (15) sampled Level 5 hospitals, only the Coast General Teaching and Referral Hospital met this requirement, while none of the thirty-three (33) Level 4 hospitals met the requirement. These hospitals had deficits of between three (3) and twelve (12) Intensive Care Unit (ICU) beds. Further, all the sampled Level 6 hospitals met the minimum requirement for ICU bed capacity.

20   As a result of the inadequate ICU bed capacity in Level 4 and Level 5 hospitals, patients were referred to Level 6 hospitals for critical care services, thereby straining the resources in Level 6 hospitals. In other cases, due to lack of functional High Dependency Unit beds, patients would be moved from the ICU directly to the wards. There were also instances of patients being retained at ICU for recuperation, further limiting the availability of the already strained ICU bed capacity in the hospitals.

21   Inadequate bed capacity was attributed to inadequate vital equipment to provide critical care services; and inadequate number of critical care nurses to provide critical care services. The audit revealed that some critical care units were served by both qualified critical care nurses and general nurses, owing to shortage of staff. This is contrary to the requirement of having nurses who have qualified in critical care nursing to serve in Intensive Care Units and High Dependency Units.

D. Lack of Specific County Budgets for the Provision of Emergency Medical Care Services

22   The audit revealed that there were no specific emergency medical care budgets in the approved county governments' budgets. Funds for the provision of emergency care were catered for under various votes within county departments of health budgets. Similarly, none of the sampled one hundred and fourteen (114) health facilities had a specific budget for emergency medical care.

Conclusion

23   There is limited availability of emergency medical care services at the community level, evidenced by the fact that most citizens do not know how to handle emergency cases and are also not aware of the presence of the community health promoters in their locality. As a result, that critical hour of need at the scene of incidence often lacks professional management, thereby negatively impacting the victim's recovery process and survival.

24   There is an inefficient ambulance transport system at both the national and county level, mainly due to lack of established ambulance dispatch centres. Most counties lack real-time ambulance monitoring technologies and have an inadequate number of ambulances to serve the population in the respective counties. Further, the available ambulances are not well-maintained and sufficiently fuelled in readiness for emergency response. In addition, ambulances lacked the required equipment and personnel to handle emergency cases during transit. These inefficiencies have resulted to slow ambulance response times of up-to sixty (60) minutes. This implies

that the critical "golden hour" needed to provide emergency medical care to a patient in order avoid further damage to an injured or ill person is lost.

25 Emergency medical care services in all the levels of health facilities in the Country are inefficient. Even though most of the Level 4 and higher-level facilities had accident and emergency departments, these departments lacked adequate personnel, were not well equipped, and often lacked the required medicine and other essential consumables. This resulted in delays in stabilization and saving the lives of patients received at the emergency departments.

26 There is limited access to critical care services in the Country, as most of the Level 4 and Level 5 hospitals, which are the main referral hospitals in the counties do not have intensive care units. The few facilities that have these units lack an adequate number of ICU beds and personnel with specialty in critical care services. In addition, these critical care units often have an erratic supply of essential consumables and medicines.

27 There is lack of prioritization of emergency medical care services at the county level. The counties do not ring fence funds for emergency services, which are left to compete with other services, disregarding the uncertainties with which emergencies occur.

Recommendations

Limited Availability of Emergency Medical Care Services at the Community Level

28 To increase the level of public awareness on how to respond to emergencies, county governments should allocate funds for training interested community members on basic first aid techniques, inclusive of how to recognize an emergency, call for help and stabilise the patient, until formally trained health-care personnel arrive to give additional care. These activities should be incorporated in county annual work plans.

29   County governments should increase the number of community units, as well as recruit a sufficient number of community health promoters, train them on basic lifesaving skills and ensure they are known by citizens in their location of operation.

Inefficient Ambulance Transport System

30   To enhance ambulance response time in the Country, the Ministry of Health should establish a national ambulance dispatch centre, with a real time ambulance monitoring system. In addition, county governments should establish functional central ambulance dispatch centres and ensure they have an adequate number of ambulances that are well equipped and operated by qualified personnel. These ambulances should also be well maintained and adequately fuelled for prompt emergency response.

31   To ease communication with the public, the Ministry of Health and county governments should provide a single short-code toll-free number dedicated exclusively for ambulance services at the national level and in each county.

32   To enhance the availability of the appropriate cadres and an adequate number of ambulance personnel, and to enable recruitment and deployment of these essential human resources, the Ministry of Health should fast track the finalization and approval of the scheme of service for emergency medical technicians and emergency vehicle operators.

Inefficient Hospital Care for Medical Emergency Cases

33   To ensure efficient and effective hospital care for emergency cases, county governments should establish functional accident and emergency departments in Level 4 and Level 5 facilities. These departments should be resourced with appropriate and adequate personnel, essential drugs, equipment and other consumables.

34   To enhance preparedness, efficiency and provision of quality emergency care services, the Ministry of Health, in collaboration with county governments, should build capacity on emergency medical care services for county governments. In addition, county governments should ensure continuous training of key staff and implement effective strategies for the retention of these key staff.

Funding for Emergency Medical Care Services at the County level

35   To ensure adequate funds for delivery of emergency care services right from the community level to the county referral hospitals, county governments should budget and ringfence funds for emergency care services. This will ensure continuous availability of emergency personnel, essential medical drugs and equipment, consumables, as well as maintenance of equipment and ambulances.

CHAPTER 1: BACKGROUND OF THE AUDIT

Introduction

1.1 The Health Act, 2017, defines emergency care as the necessary immediate health care that must be administered to prevent death or worsening of a medical situation. Further, the Kenya Emergency Medical Care Policy, 2020-2030, defines emergency medical care services as a system that coordinates essential emergency care functions at the scene of injury or illness, during transport and through to emergency departments, and early inpatient care.

1.2 Emergency conditions make up a large part of the global burden of disease, and high-quality emergency medical care has the potential to address and prevent a substantial portion of mortality and morbidity around the world. Out of the approximately 45 million deaths in Low and Middle-Income Countries each year, 24.3 million or 54% are due to conditions that can be potentially addressed by pre-hospital and emergency medical care[1].

1.3 The Ministry of Health is the lead ministry on emergency medical care at the national level and is responsible for health policy and regulatory functions, technical assistance to counties and management of national referral health facilities. County governments take a lead role in the implementation of emergency medical care policies and provision of medical services at the community and hospital level.

1.4 Emergency medical care is a constitutional right, and there are policies outlining intervention measures for a working emergency medical care system in the Country. However, there has been an increasing number of deaths or worsening conditions of injured persons due to untimely and uncoordinated medical emergency response in the Country.

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[1] The Kenya Emergency Medical Care Strategy, 2020-2025

Motivation for the Audit

1.5   The Auditor-General authorized the audit after considering the following factors: -

i.   Article 43(2) of the Constitution of Kenya, 2010 provides that a person shall not be denied emergency medical treatment. In 2020, the government developed Emergency Medical Care Policy, 2020-2030 and launched the Kenya Emergency Medical Care Strategy, 2020-2025. The strategy seeks to establish a working emergency medical care system, as a key component of the healthcare system and as an enabler to achieving Universal Health Coverage. It was therefore, important to carry out an audit to assess the implementation of the two (2) strategic documents.

ii.   The Senate Committee on Health, in its report dated 24 May, 2022, recommended the Auditor-General to conduct a performance audit on the provision of ambulance, emergency and intensive care unit services in counties. This was triggered by cases of negligence and untimely response to emergency medical cases.

iii.   Provision of Emergency Medical Care Services is in line with Sustainable Development Goal No. 3 which seeks to ensure healthy lives and promote healthy well-being for all at all ages. Target 3.6 seeks to halve the number of global deaths and injuries from road traffic accidents by 2030. This can be attained with effective emergency medical care services. Target 3.8 seeks to ensure universal health coverage, including access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines. It was therefore, important to audit the extent of the provision of Emergency Medical Care towards the realization of the set target.

iv.   Kenya subscribed to the World Health Organization Resolution 72.16 on Emergency Care Systems for Universal Health Coverage. The Resolution implores all member states, regardless of available resources, to take steps towards strengthening the emergency care systems. Hence, the need to assess the status of emergency medical care towards implementation of the resolution.

CHAPTER 2: DESIGN OF THE AUDIT

Audit Objectives

2.1 The main objective of the audit was **to assess the extent of delivery of emergency medical care services by the Ministry of Health and county governments in order to ensure timely response to emergencies.** Specifically, the audit sought to assess:

    i. The extent of availability of emergency medical care services at the community level;

    ii. Whether the transport system for emergency medical care is appropriately equipped to ensure timely response to emergencies; and

    iii. The extent of delivery of emergency medical care services at healthcare facilities.

Scope of the Audit

2.2 The audit focused on the provision of emergency medical care services in public health facilities in the Country by the Ministry of Health and county governments. This includes public awareness on pre-hospital emergency services at the community level and ambulance services and hospitals' emergency medical care services. The audit covered four (4) financial years, 2021/2022 to 2024/2025, and was carried out from March 2023 to February 2025.

2.3 Due to incomplete data availed by some counties and health facilities, the audit only analysed and presented the available and complete data. As a result, some of the findings are based on data from a varying number of counties and health facilities.

Audit Methodology

2.4 The audit was conducted in accordance with the International Standards of Supreme Audit Institutions (ISSAIs) relevant to performance auditing- ISSAI 3000 - Performance Audit Standard. The Standard require, among other things, that auditors obtain sufficient appropriate audit evidence to establish findings, reach conclusions in response to the audit objectives and questions, and issue recommendations.

Methods Used in Gathering Audit Evidence

2.5 The sampling technique used for the audit and the methods used to gather evidence in the sampled counties and health facilities are detailed below.

Audit Sampling

2.6 The forty-seven (47) counties in Kenya were clustered into regions, with counties within each region categorized into stratums of best, typical, or worst performers in the provision of emergency medical care. The categorization was based on the availability of; ambulance dispatch centres, all levels of health facilities, and hospitals with emergency departments. Areas prone to accidents and emergency cases, those with high population, as well as marginalized and developed counties, were also considered. Purposive sampling technique was used to select sixteen (16) counties which are: Nairobi, Kiambu, Nakuru, Kisumu, Isiolo, Narok, Kisii, Busia, Mombasa, Machakos, Kirinyaga, Uasin Gishu, Tana River, Garissa, Tharaka Nithi and Nyandarua, as detailed in **Appendix 1**.

2.7 The audit sampled 114 out of the 5,850 public health facilities in the Country. Four (4) of the six (6) Level 6 hospitals in the Country were sampled for the audit. Further, all the Level 5 hospitals in the sampled counties were included in the audit sample. Purposeful sampling was used to select two (2) Level 4 hospitals, two (2) Level 3 health facilities and two (2) dispensaries in each of the selected counties, while also considering the convenient use of the available resources. The list of the sampled counties is detailed in **Appendix 2**.

2.8 The methods used to gather audit evidence are outlined below: -

    a. **Interviews:** To assess the efficiency in delivery of emergency medical care services, the audit team interviewed the Ministry of Health and county government officials, including the County Health Management Teams, Hospital Management Teams, Emergency Operation Centre Management Teams, and other health officials listed in **Table 1**.

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Table 1: List of Officers Interviewed

	Officer Interviewed	Purpose of the Interview
1.	Ministry of Health Officials	• To establish how emergency medical care activities are funded at the national level • To establish the status of emergency medical care in the Country
2.	County Health Management Teams	• To establish how emergency medical care services are provided in the sampled counties
3.	Hospital Management	• To obtain information on the operations, processes, procedures and capacity for handling emergencies in the sampled hospitals
4.	Emergency Operation Centres	• To establish how ambulances are managed and the distribution in the sampled counties
5.	Ambulance Drivers/ Operators	• To assess the functionality, fueling and maintenance of ambulances
6.	General Public	• To establish the level of awareness and preparedness to handle medical emergencies

Source: Audit team analysis of methods of data collection

b. **Document Review:** To assess whether the Ministry of Health and county governments were efficient in their operations in the provision of emergency medical care services, the audit team reviewed the documents listed in **Table 2.**

Table 2: List of Documents Reviewed

	Document	Purpose for the Review
1.	Status Report on Coverage of Community Units	• To establish the total population per county • To determine the number of community units and community health promoters
2.	County Annual Workplans	• To establish the activities planned for emergency medical care
3.	County Budgets	• To establish the funds allocated for Community Health Promoters activities • To establish the amount of funds allocated for fueling and maintenance of ambulances • To determine the funds allocated for Emergency Medical Care activities
4.	County Health Sector Annual Performance Review Report	• To establish the targets set on the provision of Emergency Medical Care
5.	Call Logs Database for Ambulance Dispatch	• To determine the ambulance response time in sampled counties
6.	Equipment Inventory	• To establish the adequacy and condition of hospital equipment for provision of emergency medical care
7.	Ambulance Inventory	• To establish the number and categories of ambulances
8.	Maintenance Schedules and Inspection Reports	• To determine the frequency of ambulance maintenance
9.	Staff Establishment and Duty Rota	• To find out the number of available versus required staff for the provision of emergency medical care services
10.	Training Reports	• To establish the number of staff trained on emergency medical care
11.	Bin cards/Requisition and delivery notes	• To determine the adequacy of pharmaceutical and non-pharmaceutical products for provision of emergency medical care
12.	Social Health Insurance Act, 2023	• To establish the provisions in the Act on the establishment of a fund to cover emergencies and the categories of emergencies covered

Source: Audit team analysis of documents from entities providing Emergency Medical Care Services

c. **Physical Verification:** To assess the status of provision of emergency medical care services in health facilities, the audit team conducted physical verification of emergency departments and ambulances in the 114 health facilities listed in **Appendix 2.**

Assessment Criteria

2.9 The audit assessed the provision of emergency medical care services by the Ministry of Health and county governments against selected assessment criteria. The audit questions and corresponding assessment criteria used in the audit are detailed in **Table 3.**

Table 3: Audit Questions and Assessment Criteria

Audit Question	Audit Criteria
Are there adequate measures put in place to ensure availability of emergency medical care services at the community level?	• According to the Kenya National Community Strategy, 2020–2025, a community unit should cover a population of 5,000 people and be assigned ten (10) Community Health Promoters to offer emergency community health services. • According to best practice on Pre-hospital Trauma Care Systems by the World Health Organization, 2005, where no pre-hospital trauma care systems exist, the first and most basic tier of a system can be established by teaching interested community members basic first aid techniques.
Is the transport system appropriately equipped to ensure timely response to emergencies?	• The Kenya Emergency Medical Care Strategy, 2020-2025, requires that an ambulance reach any place within 15-20 minutes after a distress call. This is to be achieved through the establishment of an Emergency Operation Centre, and Ambulance Dispatch Centres at the national level and in every county. Further, the Strategy has adopted the World Health Organization recommended ambulance to population ratio of 1: 70,000 to100,000 • The Kenya Bureau of Standards (KEBS) Minimum Ground Ambulance Requirements Standards, 2013, categorize ambulances into Basic Life Support and Advanced Life Support and sets the requirements for equipment to be available in each category. The Standard further stipulates the staffing and ambulance maintenance requirements.
What is the extent of provision of emergency medical care services at the hospital level?	• According to the Kenya Medical Practitioners Hospital Checklist for Categorization of Health Institutions, Level 4 and higher level hospitals are required to have an Accident and Emergency departments, as well as separate paediatric emergency departments. • The Ministry of Health Checklist, for Assessing Quality of Healthcare in Hospitals, requires that health facilities ensure that accident and emergency departments, as well as other hospital departments should have adequate, well-maintained emergency equipment and supplies. • Section 3.3 of the Human Resources for Health Norms and Standard Guidelines for the Health Sector, 2014, provides staffing requirements at all levels of health care. Further, the Kenya Staffing Norms for Nurses, provides the recommended nurse to patient ratio in the accident and emergency department, as well as critical care units to ensure the provision of optimal quality of care. • The Kenya Medical Practitioner's Hospital Checklist for Categorization of Health Institutions, 2019, provides for requirements for the establishment of critical care units and their bed capacities in Level 4, Level 5 and Level 6 facilities. • The Emergency Care and Referral Services Standard Operation Procedures, Nairobi Metropolitan Service, provides that the emergency departments are required to have essential emergency drugs used in stabilizing patients as per the Kenya Essential Medicines List, 2019.

Source: Analysis of Assessment Criteria

6

Legal and Institutional Framework for Provision of Emergency Medical Care

3.1 The Kenya Emergency Medical Care Policy, 2020-2030, has an overall goal of ensuring that emergency medical care is provided to all who need it as part of Universal Health Coverage (UHC), thereby minimizing morbidity and mortality caused by medical emergencies. Further, the Kenya Emergency Medical Care Strategy, 2020-2025, details how to implement the objectives of the Policy, which are outlined below: -

i. To establish an integrated national and county infrastructure to support universal access to Emergency Medical Care;

ii. To ensure the highest quality of service delivery across the Emergency Medical Care System;

iii. To provide mechanisms for the financing of Emergency Medical Care;

iv. To develop a framework for human resource development and management in Emergency Medical Care;

v. To strengthen systems for monitoring, evaluation, surveillance and research on Emergency Medical Care; and

vi. To provide Emergency Medical Care leadership and governance.

Key Role Players in the Provision of Emergency Medical Care Services

(i) The Ministry of Health

3.2 The mandate of the Ministry of Health entails developing health policies, health regulations, management of national referral health facilities, capacity building and technical assistance to counties, as well as disaster management. In the provision of emergency medical care, the ministry's key role is coordinating, supervising and supporting the implementation of the Kenya Emergency Medical Care Policy, 2020-2030.

(ii) County Governments

3.3 County governments take a lead role in the management and implementation of emergency medical care services and policies at the county level. Their mandate is to provide county health services, including being in charge of county health facilities and pharmacies; ambulance services and promotion of primary health care.

3.4 Every county has a County Health Management Team whose role is to supervise day-to-day provision of emergency medical care services, among other health services in the county. In addition, the County Health Management Team coordinates and provides technical support to sub-county health management teams and management committees at health facilities.

3.5 The county governments are in charge of the dispensaries, health centres and hospitals. These health facilities offer a varied range of emergency medical care services. Level 4 and Level 5[2] health facilities offer specialized emergency medical care services such as radiology, laboratory, and critical care services to patients. Level 2 and Level 3 health facilities[3] offer primary emergency medical care, minor surgical services, essential laboratory services and maternity related emergencies. Further, they coordinate community health units under their jurisdiction.

3.6 Level 1 of care is a non-facility-based level. It comprises all community-based health activities, organized around the Comprehensive Community Strategy (CCS). The in-charge of community health services in Level 1 is the Community Health Extension Worker. At the community level, the Community Health Promoters facilitate diagnosis, management and referral of emergency conditions to health facilities, mainly Level 2 and Level 3 health facilities.

Process Description for Provision of Emergency Medical Care Services

3.7 The process description for the provision of emergency medical care has three (3) critical stages, starting with emergency response at the scene of the incident, followed

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[2] Level 4 and Level 5 health facilities comprise of all the sub county hospitals and county referral hospitals, respectively, operating in a county and are managed by county governments.
[3] Level 2 and Level 3 health facilities comprise of all dispensaries, clinics, health centres and maternity homes.

by transportation of the patient to a health facility for definitive care, and ends at the health facility. The process is described below: -

(i) Emergency Response at the Scene of the Incidence

3.8   The first line of response to emergencies at the community level ordinarily starts from by-standers at the scene of incidence or Community Health Promoters. These persons are required to recognize a serious injury or illness and activate the system of emergency response by calling a single short code toll-free access number to the Emergency Operations Centres and Ambulance Dispatch Centre for further instructions on first aid.

3.9   On receipt of the call, the personnel at the Ambulance Dispatch Centre give instructions on first aid or care of the victims, as they take preliminary assessments of the patient's location, nature or severity of injury and history. Based on the assessment of the level of emergency care required, they determine the type of ambulance to dispatch to the scene.

(ii)   Transportation of Patients to Definitive Care

3.10   This can either be on Basic Life Support for patients who have lower extremity or severity, or Advanced Life Support for patients who require a higher level of medical monitoring or Advanced Cardiac Life Support for advanced treatment and monitoring of patients on chronic ventilation, continuous IV drips, and those who require cardiac monitoring. The ambulances should be appropriately equipped according to each category, and should also be staffed with emergency medical technicians and an emergency vehicle operator, with the lead emergency medical technician being a registered nurse in the Advanced Life Support ambulances.

3.11   The patient is safely secured in the ambulance and continuous emergency medical intervention is administered. The ambulance personnel notify the receiving facility before transit to the nearest appropriate facility for further care and evaluation.

3.12   An illustration of the emergency response at the accident scene and transportation of patients to definitive emergency care is presented in **Figure 1.**

Figure 1: Process Description for Emergency Care Services
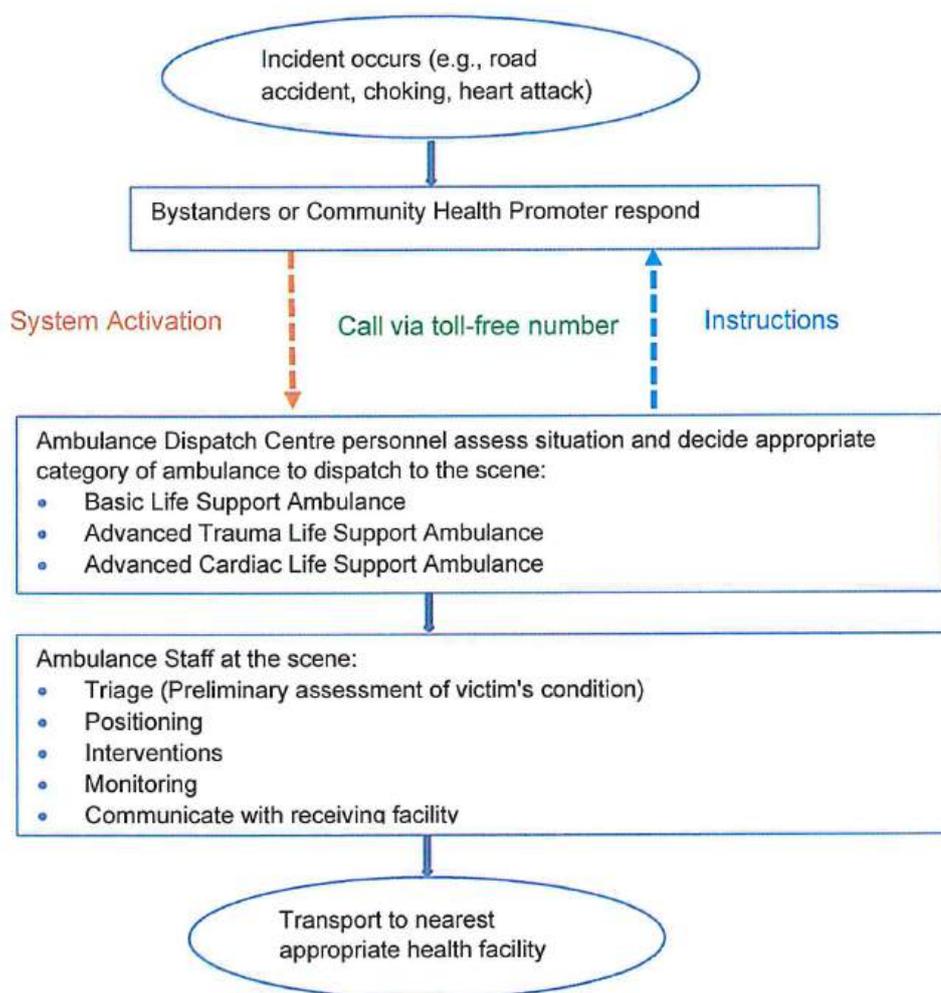
Source: Kenya Emergency Medical Care Policy and Standard Operating Procedures

(iii) Hospital Care

3.13 On arrival at a Level 4 and Level 5 health facility, the patient is either received at the adults and adolescent's emergency department or paediatric emergency department based on age. In Level 2 and Level 3 facilities, the nurse at the facility examines the patient to ensure proper patient categorization for efficiency in receiving emergency care. At the health facility, an initial emergency assessment is carried out to evaluate the patient's vital functions, identify and treat any potential life-threatening condition that requires immediate attention.

3.14 Once the patient is stabilized and if necessary, they can seek other relevant emergency radiology and or laboratory examinations. Thereafter, further medical interventions such as administration of essential medication based on the

examinations is carried out. Monitoring of the patient's condition is a continuous process from reception at the facility. This is done using essential equipment and information technologies and administration of essential drugs for emergencies.

3.15 After the initial appropriate emergency care is administered to the patient, the doctor or nurse in charge advises whether the patient will be discharged home or requires admission to early operative and or early critical care, or referral to another facility for further specialized management. A summary of the hospital emergency medical care process is illustrated in **Figure 2.**

Figure 2: Process Description for Hospital Care
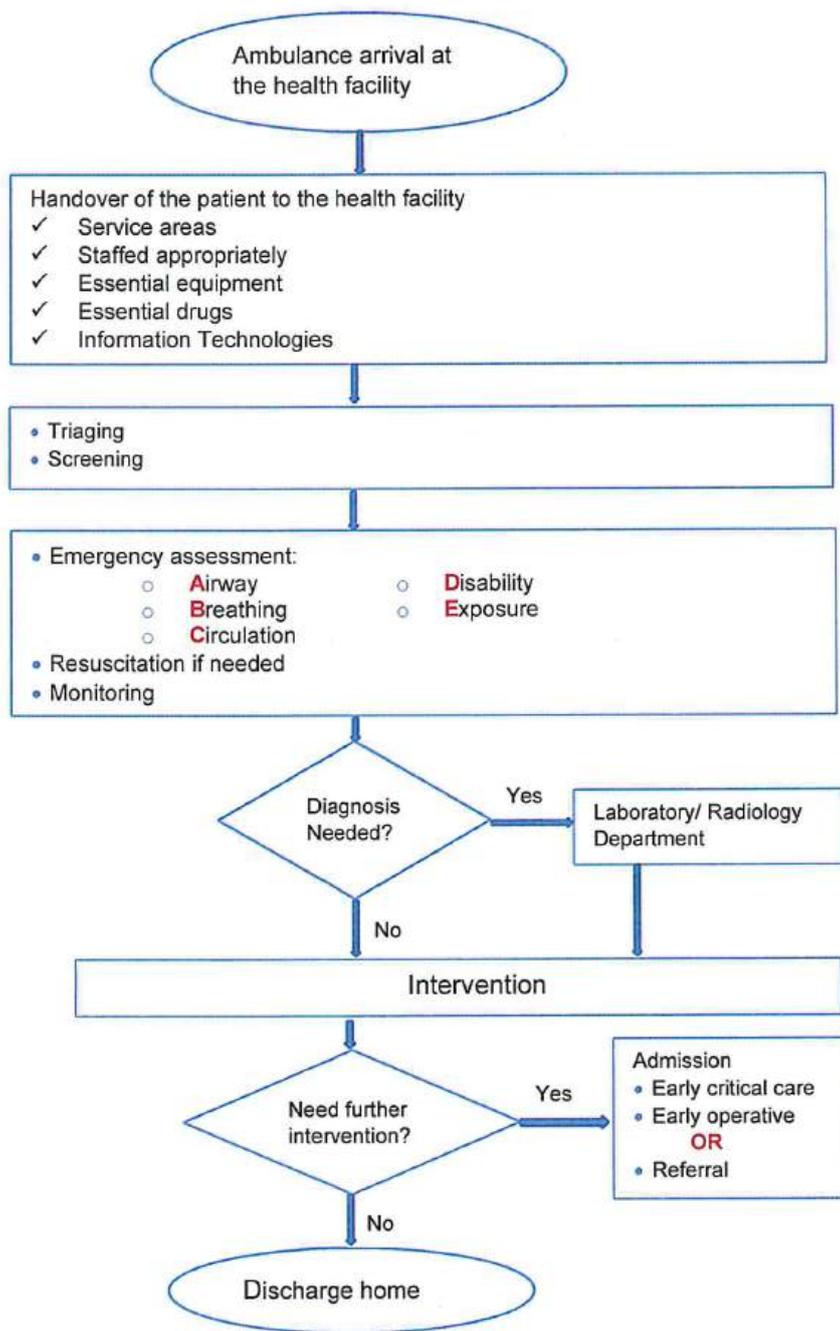
Source: Kenya Emergency Medical Care Policy and Standard Operating Procedures

Funding for Emergency Medical Care Services

3.16 The Emergency Medical Care Policy, 2020-2030 requires that County Programme Based Budget should have a sub-programme specifically for emergency medical care. Therefore, funds allocated under the sub-programme should be ringfenced to

cater for operations and developments related to emergency care services in each county. In addition, at the national level, the Emergency, Chronic and Critical Illness Fund has been established through the Social Health Insurance Act, 2023 to cover the costs of emergency treatment.

3.17 As at the time of the audit, in July 2024, the requirements of the Emergency Medical Care Policy, 2020-2030 were yet to be implemented. Consequently, counties did not have a specific Vote Head ringfenced to cater for emergency medical care services. The funding for emergency medical care services was therefore, sourced from the respective Vote Heads relating to the expenditure. For instance, money for fuelling and repair of ambulances was derived from the Vote Head on fuelling and maintenance of vehicles for the entire county department of health.

CHAPTER 4: AUDIT FINDINGS

4.1   This chapter presents the audit findings on the provision of emergency medical care services at the community level, the ambulance transport system and hospital care.

A. Limited Availability of Emergency Medical Care Services at the Community Level

4.2   According to best practice on Pre-hospital Trauma Care Systems by the World Health Organization, 2005, where no pre-hospital trauma care systems exist, the first and most basic tier of a system can be established by teaching interested community members basic first aid techniques. These first responders can be taught to recognize an emergency, call for help and provide treatment, until formally trained health-care personnel arrive to give additional care. The audit revealed that at the community level, there is a general lack of awareness on actions to take in case of accidents and there is also limited number of community health promoters, as discussed below: -

i) Low Level of Public Awareness on Response to Medical Emergencies

4.3   The audit team administered a survey to 615 members of the public at the sampled health facilities. The results of the survey revealed that only 21% of the respondents had basic first aid skills, 8% had been sensitized on how to handle emergencies and 26% were aware of the numbers to call in case of an emergency, as shown in **Figure 3**. Further, interviews with sixteen (16) County Health Management Teams also revealed that none of the counties had sensitized the public on basic first aid skills.

Figure 3: Low Level of Public Awareness on Response to Medical Emergencies
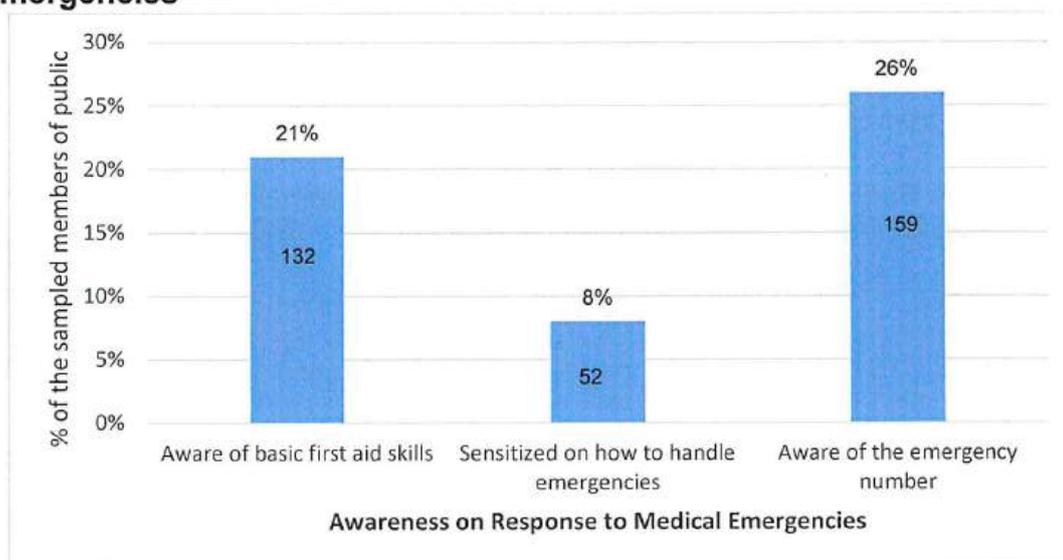
Source: Analysis of survey results on public awareness on response to medical emergencies

4.4 The audit team established that none of the sixteen (16) sampled counties had a budget for creating awareness on emergency medical care. Document review also revealed that Emergency Medical Care activities were not included in the counties' annual work plans.

4.5 Further, the low level of public awareness on response to emergencies was also attributed to an inadequate number of community units and Community Health Promoters that are required to disseminate information to the public on response to emergencies, as detailed below: -

ii) Coverage of Community Units and Community Health Promoters

4.6 As per the Kenya National Community Strategy, 2020–2025, a community unit is a health service delivery structure within a defined geographical area covering a population of approximately 5,000 people. Each unit is assigned one (1) Community Health Assistant and ten (10) Community Health Promoters who offer promotive, preventative and basic curative services.

4.7 Document review and interviews conducted with Community Health Management Teams revealed that out of the sampled sixteen (16) counties, only Tana River and

15

Kisii County had sufficient numbers of community units and Community Health Promoters. Seven (7) counties had manageable deficits of less than 10%, whereas three (3) Counties had deficits of between 38% and 57% for Community Units and Community Health Promoters, as shown in **Table 4**.

Table 4: Required Community Units and Health Promoter's Vs Available Numbers

County	Required Number of Community Units	Available Number of Community Units	% Deficit	Required Number of Community Health Promoters	Available Number of Community Health Promoters	% Deficit
1. Tharaka Nithi	137	127	7.3	1370	1270	7.3
2. Nakuru	431	389	9.7	4450	3894	12.5
3. Kirinyaga	127	115	9.5	1270	1218	4.1
4. Garissa	250	240	4.0	2500	2400	4.0
5. Tana River	94	94	0.0	940	940	0.0
6. Nyandarua	320	148	53.8	3200	1386	56.7
7. Narok	265	147	44.5	2774	1684	39.3
8. Uasin Gishu	233	204	12.5	2330	2040	12.4
9. Kisumu	309	280	9.4	3090	2998	3.0
10. Busia	245	233	4.9	2300	2190	4.8
11. Kisii	294	294	0.0	2940	2940	0.0
12. Kiambu	500	303	39.4	5000	3085	38.3
13. Machakos	300	282	6.0	3000	2820	6.0
14. Mombasa	260	216	16.9	2600	2387	8.2
15. Nairobi	938	746	20.5	9380	7467	20.4
16. Isiolo	60	50	16.7	860	760	11.6

Source: Audit team analysis of County Health Management Team interview minutes

4.8   Inadequate community units and health promoters resulted to inadequate dissemination of information on emergency medical care at the community level. This contributed to a low level of public awareness of the provision of emergency medical care. Consequently, there was mishandling of emergency incidences, causing more injury and damage to victims and thereby lengthening their recovery period and probably even causing death.

B. Inefficient Ambulance Transport System

4.9 The audit team established that there were inefficiencies in the ambulance transport system in the sampled counties, as discussed below: -

i) Delay in Ambulance Response Time

4.10 The Kenya Emergency Medical Care Strategy, 2020 to 2025, Part 2.3.6, provides that 15-20 minutes is the ideal response time for an ambulance after a distress call, and that the ambulance should transport the patient to a health facility within 20 minutes.

4.11 Records on ambulance dispatch were available in eight (8) out of the sixteen (16) sampled counties. The audit team could therefore, not establish the ambulance response time for the remaining eight (8) counties. Ambulance dispatch records available in eight (8) counties indicated that only Machakos County dispatched the ambulances on time. Seven (7) counties experienced delays in ambulance response time ranging between 20 to 60 minutes, as highlighted in **Table 5.**

Table 5: Estimated Ambulance Response Time

Approximate Response Time to the Scene of Emergency								
County	Mombasa	Machakos	Kisumu	Nairobi	Kiambu	Narok	Kisii	Kirinyaga
Response Time	60	15-20	20–60	20-60	30-45	30	60	20-40

Source: Audit team analysis of minutes on ambulance response time

4.12 The delayed response time was attributed to non-establishment and inefficiencies in ambulance dispatch centres, inadequate number of ambulances, ill-equipped ambulances, inadequate fuelling and maintenance of ambulances, and insufficient ambulance staff, as discussed below: -

ii) Non-establishment and Inefficiencies in Ambulance Dispatch Centers

4.13 The Kenya Emergency Medical Care Strategy, 2020-2025, requires the National Government to establish a 24-hour ambulance dispatch centre at the national level. In addition, the Strategy requires county governments to each establish a 24-hour county ambulance dispatch centre.

4.14 The audit team established that the Country lacks a national ambulance dispatch centre to centrally coordinate ambulance services. However, twelve (12) out of the sixteen (16) sampled counties had ambulance dispatch centres. In counties without ambulance dispatch centres, ambulances were managed by facilities at the sub-county level, where priority was given to hospital referrals, thereby limiting their response to emergencies at the community level. Further, due to the lack of a coordinated ambulance dispatch system in these counties, it was not easy to coordinate ambulance services. This resulted in delays in accessing ambulances, thereby increasing the response time to emergencies.

4.15 Interviews with staff at the ambulance dispatch centres revealed that despite the twelve (12) counties having ambulance dispatch centres, there were inefficiencies in their operations caused by; lack of a real time electronic system for tracking ambulances and recording call logs, insufficient communication gadgets, lack of toll free numbers for ease of communication by the public, insufficient personnel, challenges with internet connectivity, and lack of backup generators, as presented in **Table 6**. These inefficiencies led to delays in responding to emergencies.

Table 6: Ill-equipped Ambulance Dispatch Centres

Equipment/ Service	No. of Counties Lacking the Service
Real Time Electronic System	7
Ambulance Coordination Software	7
Reliable Internet	4
Communication Gadget	6
Back-Up Generator	7
Toll Free Number	10

Source: Audit team analysis of fieldwork checklists on ambulance dispatch centres

iii) Inadequate Number of Ambulances

4.16 Section 8.1 of the Kenya Bureau of Standards Minimum Ground Ambulance Requirements, 2013, categorizes ambulances into Basic Life Support and Advanced Life Support. During an emergency, either at the scene of incidence or hospital level, the appropriate category of ambulance should be dispatched, based on the severity of the medical emergency.

4.17 According to the World Health Organization, the recommended ratio of ambulance to the population is 1:70,000 to 100,000. Interviews with County Health Management Teams and review of ambulance inventories revealed that ten (10) out of sixteen (16) counties had the required number of ambulances to serve their population, while six (6) counties did not have the required numbers as shown in Table 7.[4]

Table 7: Ideal Versus the Available Number of Ambulances per County

No.	County	Population	Ideal no. of Ambulances as per the Population (1:100,000)	Total Number of Ambulances	Deficit
1	Kiambu	2,700,000	27	21	6
2	Kisii	1,400,000	14	13	1
3	Busia	1,007,562	10	7	3
4	Narok	1,324,124	13	11	2
5	Nairobi	5,010,344	50	20	30
6	Mombasa	1,300,000	13	9	4
7	Nakuru	2,270,524	23	26	-
8	Kirinyaga	600,662	6	9	-
9	Kisumu	1,180,000	12	20	-
10	Tana River	350,000	4	23	-
11	Garissa	800,000	8	14	-
12	Tharaka Nithi	438,098	4	9	-
13	Isiolo	283,000	3	10	-
14	Machakos	1,500,000	15	75	-
15	Nyandarua	638,289	6	10	-
16	Uasin Gishu	1,313,259	13	14	-

Source: Audit team analysis of ambulance inventory and interview minutes

4.18 The inadequate number of ambulances was attributed to the high number of non-functional ambulances, as 92 out of the sampled 269 ambulances, representing 34%, were non-functional. The ambulances lacked necessary equipment, staff, were not well maintained and lacked sufficient fuel, as discussed below: -

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[4] The calculation of number of ambulances per county includes both basic life support and advance life support ambulances

Limited Number of Advanced Life Support Ambulances

4.19 Section 8.1 of the Kenya Bureau of Standards Minimum Ground Ambulance Requirements, 2013, requires counties to have Advanced Life Support ambulances. Advanced Life Support ambulances offer advanced treatment and monitoring of patients in need of critical care. Best practice as per the American Ambulance Equipment Guidelines, 2012 further classifies these advanced categories into Advanced Trauma Life Support, and Advanced Cardiac Life Support which is specialized for cardiac monitoring.

4.20 Interviews and physical verification of ambulances revealed that nine (9) out of the sixteen (16) sampled counties had limited numbers of advanced trauma life support or advanced cardiac life support ambulances, as presented in **Figure 4**. Whereas the other seven (7) sampled counties lacked these advanced life support ambulances.

Figure 4: Number of Available Advanced Life Support Ambulances by Type
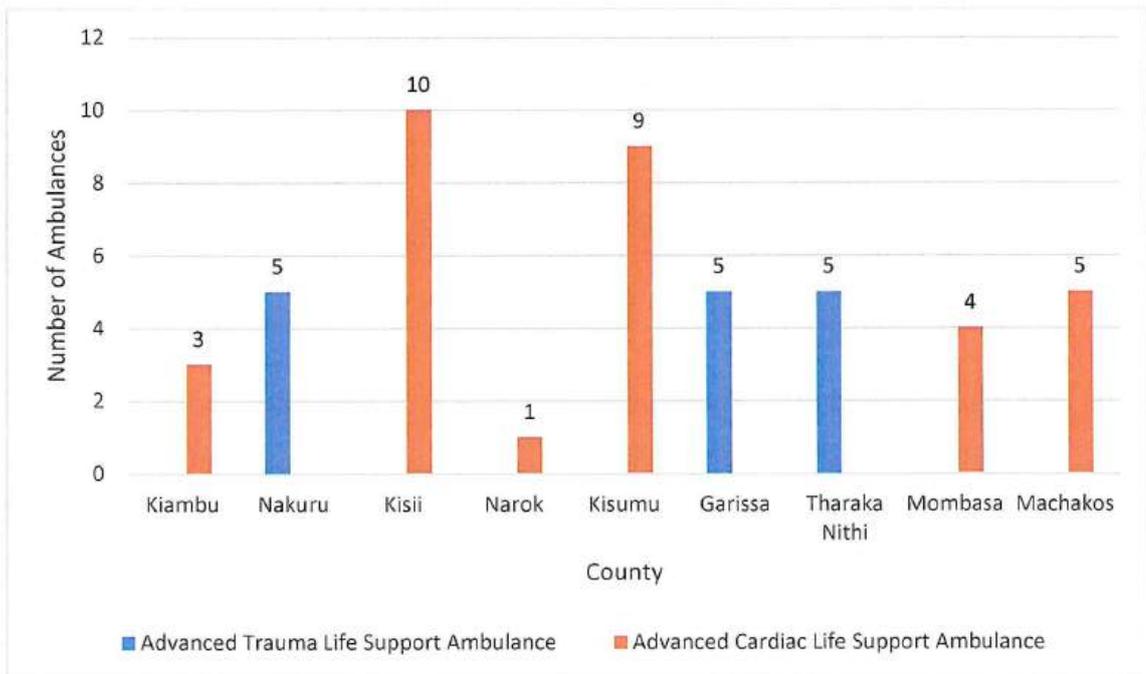
Source: Audit team analysis of minutes and ambulance inventory

4.21   The inadequate number of Advanced Life Support ambulances resulted in the use of Basic Life Support ambulances for patients in need of critical care. Consequently, this may result in more complications or even fatalities during transportation.

Ambulances were Ill-equipped to Handle Emergencies during Transit

4.22   Section 8.1 of the Kenya Bureau of Standards Minimum Ground Ambulance Requirements, 2013 provides a breakdown of different categories of ambulance equipment required in Basic Life Support and Advanced Life Support ambulances. These include equipment for patient handling, immobilization, ventilation/respiration and diagnostics. Additionally, they include medical drugs, infusion material, equipment for managing of life-threatening problems, as well as communication equipment, as detailed in **Appendix 3**. Further, according to the Kenya Emergency Medical Care Strategy, 2020 to 2025, all ambulances in the Country should have met all the indicated minimum standards by the year 2021.

4.23   Physical verification of ambulances in fifteen (15) counties revealed that twenty-three (23) out of the forty (40) sampled Basic Life Support ambulances had less than 50% of the required equipment, as indicated in **Figure 5.**

Figure 5: Availability of Equipment in Basic Life Support Ambulances

Number of Ambulances

Percentage of equipment available: ▪ 0-24%   ▪ 25-49%   ▪ 50-74%   ▪ 75-100%
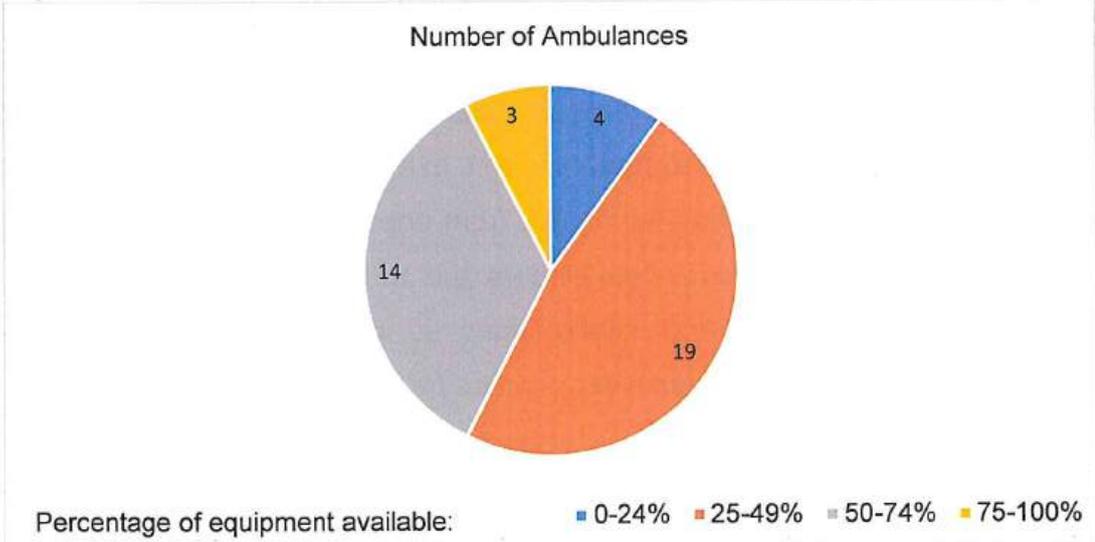
Source: Audit team analysis of ambulance equipment

4.24 Further analysis established that more than 50% of the sampled Basic Life Support ambulances did not have patient immobilization,[5] ventilation[6]/respiration and diagnostic equipment[7]. In addition, 65% of the sampled Basic Life Support ambulances did not have emergency delivery kits, which is an essential requirement in the event of emergency deliveries while on transit. **Appendix 4** details the availability of equipment in the sampled Basic Life Support ambulances.

4.25 Analysis of eleven (11) sampled Advanced Life Support ambulances revealed that four (4) ambulances had less than 50% of the required equipment for managing life threatening diseases[8], and only one (1) ambulance had over 75% of the required equipment, as indicated in **Figure 6** and detailed in **Appendix 5.**

Figure 6: Availability of Equipment in Advanced Life Support Ambulances

Percentage of equipment available: ■ 25-49% ■ 50-74% ■ 75-100%
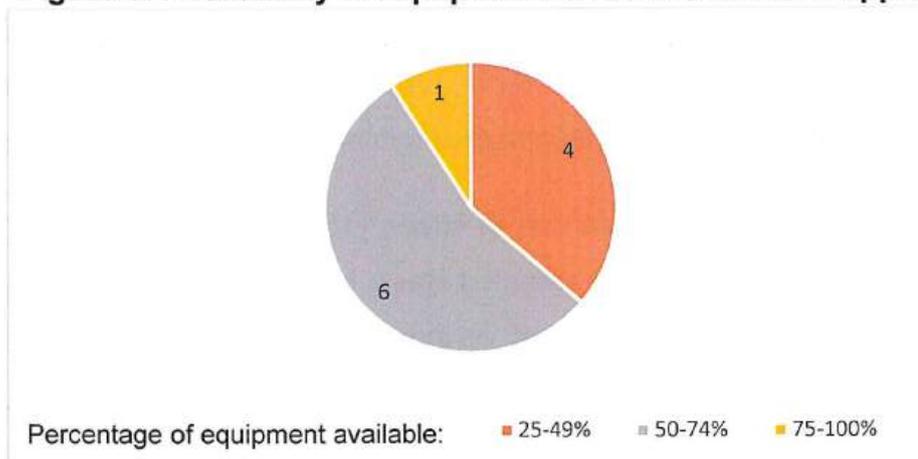
Source: Audit team analysis of ambulance equipment checklists

4.26 Inadequate equipment in ambulances was a result of a lack of replacement of worn-out and broken-down equipment. In addition, there was a lack of a system to track equipment during handovers from one ambulance operator to another. Use of ill-equipped ambulances hinders the medical personnel from administering critical treatments and interventions to patients during transportation. This negatively affects the recovery process for the patients and sometimes cause loss of life.

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[5] Immobilization devices are tools used to ensure that the position of the patient is stable and can be maintained, without any movement.
[6] A ventilator is a device that supports or recreates the process of breathing by pumping air into the lungs.
[7] Diagnostic equipment is a form of medical equipment used to diagnose health conditions.
[8] A heart attack or stroke, an accident-causing internal bleeding, a respiratory disorder, among others.

Inadequate Fueling and Maintenance of Ambulances

4.27 Best practice as stated in Section 2.2.3 (3) of the Emergency Care and Referral Services Standard Operating Procedures, Nairobi Metropolitan Services, require that vehicles are to be fuelled on a need basis and as otherwise necessary. Additionally, Section 4.1 (b) of the Kenya Bureau of Standards Minimum Ground Ambulance Requirements Standards, 2013, states that all vehicles intended for ambulance use shall be maintained in good and safe mechanical condition and repair. Interviews with County Health Management Teams in the sixteen (16) sampled counties revealed that none of these counties had a specific budget for fuelling and maintenance of ambulances. Ambulances in thirteen (13) of these counties lacked adequate fuel, whereas in eleven (11) counties, ambulances were not adequately maintained, as highlighted in **Table 8**.

Table 8: Adequacy of Fueling and Maintenance of Ambulances

No.	County	Ambulance Adequately Fuelled	Ambulance Adequately Maintained
1	Garissa	No	No
2	Tana River	No	No
3	Machakos	No	No
4	Mombasa	Yes	No
5	Nakuru	No	No
6	Kirinyaga	Yes	Yes
7	Uasin Gishu	No	Yes
8	Nyandarua	No	Yes
9	Kisii	No	Yes
10	Kiambu	No	No
11	Kisumu	No	No
12	Busia	No	No
13	Nairobi	No	No
14	Tharaka Nithi	No	No
15	Isiolo	No	No
16	Narok	Yes	Yes

Source: Audit team analysis of interview minutes in sampled counties

4.28 As at the time of audit in May 2023, Narok, Garissa and Kiambu Counties had subcontracted ambulance services from the Emergency Plus Medical Services (E-Plus). The vendor had provided eleven (11), Five (5) and six (6) ambulances to

Narok, Garissa and Kiambu counties, respectively. Except for Narok County, Garissa and Kiambu counties were also operating some County Government ambulances. The audit revealed that the subcontracted ambulances in the three (3) counties were efficiently offering services, as the vendor adequately maintained, fuelled and had the appropriate staff. However, 92 out of the sampled 269 county government ambulances, representing 34%, had broken down and were not in use. **Figure 7** shows the number of non-functional ambulances per county.

Figure 7: Number of Non-functional Ambulances in the Counties Sampled
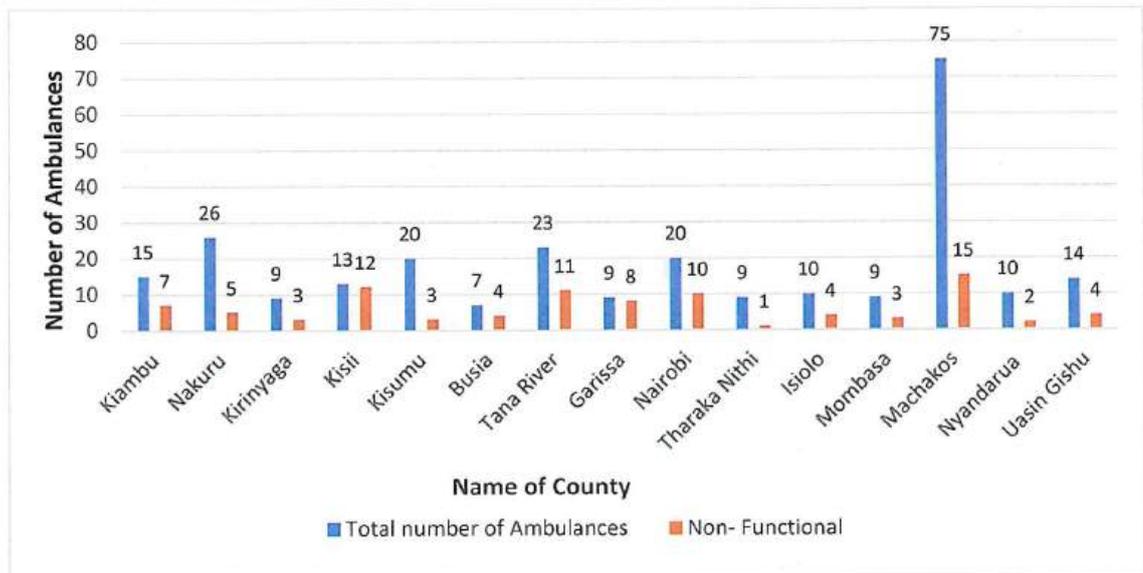
Source: Audit team analysis of ambulance inventory in sampled counties

4.29 The inadequate fuelling and maintenance of ambulances was attributed to the fact that none of the counties had set aside a specific budget for fuelling and maintenance of ambulances. The insufficiency of fuel and lack of proper maintenance of ambulances in the sampled counties affected the adequacy of available ambulances, resulting in delayed response to emergencies.

24

Ambulances were not staffed with the Required Staff for Handling Emergency Patients during Transit

4.30   Section 7 of the KEBS Minimum Ground Ambulance Requirements, 2013 requires that ambulances should have emergency vehicle operators[9] and Emergency Medical Technicians[10]. The audit established that eleven (11) out of the sixteen (16) sampled counties had ambulances that were not staffed with Emergency Medical Technicians. This was attributed to lack of a scheme of service for Emergency Medical Technicians in the public service, as well as inadequate planning for ambulance staffing. As a result, patients were accompanied by nurses and clinical officers who were designated in health facilities, and therefore, had other duties to execute. This aggravated staff shortages in already staff constrained facilities, thereby causing delays and negatively affecting the quality of patient care.

4.31   Further, the audit established that all counties operating county owned ambulances were staffed with drivers who were not certified emergency vehicle operators. This was due to a lack of a scheme of service to facilitate on-boarding these staff in the public service. The uncertified drivers may not have the skills to adequately respond to an emergency medical situation, therefore, endangering the lives of both the patient and staff on board.

4.32   The audit team established that the inefficient ambulance transport system in the counties was mainly caused by the fact that county governments had neither set aside a specific budget, nor ringfenced the funds for emergency medical care services. This affected the setting up of efficient and effective ambulance dispatch centres, and the availability of functional and well-equipped ambulances, ultimately delaying response to emergencies. The delayed response has compelled the public to seek alternative transportation options during emergencies. This has

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[9] An emergency vehicle operator is an ambulance driver, who apart from undertaking basic first aid training is certified to operate ambulance equipment and machines.
[10] Emergency Medical Technicians (EMT) have the training and skill to handle a patient while on transit in an ambulance.

resulted in patients being transported in vehicles without provision for emergency medical care while in transit, which may make the condition of the patients worse.

C. Inefficient Hospital Care for Medical Emergency Cases

4.33   The Kenya Emergency Medical Care Strategy, 2020 to 2025, requires all the levels of health facilities to provide emergency medical care services according to their scope of service. The audit revealed that there were inefficiencies in provision of emergency medical care services at the hospital level, as discussed below: -

i) Limited Availability of Functional Accident and Emergency Departments

4.34   According to the Kenya Medical Practitioners Hospital Checklist for Categorization of Health Institutions, Level 4, Level 5 and Level 6 hospitals are required to have an accident and emergency department[11]. Further, the hospitals are expected to have separate accident and emergency departments for adults, adolescents and paediatrics. The departments should be equipped and staffed to provide rapid and varied emergency care. A functional accident and emergency department is required to have key service areas for specific purposes, as outlined in **Table 9.**

Table 9: Service Areas in Accident and Emergency Departments

Service Area	Purpose
Triage	Assess and prioritize patients based on the urgency of their medical needs
Customer Care	Provide assistance and support to patients and their families
Resuscitation Room	Revive and stabilize patients in critical condition requiring immediate attention
Consultation Room	Facilitate discussions between patients and healthcare professionals for diagnosis and treatment planning
Orthopaedic Room	Specialize in diagnosing and treating musculoskeletal issues, including bones and joints
Dressing Room	Change and manage wound dressings to promote healing and prevent infection
Procedure Room	Conduct minor medical procedures that do not require full surgical intervention
Acute Room	Provide immediate short-term care for patients with severe or life-threatening injury, illness and disease as well as monitor the patients.
Minor Theatre	Perform minor surgical procedures in a controlled environment
Staff Room	Offer a space for staff to rest and recharge during their shifts
Isolation Bay	Contain and treat patients with infectious diseases to prevent spread to others
Laboratory	Conduct tests and analyses to support diagnosis and treatment
Pharmacy	Dispense medications and provide pharmaceutical care to patients
Sluice Room	Safely manage and dispose of medical waste to maintain hygiene and safety

Source: Audit team analysis of Standard Operating Procedures for emergency medical care

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[11] An Accident and Emergency department is a designated unit in a health facility which should operate 24-hour services to provide initial treatment for a broad spectrum of illnesses and injuries which may be life threatening and require immediate attention, as well as, facilitate continuity of care.

4.35 Physical verification revealed that the four (4) sampled Level 6 hospitals had established accident and emergency departments for adults, adolescents, and paediatrics. Eleven (11), representing 73%, out of the sampled fifteen (15) Level 5 hospitals had operational accident and emergency departments. However, they lacked a separate accident and emergency department for paediatrics, except for Mbagathi Hospital, even though it's paediatric accident and emergency section shared service areas with the adult and adolescent accident and emergency department. Further, only three (3), representing 9%, out of the sampled thirty-three (33) Level 4 hospitals had accident and emergency departments, but none had a separate paediatric section.

4.36 Physical verification of accident and emergency departments in the sampled Level 4 and Level 5 hospitals revealed that they did not have all the required service areas, as presented in **Figure 8** and further detailed in **Appendix 6**.

Figure 8: Availability of Accident and Emergency Service Areas
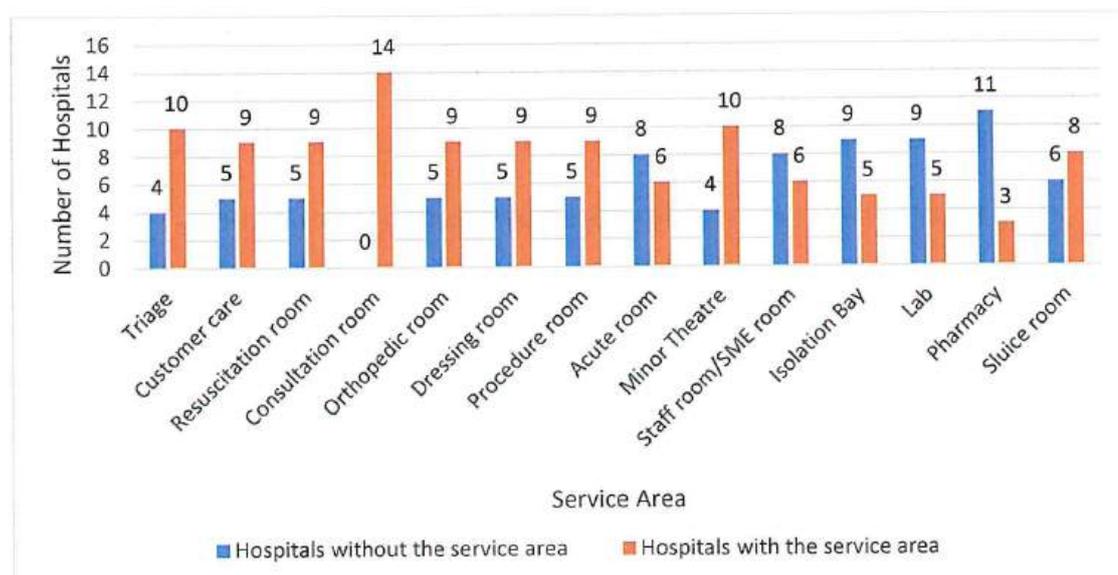
Source: Audit team analysis of the layout of Accident and Emergency departments

4.37 The lack of ideal accident and emergency departments was attributed to the failure of county governments to prioritize the establishment of emergency departments for the provision of emergency medical care. As a result, patients presenting with emergency conditions were received and attended to at outpatient departments, whose staffing, equipment, and nature is meant for patients who can withstand a

longer waiting time for medical treatment. Further, these departments did not have proximity to essential support services provided to emergency patients, such as laboratory, pharmacy and radiology departments, which resulted in delayed patient care. In addition, attending to emergency patients from out-patient departments increased the workload in these departments, leading to inefficient categorization of emergency patients for prioritization, and ultimately causing delays in both emergency medical care and general service delivery.

ii) Insufficient Personnel Attending to Emergency Patients in Hospitals

Insufficient Emergency Medical Care Personnel in Level 4 and Level 5 Hospitals

4.38   Section 3.3 of the Human Resources for Health Norms and Standard Guidelines for the Health Sector, 2014, recommends; Level 4 and Level 5 hospitals to each have ten (10) accident and emergency nurses. The key role of an accident and emergency nurse is to assess medical conditions and administer care to patients with severe or life-threatening conditions. Analysis of staff data revealed that seven (7) of the fourteen (14) Level 4 and Level 5 facilities that had accident and emergency departments had at least one (1) accident and emergency nurse, but none met the minimum requirement, as illustrated in **Figure 9.**

Figure 9: Number of Accident and Emergency Nurses
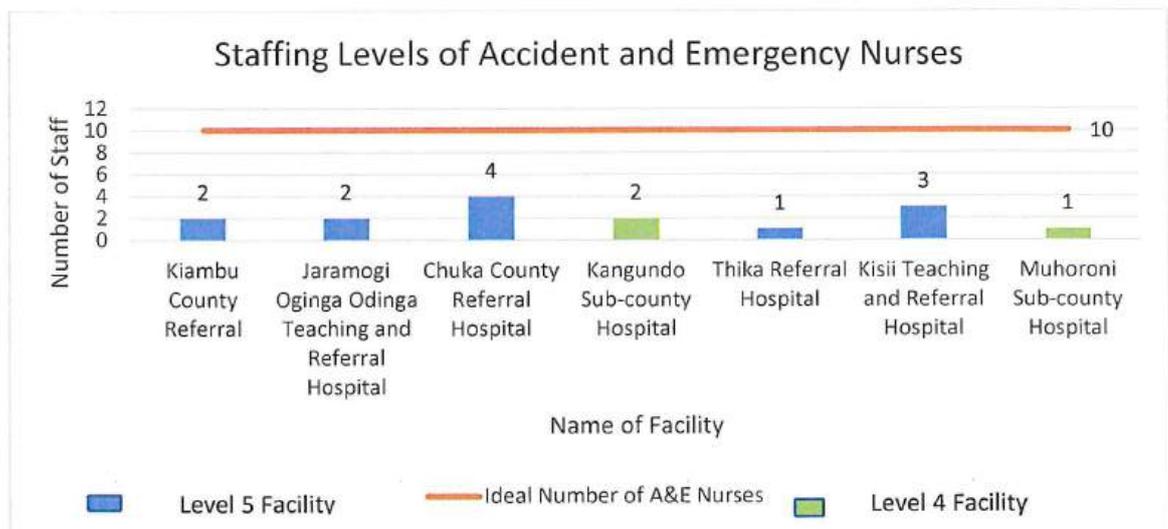
Source: Audit team analysis of interview minutes and staff establishments

28

4.39   As a result of the shortage of accident and emergency nurses, emergency patients were attended to by general nurses who did not have the Kenya Registered Accident and Emergency Nursing qualification, which equips nurses with training to handle critical situations and deliver advanced emergency medical treatment.

4.40   In addition, leading practice according to the World Health Organization Norms and Standards for Staffing requires that the nurse-to-patient ratio should not exceed 1:4 at the accident and emergency department. The audit established that the estimated nurse to patient ratio within 24 hours in the departments receiving emergency patients ranged from 1:5 to 1:100 in the sampled Level 4 facilities, and 1:8 to 1:122 in sampled Level 5 facilities, as presented in **Appendix 7.**

4.41   Further, the audit revealed that there was a shortage of medical and clinical officers to attend to emergency patients. This shortage was experienced at the emergency departments and outpatient departments, depending on where patients with emergency conditions were received at a facility. Analysis of interview minutes and duty rotas revealed that on average, each Level 4 hospital had two (2) medical officers; one (1) handling administrative duties, while the other one was handling clinical matters in the entire hospital and therefore, in most cases, these doctors were not available to efficiently handle emergency patients. Further, there were an estimated two (2) or one (1) clinical officer per shift, serving an average of approximately 128 patients within 24 hours in the emergency departments or outpatient departments where applicable, as shown in **Appendix 7.** This led to delay in attending to emergency patients, which may have resulted in compromised quality of care for these patients.

Insufficient Staff to Handle Emergency Cases in Level 3 and Level 2 Health Facilities

4.42   The Kenya Emergency Medical Care Strategy, 2020 to 2025, requires all levels of health facilities to provide emergency medical care services according to their level of care. Therefore, despite the fact that Level 3 and Level 2 health facilities are not required to have emergency departments, they are required to offer emergency services. These facilities are required to have an adequate number of nurses and

29

clinical officers to attend to and stabilize all patients, regardless of whether they are emergency cases or not.

4.43 Section 3.3 of the Human Resources for Health Norms and Standard Guidelines for the Health Sector, 2014, recommends a minimum of twenty (20) nurses and six (6) clinical officers in each Level 3 facility. The audit team established that Level 3 facilities experienced a shortage of both clinical officers and nurses, as highlighted in **Figure 10** and detailed in **Appendix 8.**

Figure 10: Number of Clinical Officers in Level 3 Facilities
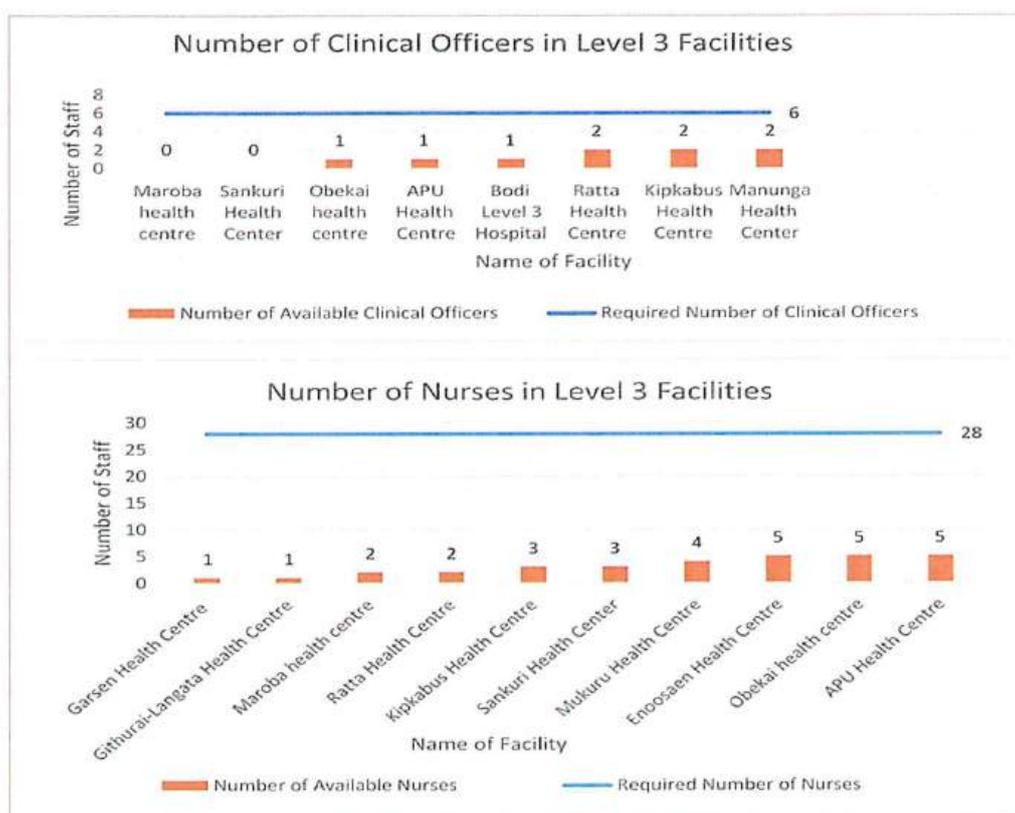
Source: Audit team analysis of interview minutes and staff establishments

4.44 The staffing norms also provide that a Level 2 facility should have a minimum of four (4) nurses and two (2) clinical officers. The audit revealed that twenty-nine (29), representing 97%, and nineteen (19), representing 63%, of the sampled thirty (30) Level 2 facilities did not have the required number of nurses and a clinical officer, respectively, as indicated in **Table 10.**

Table 10: Shortage Staff in Level 2 Health Facilities

Facility Name	Level	Required Number of Nurses	Number of Available Nurses	Deficit of Nurses	Required Number of Clinical Officers	Number of Available Clinical Officers	Deficit of Clinical Officers
1. Kioge Dispensary	2	6	2	4	2	0	2
2. Moogi Dispensary	2	6	2	4	2	0	2
3. Entargeti Dispensary	2	6	1	5	2	0	2
4. Ewaso-Ngiro Dispensary	2	6	1	5	2	0	2
5. Haraka Dispensary	2	6	1	5	2	0	2
6. New Mawingu Dispensary	2	6	3	3	2	0	2
7. Kanjuiri Health Center	2	6	2	4	2	0	2
8. Kapkoros Dispensary	2	6	3	3	2	0	2
9. Baharini Dispensary	2	6	1	5	2	0	2
10. Athi Dispensary	2	6	2	4	2	0	2
11. Gatungura Dispensary	2	6	2	4	2	1	1
12. Kangu Dispensary	2	6	2	4	2	1	1
13. Longonot Dispensary	2	6	2	4	2	0	2
14. Sunga Dispensary	2	6	2	4	2	0	2
15. Dunga Dispensary	2	6	2	4	2	0	2
16. Bumutiru Dispensary	2	6	2	4	2	0	2
17. Nagina Dispensary	2	6	2	4	2	1	1
18. Nyagani Dispensary	2	6	2	4	2	0	2
19. Gaceuni Dispensary	2	6	0	6	2	1	1
20. Samburu Complex Dispensary	2	6	2	4	2	0	2
21. Isiolo GK Prison Dispensary	2	6	5	1	2	2	0
22. Bangale Dispensary	2	6	5	1	2	2	0
23. Pumwani Dispensary	2	6	3	3	2	3	-
24. Shimbirirey Dispensary	2	6	1	5	2	0	2
25. Boul Argy Dispensary	2	6	3	3	2	0	2
26. Junda Dispensary	2	6	6	0	2	2	0

31

Facility Name	Level	Required Number of Nurses	Number of Available Nurses	Deficit of Nurses	Required Number of Clinical Officers	Number of Available Clinical Officers	Deficit of Clinical Officers
27. Mwembe Tayari Dispensary	2	6	4	2	2	2	0
28. Vyulya Dispensary	2	6	3	3	2	0	2
29. Mua Hills Dispensary	2	6	2	4	2	1	1
30. Mutonya Dispensary	2	6	6	0	2	1	1

Source: Audit team analysis of interview minutes and staff establishments

4.45 Interviews with county health management teams revealed that the insufficient number of medical staff in departments attending to emergency patients in all the levels of health facilities was attributed to failure to prioritize the recruitment of emergency medical care staff, alongside high staff turnover. The insufficiency of staff resulted in delayed emergency response, as well as delayed outpatient services, where the same staff handled both emergency and outpatient cases. The high workload resulted in burnout and compromised the quality of patient care, which may result in negative patient outcomes.

Inadequate Training of Nurses on Basic and Advanced Life Support

4.46 According to best practice by the Emergency Care and Referral Services, Standard Operating Procedures, Nairobi Metropolitan Services, nurses working at accident and emergency departments or its equivalent should at least be certified in Basic Life Support and Advanced Life Support.

4.47 Analysis of staff training records in the sampled facilities revealed that six (6) out of thirty-three (33) Level 4 facilities and two (2) out of fifteen (15) Level 5 facilities had their nurses trained in Advanced Life Support. For Basic Life Support training, nurses in eight (8) out of fifteen (15) sampled Level 5 hospitals and eighteen (18) out of thirty-three (33) sampled Level 4 hospitals had not been trained. The detailed information on the number of nurses trained in Basic Life Support is shown in **Appendix 9**.

4.48 Analysis of interviews with county health management teams revealed that the inadequate training of nurses on Basic and Advanced Life Support was attributed

to counties not prioritizing the training of emergency medical care staff. As a result, there was a knowledge and skill gap on how to handle emergency cases, as nurses were not up to date with medical advancements on emergency medical care. Consequently, nurses were not adequately prepared to handle emergency patients, which led to delayed care and in some circumstances, negative patient outcomes.

iii) Inadequate Essential Equipment for Handling Emergencies

4.49   Section 6.1 of the Ministry of Health Checklist, for Assessing Quality of Healthcare in Hospitals, requires health facilities to have adequate equipment, as per the scope of service. Further, Section 6.6 requires that all equipment shall be maintained in a functional condition. Time is an essential factor in emergency treatment; therefore, accident and emergency service areas typically must have their own diagnostic equipment for the timely provision of emergency medical services. The equipment required for the provision of emergency medical care services is summarized in **Table 11,** and further elaborated in **Appendix 10.**

Table 11: Category of Equipment Needed for Emergency Medical Care

Category	General Use for the Category of Equipment
Airway/Breathing	To help patients breathe, deliver oxygen, and remove carbon dioxide
Monitoring Devices	To continuously monitor, analyze, assess and evaluate a patient's vital signs, body functions and condition, and to plan and execute interventions to stabilize an unstable patient
Laboratory	To measure, analyze, and observe different substances and phenomena in order to provide visual data necessary to diagnose, to measure progress and to propose treatments
Imaging	To diagnose, treat, and monitor bone and tissue related injuries and diseases
Others: Crash Cart or Emergency Tray	To ensure that the correct emergency equipment, medications and supplies are readily available to manage the emergency
Wheel Chairs	To move patients and improve patient care
Examination Beds	To conduct medical examinations, minor treatments, and procedures

Source: Standard Operating Procedures and Guidelines for Emergency Medical Care

4.50 The audit established that the sampled health facilities did not have adequate equipment for the provision of emergency medical services, as detailed below: -

Inadequate Equipment for Airway Breathing

4.51 Airway management requires safe, effective and reliable equipment used for the provision of gas exchange[12] and protection of the lungs from aspiration injury[13]. Interviews with hospital management teams in the sampled one hundred and ten (110) Level 2 -to Level 5 health facilities revealed that they did not have adequate essential equipment to handle respiratory emergencies, as highlighted in **Table 12.**

Table 12: Unavailability of Equipment for Airway Breathing in Health Facilities

Name of Equipment	Percentage (%) of Sampled Facilities that Lacked the Requisite Equipment per Level			
	Level 2	Level 3	Level 4	Level 5
Ambu bag	30%	31%	-	-
Suction Machine	76%	43%	27%	26%
Nebulizer	56%	18%	6%	6%
Oxygen Cylinder	83%	62%	-	-
Oxygen Flowmeter	86%	68%	-	-
Ventilator	-	-	84%	80%
Piped Oxygen	-	-	90%	46%
Key: (-) - Gaps in data collected from the sampled facilities				

Source: Audit team analysis airway breathing equipment for Level 2 and Level 3 health facilities

4.52 Inadequate equipment for managing respiratory emergencies results in delayed emergency medical care to patients, which can be fatal for patients in respiratory distress, if not managed in a timely manner.

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[12] Delivery of oxygen to, and removal of carbon dioxide from the lungs.
[13] When something swallowed "goes down the wrong way" and enters the airway (trachea or windpipe) or lungs.

Shortage of Monitoring and Circulation Devices

4.53 Monitoring devices are vital in monitoring patients' vital signs during various medical procedures. The devices provide real-time feedback on physiological parameters, allowing medical personnel to make immediate decisions and intervene as needed. Monitoring devices include vital signs monitor, glucometer, blood pressure, pulse oximeter and patient monitors. Circulation devices are used to quickly address life-threatening heart rhythm problems, preventing sudden cardiac arrest and improving the chances of successful resuscitation. They include defibrillator and electrocardiogram, among others.

4.54 Analysis of interviews with hospital management teams in the sampled one hundred and ten (110) Level 2 to Level 5 health facilities revealed that they did not have adequate monitoring and circulatory equipment, as presented in **Table 13.**

Table 13: Unavailability of Monitoring and Circulatory Equipment

Category	Name of Equipment	Percentage (%) of Sampled Facilities that Lack the Equipment	
Monitoring		**Level 2**	**Level 3**
	Glucometer	30%	28%
	Pulse Oximeter	47%	44%
		Level 4	**Level 5**
	Vital Signs Monitor	24%	20%
Circulatory	Defibrillator	91%	60%
	Electrocardiogram	79%	47%

Source: Audit team analysis of Accident and Emergency, and Outpatient interview minutes and equipment checklists

Inadequate Diagnostic Equipment for Emergency Examinations

4.55 Diagnostic equipment for the laboratory tests and imaging procedures helps to diagnose health conditions and assist healthcare professionals in identifying abnormalities. Further, the equipment aids in provision of appropriate treatment interventions in a timely manner, leading to better patient outcomes. The audit established that there were shortages of these equipment, as explained below: -

a. Shortage of Essential Equipment for Laboratory Emergency Analysis

4.56 The Ministry of Health Checklist for Assessing Quality of Healthcare requires health facilities to ensure that there is adequate and functional laboratory

infrastructure for the provision of quality laboratory services. Emergency laboratory tests are a vital component of emergency medical treatment.

4.57 The most common laboratory tests carried out for emergencies include: blood grouping and cross-matching, random blood sugar tests, and haemoglobin level tests. These tests are done using the following equipment: glucometer, haemoglobin A1C machine, haematology analyzer, full haemogram machine, and haemoglobinometer. Interviews with laboratory staff in forty-eight (48) sampled Level 4 and Level 5 hospitals revealed that there was a shortage of laboratory equipment, and where available, some equipment were not functional, as outlined in **Table 14.**

Table 14: Shortage of Essential Laboratory Equipment in Health Facilities

Name of Equipment	Function of the Equipment	No. of sampled Facilities that lack the Equipment	No. of sampled Facilities with Non-Functional Equipment
CBC Machine / Full Haemogram / Haematology Analyser	Analysis of blood level, grouping and cross matching	6	8
Haemoglobinometer Machine	Testing blood level	5	
Haemoglobin A1C Machine	Testing of blood sugar	14	5

Source: Audit team analysis of information on diagnostic equipment checklists in the facilities where data existed.

4.58 Shortage of the equipment resulted in delays in releasing test results for patients in need of emergency services, and in some instances, worsening of medical conditions. Further, for hospitals that did not have the required diagnostic equipment, it resulted in an increase in referrals for cases that could have received timely medical emergency treatment without referrals.

b. Shortage of Imaging Equipment for Radiology Emergency Services

4.59 According to the Kenya Medical Practitioners and Dentist Council Radiology Checklist for Categorization of Health Facilities, 2019. Levels 4 and Level 5 hospitals should have imaging equipment for screening possible health conditions. Medical imaging provides a non-invasive method for early diagnosis, which can lead to better patient outcomes. Accurate diagnoses are crucial in treating health

conditions effectively and in planning surgical procedures. Imaging equipment required in Level 4 and Level 5 hospitals includes a Magnetic Resonance Imaging (MRI) machine, Computerized Tomography (CT) scan, Ultrasound and General X-Ray machines. Additionally, Level 5 hospitals should have a mobile X-Ray machine.

4.60 Physical verification and interviews revealed that all fifteen (15) sampled Level 5 hospitals had ultrasound and X-Ray machines. However, 67% of the level 5 hospitals lacked portable ultrasound machines, 40% did not have MRI machines, while 20% lacked CT scan machines. Further analysis was carried out in twenty-three (23) out of the thirty-three (33) sampled Level 4 facilities that had complete data sets. The analysis showed that none of them had MRI machines, whereas 91% and 9% of these facilities lacked CT scan and ultrasound machines respectively, as presented in **Table 15.**

Table 15: Shortage of Radiology Equipment in Hospitals

Name of Equipment	Percentage (%) of the Sampled Level 4 Hospitals that Lack the Equipment*	Percentage (%) of the Sampled Level 5 Hospitals that Lack the Equipment
Computerized Tomography scan Machine	91%	20%
Magnetic Resonance Imaging Machine	100%	40%
X-Ray Machine	9%	0%
Ultra Sound Machine	9%	0%
Portable Ultrasound Machine	-	67%
Portable/Mobile X-Ray Machine	48%	20%

Source: Audit team analysis of information on Level 4 and Level 5 facilities imaging equipment checklists
*Twenty-three (23) of the sampled Level 4 hospitals were used to calculate the percentage instead of the total thirty-three (33) sampled Level 4 hospitals due to incomplete data sets

4.61 Time is a critical factor in the success of emergency medical care, and missed or delayed diagnosis can lead to adverse outcomes for the patients, including increased risk of complications, permanent disability or fatalities. Further, the shortage of imaging equipment results in avoidable referrals, thereby contributing to delays in treatment.

c. Lack of Other Essential Equipment for Emergency Medical Care Services

4.62 Other essential emergency equipment across all the levels of healthcare include; crash cart or emergency tray, wheelchairs, stretchers and examination beds. The audit team established that this category of equipment was lacking in all the levels of health care facilities, as indicated in **Table 16.**

Table 16: Lack of Other Essential Equipment for Emergency Medical Care

Name of Equipment	Percentage (%) of sampled Health Facilities that Lacked the Essential Equipment			
	Level 2	Level 3	Level 4	Level 5
Crash Cart /Emergency Tray	63%	38%	45%	33%
Wheelchairs	80%	28%	12%	7%
Stretchers	83%	78%	30%	7%
Examination Beds	20%	16%	15%	7%

Source: Audit team analysis of information on other essential equipment checklists

4.63 The inadequacy of essential equipment for handling emergencies was attributed to the limited establishment of fully-fledged accident and emergency departments, with their own essential equipment in Level 4 and Level 5 hospitals. Additionally, the inadequate number of essential equipment for handling emergency cases in all the levels of healthcare facilities was attributed to failure to ringfence funds for emergency medical care that would be utilized for acquisition and maintenance of the available essential diagnostic equipment. This results in frequent breakdowns, equipment failures and reduced availability of equipment. Consequently, there is delayed medical care for patients in need of emergency care.

iv) Inconsistent Supply of Medical Drugs and Consumables

4.64 Access to essential medicines is a core component of the right to health and a requisite to the attainment of national health goals. However, interviews with hospital management teams in the sampled health facilities indicated that there were stockouts of pharmaceutical and non-pharmaceutical products in several departments, as discussed below: -

38

Stock out of Essential Drugs in Accident and Emergency or Out-Patient Departments

4.65 The Kenya Essential Medicine List, 2019 states that the National Government and county governments have a duty to ensure that essential medicines under Universal Health Coverage are available within the context of a functioning health system, at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price the individual and the community can afford. The list of essential drugs for handling emergencies are detailed in **Appendix 11** and a summarised list of the most common essential drugs is highlighted in **Table 17.**

Table 17: Common Essential Drugs Used in Provision of Emergency Care

Essential Drug	Use of Drug in Emergency Care
Adrenaline	To provide rapid relief of severe hypersensitivity reactions to drugs and other allergens, and in the emergency treatment of anaphylactic shock
Atropine	To treat insecticide poisoning and a slow heartbeat
Hydrocortisone Injection	To treat certain medical conditions, such as inflammation, severe allergic reactions, kidney diseases, adrenal problems, arthritis, blood or bone marrow problems, eye or vision problems, lung or breathing problems, lupus, skin conditions, and ulcerative colitis
Piriton Injection	To relieve the symptoms of allergic reactions and relieve itching caused by insect bites and stings, angioneurotic oedema, food, drug and serum
Salbutamol Solution	To relax and open up airways, hence assisting in breathing and treating respiratory diseases, such as asthma and chronic bronchitis

Source: Audit team analysis of essential drugs

4.66 The data analysed for stock outs of essential drugs for emergency care and non-pharmaceuticals in this report is limited to thirty (30) out the sampled one hundred and fourteen (114) health facilities; where records of stock-out of essential drugs were available. Analysis of bin cards and interviews with hospital staff dealing with emergency drugs revealed that there were stock-outs of essential drugs and consumables. For instance, as at the time of field work in May 2023, there were stock-outs of adrenaline in eighteen (18) facilities, atropine in sixteen (16) facilities,

hydrocortisone injection in twenty (20) facilities, and piriton injection in twenty-two (22) facilities. The detailed data of stockouts is presented in **Appendix 12**.

4.67 In addition, as at the time of the audit in May 2023, twenty-two (22) out of the thirty (30) health facilities were experiencing stock-out of some of the essential drugs for more than twelve (12) months. For instance, there was stock out for over twelve (12) months of sodium bicarbonate in seven (7) facilities, aminophylline in nine (9) facilities, salbutamol solution in eight (8) facilities and dexamethasone injection in seven (7) facilities. Further, analysis of bin cards and interviews with staff dealing with essential drugs revealed that health facilities had experienced stock-out of essential drugs and consumables in periods prior to the audit, as presented in **Appendix 12**.

Stock out of Non-Pharmaceutical Products for Providing Emergency Care

4.68 The most common non-pharmaceutical products and their general uses during emergencies medical procedures are highlighted in **Table 18**.

Table 18: Common Consumables for Provision of Emergency Medical Care

Common Non-Pharmaceuticals Products	Use of the Product in Emergency Care
Gloves	To protect medical personnel and patients from the spread of infection and illness during medical examinations
Intravenous (IV) Cannula	Administering fluids or medications through veins, as well as to draw blood for sampling
Nebulizing Mask	Deliver aerosolized medication to adult patients for respiratory treatments
Syringe	For precise measurement of small volumes of medication or fluids, administering injections, and infusing intravenous therapy into the bloodstream
Suture	To close wounds by stitching tissue together and help them heal faster
Needles	To inject substances into the body, such as saline solution, drugs, or liquid medicines

Source: Audit team analysis of Standard Operating Procedures of Emergency Care Services

4.69 Analysis of bin cards in the sampled facilities revealed that they were experiencing stock out of essential non-pharmaceutical products. For instance, as at the time of the audit in May 2023, there was stock out of latex gloves in ten (10) facilities,

suture nylon in twelve (12) facilities and syringes 2ml plus needles in nine (9) facilities.

4.70 The stock out of essential drugs and non-pharmaceutical products for use for the provision of emergency care was attributed to inadequate planning for consistent supplies of the commodities to the relevant departments. Further, county governments had not ringfenced funds for the provision of emergency medical care services, resulting in a lack of funds to procure essential drugs and non-pharmaceutical products that were either running low in supply or had stock out.

4.71 The stock-out of these essential drugs and commodities resulted in delays in treating patients in need of urgent care, which affects proper patient management, leads to worsening of medical conditions, and could lead to avoidable negative patient outcomes. In addition, emergency patients were required to purchase the drugs or commodities that were out of stock, further delaying the provision of emergency treatment.

Stock out of Consumables and Reagents in the Diagnostic Departments

a. Stock-out of Consumables and Reagents for Essential Laboratory Tests

4.72 Medical personnel attending to patients with emergency conditions in some cases use laboratory examinations or tests to accurately detect and diagnose illnesses, to enable the treatment of patients. Laboratory examinations are carried out through the collection of samples of body fluids, tissue, and cells, followed by examination and analysis of the samples through the application of consumables and reagents. Consumables are products used in scientific testing and analysis and can either be single-use or have a limited number of uses. These include reagents, glucose test strips, pregnancy kit, and sample collection containers such as urine bags, vacutainer tubes, among others, whose purpose are highlighted in **Table 19.**

4.73 According to Section 1 of the Kenya Essential Medical Laboratories Commodities List, 2014, one of the ways to enhance access to laboratory services is ensuring

the availability of essential laboratory commodities at user points. Analysis of bin cards and interviews with hospital management teams in the sampled facilities revealed that as at the of the audit in May 2023, health facilities were experiencing stock-out of up to three (3) months for; full haemogram reagents in nineteen (19) facilities, haemoglobin cuvettes in seventeen (17) facilities, bio-chemistry reagents in sixteen (16) facilities and glucose strips in fourteen (14) facilities, among others as presented in **Table 19.**

Table 19: Stock Out of Consumables and Reagents for Laboratory Equipment

Consumables/ Reagents	Function of the Consumable or Reagent	Number of Facilities with Stock outs
Urine Bags/Bottles	Collection and storage of urine samples for diagnostic testing	8
Full Hemogram Reagents	Reagents used in complete blood count analysis	19
Bio-Chemistry Reagents {Urea, Creatinine and Electrolytes}	Reagents used in biochemical analysis for measuring levels of urea, creatinine, and electrolytes	16
Liver Function Tests Reagents	Reagents used in liver function tests to assess the health of the liver	10
Haemoglobin Cuvettes	Disposable containers used for measuring haemoglobin levels in blood samples	17
Vacutainer Tubes	Sterile glass or plastic test tube used for collecting blood samples for various diagnostic tests	13
Glucose Test Strips	Strips used for measuring glucose levels in blood samples	14
Distilled Water	Used for dilution and preparation of various solutions	11
Pregnancy Kit	Used for detecting pregnancy by detecting human chorionic gonadotropin in urine	9
Urinalysis 10 Parameter Test Strips	Strips used for analyzing urine samples to assess various parameters such as pH, protein, glucose, among others	13

Source: Audit team analysis of bin cards for diagnostic reagents

b. Stock Out of Consumables for Emergency Radiology Services

4.74   Radiology services use imaging technologies to diagnose and treat illnesses and injuries. In order to provide radiology services, machines such as X-ray, ultrasound and Computed Topography scans are used. The machines operate using specific consumables, including X-ray films, contrast media, ultrasound gel and others highlighted in **Table 20.** Radiology services are vital to detect fractures, dislocations, tissue or bone related injuries in patients under emergency care,

more so for victims of road traffic accidents and falls. These services allow doctors to make an accurate diagnosis and prescribe appropriate subsequent medical care for emergency patients.

4.75   Analysis of bin cards in thirty-eight (38) facilities that offered radiology services revealed that as at the time of audit in May of 2023, there were stock outs of up to three (3) months for; x-ray films in thirteen (13) facilities, ultra sound gel in three (3) facilities, contrast media in six (6) facilities and thermal papers in nine (9) facilities. **Table 20** details the stock-outs in the sampled health facilities.

Table 20: Stock Outs of Consumables for Imaging Equipment

Radiology Consumables	Function of the Consumable	No. of Facilities with Stock out
X-ray Film	Used for capturing images of internal body structures for diagnostic purposes using X-ray radiation	13
Ultra-Sound Gel	Used as a coupling agent between the ultrasound transducer and the patient's skin to transmit sound waves effectively and produce clear ultrasound images	3
Contrast media	Used in medical imaging procedures such as CT scans, Magnetic Resonance Imaging scans, or angiograms to enhance the visibility of blood vessels, organs, or other structures	6
Thermal Papers	Used in various medical equipment for printing results, images, or other data generated during diagnostic procedures or tests	9

Source: Audit team analysis of bin cards for radiology consumables

4.76   The stock-out of consumables and reagents in diagnostic departments resulted in delays in the definite diagnosis of patients, which affects proper patient management, thereby leading to worsening of medical conditions, that could untimely lead to negative patient outcomes.

v)   Inadequacies in Provision of Critical Care Services

4.77   The Kenya Emergency Medical Care Policy, 2020-2030 states that the emergency medical care system extends to critical care when needed. Further, according to the Kenya Medical Practitioner's Hospital Checklist for Categorization of Health Institutions, Level 4 hospitals and above are expected to have High Dependency Units and Intensive Care Units, to offer critical emergency care.

Lack of Intensive Care Units and High Dependency Units in Level 4 and Level 5 Hospitals

4.78 Interviews and physical verification in the sampled hospitals revealed that thirty (30), representing 90%, out of thirty-three (33) Level 4 hospitals, and five (5), representing 33%, out of fifteen (15) Level 5 hospitals did not have Intensive Care Units and High Dependency Units, respectively. The audit team also established that three (3) of these hospitals had critical care units that were not operational as at the time of the audit in May 2023; namely; Kerugoya Level 5 County Referral Hospital, Kangundo Level 4 Hospital, and Busia County Referral Hospital. The Intensive Care Units were awaiting commissioning and also lacked staff.

4.79 The audit established that there was inefficient provision of critical care services in facilities that had operational critical care units. This was attributed to inadequate bed capacity owing to inadequate equipment, inadequate staff, and inadequate medical commodities, as detailed below: -

a. Inadequate Bed Capacity in Intensive Care Units

4.80 According to the Kenya Medical Practitioners Hospital Checklist for Categorization of Health Institutions, 2019, it is a mandatory requirement for Level 4, Level 5 and Level 6 hospitals to have six (6), twelve (12) and twenty-four (24) functional Intensive Care Unit beds, respectively. Interviews with hospital management teams revealed all the sampled Level 6 hospitals had met the minimum requirement for ICU beds capacity. Further, out of the fifteen (15) sampled Level 5 hospitals, only the Coast General Teaching and Referral Hospital had met this minimum requirement. None of the thirty-three (33) Level 4 hospitals had met the minimum requirement for ICU bed capacity. The availability of ICU beds in the Intensive Care Units of the sampled hospitals is presented in **Table 21.**

4.81 Further, ten (10) out of the seventeen (17) sampled hospitals that had functional critical care departments had beds that were not in use mainly due to; lack of an adequate number of nurses, faulty beds, and lack of vital critical care equipment, as highlighted in **Table 21.** The audit also noted that the High Dependency Units

44

had HDU beds which were not in use, mainly due to a shortage of critical care nurses.

Table 21: Availability of Intensive Care Unit Beds in the Sampled Hospitals

No	County	Level and Name of Hospital	Available Beds	Bed/s not in use	Deficit	Reason for bed/s not in use
		Level 4: Minimum Required Number is 6				
1	Nyandarua	JM Kariuki County Referral	5	2	3	Lack of ventilators
2	Isiolo	Isiolo County and Teaching Referral Hospital	7	5	4	Shortage of staff
3	Nakuru	Naivasha Sub-County Referral Hospital	3	0	3	
		Level 5: Minimum Required Number is 12				
4	Kisumu	Jaramogi Oginga Odinga Teaching and Referral	13	9	8	Shortage of staff
5	Narok	Narok County Referral	6	3	9	Shortage of staff
6	Kisii	Kisii Teaching and Referral	6	1	7	fFaulty ventilator
7	Nakuru	Nakuru County Referral	6	0	6	
8	Garissa	Garissa County Referral	6	2	8	Shortage of staff
9	Mombasa	Coast General Teaching and Referral Hospital	22	0	0	One faulty bed but in use
10	Machakos	Machakos Level 5 Hospital	6	2	8	Shortage of staff
11	Nairobi	Mama Lucy Kibaki Hospital	4	-	-	
12	Kiambu	Thika Level 5 Hospital	6	0	6	
13	Kiambu	Kiambu County Referral	8	5	9	Faulty beds
14	Busia	Busia County Referral	4	4	12	Shortage of staff
		Level 6: Minimum Required Number is 24				
15	Uasin Gishu	Moi Teaching and Referral Hospital	60	-	-	
16	Nairobi	Kenyatta University Teaching and Referral	62	-	-	
17	Nairobi	Kenyatta National Hospital	41	-	-	

Source: Audit Team analysis of interview minutes and Intensive Care Unit inventories
*Data presented on the table only includes sampled hospitals that had operational Intensive Care Units.

4.82 As a result of the inadequate Intensive Care Unit (ICU) bed capacity in Level 4 and Level 5 hospitals, patients were referred to Level 6 hospitals for critical care services, thereby straining the resources in Level 6 hospitals. In other cases, due to lack of functional High Dependency Unit beds, patients would be moved from the Intensive Care Unit directly to the wards or be retained at ICU for recuperation,

this further limits the availability of already strained ICU beds capacity in the hospitals.

The main factors contributing to the inadequate bed capacity of the critical care units are detailed below: -

b. Inadequate Vital Equipment to Provide Critical Care Services

4.83 Equipment in intensive care units is used to continuously monitor a patient's vital signs, support critical bodily functions like breathing and circulation, administer medications precisely, and manage airways. The equipment includes, monitors, ventilators, defibrillators, infusion pumps, blood gas analyser, among others. Physical verification and interviews with staff in Intensive Care Units in three (3) Level 4 and twelve (12) Level 5 hospitals revealed that they did not have adequate equipment to provide critical care services, as shown in **Table 22**.

Table 22: Shortage of Equipment in Critical Care Units

Equipment	Function	Number of Facilities with Deficit[14]
Blood Gas Analyser	Measures levels of oxygen, carbon dioxide, pH, and other parameters in blood samples to assess a patient's respiratory and metabolic state.	4
Patient Monitor	Monitors vital signs such as heart rate, blood pressure, oxygen saturation, and ECG continuously, providing real-time data for patient assessment.	3
Defibrillator	Delivers an electrical shock to the heart to restore normal rhythm in cases of cardiac arrest or life-threatening arrhythmias.	3
ECG Machine	Records the electrical activity of the heart, displaying it as a waveform (electrocardiogram), aiding diagnosis of heart conditions	5
Infusion Pump	Administers fluids, medications, or nutrients to patients in controlled amounts and rates, ensuring precise delivery over time.	5
Nebulizers	Converts liquid medication into a mist that patients inhale to treat respiratory conditions such as asthma or chronic obstructive pulmonary disease.	4
Suction Pump	Removes secretions, blood, or other fluids from a patient's airway or surgical site, maintaining clear passages and preventing aspiration.	5
Ventilators	Assists or replaces spontaneous breathing in patients who are unable to breathe adequately on their own, providing controlled oxygenation and ventilation.	3
Syringe pump	Delivers medications or fluids from a syringe in controlled amounts and rates, used for precise administration of small-volume drugs.	5

Source: Audit team analysis of interview minutes on Intensive Care Unit equipment

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[14] Deficits are based on the professional judgement of staff interviewed on ICU workload

The shortage of equipment for providing critical care services is linked to inadequate planning, which includes failure to ringfence financial resources for; consistent supply of consumables, equipping the critical care units, and maintenance of available equipment, as highlighted in **Table 23.** For instance, Mama Lucy Kibaki Hospital had a total of twenty (24) ventilators, however, due to lack of space, twenty (20) were not being utilized at the time of audit.

Table 23: Facilities with Non-Functional Equipment for Critical Care Services

Non-Functional Equipment	Number of Facilities	Reason
Blood Gas Analyser (BGA)	5	Lack of consumables
Ventilators	3	Lack of space and lack of oxygen
Infusion Pump	2	Faulty

Source: Audit team analysis of interview minutes

4.84 Inadequate equipment for critical care services resulted in increased referrals and delayed patient care management. Thereby worsening the condition of patients, and in extreme circumstances, fatalities.

c. Inadequate Critical Care Nurses to Provide Critical Care Services

4.85 According to the Kenya Staffing Norms for Nurses, the recommended critical care nurse to patient ratio in the Intensive Care Unit is 1:2, to ensure provision of optimal quality of care. The audit noted that some critical care units were served by both qualified critical care nurses and general nurses, as highlighted in **Table 24.** Analysis of the nurses to patient ratio in the critical care units revealed that two (2) out of the eleven (11) sampled hospitals with functional intensive care units; JM Kariuki County Referral and Machakos Level 5 had met the minimum ratio requirement for critical care nursing that requires the ICU/HDUs to be serviced by nurses with specialized qualification in critical care nursing at a minimum nurse to patient ratio of 1:2.

Table 24: The Number of Critical Care Nurses Compared to Patients

County	Level	Hospital	Critical Care Nurse	General Nurses	Total Nurses	Beds	Staff Per Shift	Nurse to Patient Ratio
Kisii	5	Kisii Teaching and Referral	9	14	23	9	5:2:3	1:3
Narok	5	Narok County Referral	11	0	11	9	2:2	1:5
Nyandarua	4	JM Kariuki County Referral	5	0	5	5	3:2	1:2
Nakuru	5	Nakuru Provincial General	26[15]	-	26	9	4:4:4	1:2[15]
Nakuru	4	Naivasha Sub-County Referral	4	3	7	2	1:1:2	1:2[15]
Kiambu	5	Kiambu County Referral	11	0	11	8	2:2:2	1:4
Kisumu	5	Jaramogi Oginga Odinga Teaching and Referral	22	0	22	13	3:3:2	1:4
Garissa	5	Garissa County Referral	17	0	17	6	1:1:1	1:6
Mombasa	5	Coast General Teaching and Referral Hospital	15	30	45	50	7:7:7	1:7
Machakos	5	Machakos Level 5	22	0	22	9	4:4	1:2
Kiambu	5	Thika Level 5	15	0	15	9	3:2	1:3

Source: Audit team analysis of interview minutes and staff establishments

4.86   The inadequate number of critical care nurses was attributed to lack of prioritization for recruitment and retention of nurses with speciality in critical care, as well as inadequate resources to sponsor the available nurses to undertake training in critical care. As a result of the inadequate number of critical care nurses, hospitals had deployed general nurses in critical care units. This may undermine the quality of critical care services offered to patients.

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[15] The data comprises of critical care and general nurses; hence, the nurse-to-patient ratio does not meet minimum requirement for critical care units that should be exclusively serviced by nurses with qualifications in critical care nursing

4.87 Inadequate provision of emergency medical care services can be attributed to lack of prioritization to fund emergency treatment, as detailed below: -

D. Lack of Specific County Budgets for Provision of Emergency Medical Care

4.88 According to the Health Act, 2017, the Ministry of Health should establish an Emergency Medical Treatment Fund for emergencies, to provide for unforeseen situations calling for supplementary finance. Further, the Kenya Emergency Medical Policy, 2020-2030, aims to mobilize domestic resources for emergency medical care through several interventions, including prioritization of emergency medical care as a sub-programme in the County Programme-Based Budgeting budget.

4.89 Interviews with all the sampled sixteen (16) County Health Management Teams revealed that there were no specific emergency medical care budgets set aside in the approved county governments' budgets. Funds for the provision of emergency care were catered for under various votes within the county department of health budget. Similarly, interviews with hospital management teams revealed that none of the sampled 114 health facilities had a specific budget for emergency medical care. At the national level the Emergency, Chronic and Critical Illness Fund meant to cover the cost of emergency treatment had been rolled out as at October 2025.

4.90 The failure to provide specific budgets and the National Fund for Emergency Care Services can be attributed to the failure to prioritize emergency medical care, both at the national and county levels. These have led to insufficient funds for; construction of emergency departments, stocking essential emergency drugs and non-pharmaceutical products, continuous training of emergency care personnel, provision of essential equipment, ensuring adequate ambulances and community units. Thereby contributing to inefficiencies in the system of emergency medical care.

CHAPTER 5: CONCLUSION

5.1 There is limited availability of emergency medical care services at the community level, evidenced by the fact that most citizens do not know how to handle emergency cases and are also not aware of the presence of the community health promoters in their locality. As a result, that critical hour of need at the scene of incidence often lacks professional management, thereby negatively impacting the victim's recovery process and survival.

5.2 There is an inefficient ambulance transport system at both the national and county level, mainly due to lack of established ambulance dispatch centres. Most counties lack real-time ambulance monitoring technologies and have an inadequate number of ambulances to serve the population in the respective counties. Further, the available ambulances are not well-maintained and sufficiently fuelled in readiness for emergency response. In addition, ambulances lacked the required equipment and personnel to handle emergency cases during transit. These inefficiencies have resulted to slow ambulance response times of up-to sixty (60) minutes. This implies that the critical "golden hour" needed to provide emergency medical care to a patient in order avoid further damage to an injured or ill person is lost.

5.3 Emergency medical care services in all the levels of health facilities in the Country are inefficient. Even though most of the Level 4 and higher-level facilities had accident and emergency departments, these departments lacked adequate personnel, were not well equipped, and often lacked the required medicine and other essential consumables. This resulted in delays in stabilization and saving the lives of patients received at the emergency departments.

5.4 There is limited access to critical care services in the Country, as most of the Level 4 and Level 5 hospitals, which are the main referral hospitals in the counties do not have intensive care units. The few facilities that have these units lack an adequate number of ICU beds and personnel with specialty in critical care services. In addition, these critical care units often have an erratic supply of essential consumables and medicines.

5.5　There is lack of prioritization of emergency medical care services at the county level. The counties do not ring fence funds for emergency services, which are left to compete with other services, disregarding the uncertainties with which emergencies occur.

CHAPTER 6: RECOMMENDATIONS

6.1 In view of the findings and conclusion of the audit, the Auditor-General proposes the following recommendations: -

Limited Availability of Emergency Medical Care Services at the Community Level

6.2 To increase the level of public awareness on how to respond to emergencies, county governments should allocate funds for training interested community members on basic first aid techniques, inclusive of how to recognize an emergency, call for help and stabilise the patient, until formally trained health-care personnel arrive to give additional care. These activities should be incorporated in county annual work plans.

6.3 County governments should increase the number of community units, as well as recruit a sufficient number of community health promoters, train them on basic lifesaving skills and ensure they are known by citizens in their location of operation.

Inefficient Ambulance Transport System

6.4 To enhance ambulance response time in the Country, the Ministry of Health should establish a national ambulance dispatch centre, with a real time ambulance monitoring system. In addition, county governments should establish functional central ambulance dispatch centres and ensure they have an adequate number of ambulances that are well equipped and operated by qualified personnel. These ambulances should also be well maintained and adequately fuelled for prompt emergency response.

6.5 To ease communication with the public, the Ministry of Health and county governments should provide a single short-code toll-free number dedicated exclusively for ambulance services at the national level and in each county.

6.6 To enhance the availability of the appropriate cadres and an adequate number of ambulance personnel, and to enable recruitment and deployment of these essential human resources, the Ministry of Health should fast track the finalization and

approval of the scheme of service for emergency medical technicians and emergency vehicle operators.

Inefficient Hospital Care for Medical Emergency Cases

6.7 To ensure efficient and effective hospital care for emergency cases, county governments should establish functional accident and emergency departments in Level 4 and Level 5 facilities. These departments should be resourced with appropriate and adequate personnel, essential drugs, equipment and other consumables.

6.8 To enhance preparedness, efficiency and provision of quality emergency care services, the Ministry of Health, in collaboration with county governments, should build capacity on emergency medical care services for county governments. In addition, county governments should ensure continuous training of key staff and implement effective strategies for the retention of these key staff.

Funding for Emergency Medical Care Services at the County level

6.9 To ensure adequate funds for delivery of emergency care services right from the community level to the county referral hospitals, county governments should budget and ringfence funds for emergency care services. This will ensure continuous availability of emergency personnel, essential medical drugs and equipment, consumables, as well as maintenance of equipment and ambulances.

APPENDICES

Appendix 1: Criteria Used for Selecting the Sampled Counties

Cluster 1	Cluster 2	Stratified	Stratified	Purposive	Sampled County
Eastern	1. Meru	Level 2-5	Typical	-	-
	2. Tharaka Nithi	Level 2-5	Best	An ultra-modern call center	Tharaka Nithi
	3. Makueni	Level 2-5	Best		-
	4. Machakos	Level 2-5	Best	Benchmark Emergency Operation Centre, high population, therefore expect more emergency cases, many road accident cases	Machakos
	5. Embu	Level 2-5	Typical	-	-
	6. Kitui	Level 2-5	Typical	-	-
	7. Marsabit	Level 2-5	Worst	-	-
	8. Isiolo	Level 2-5	Worst	Emergency Operation Centre, relatively poor Emergency Medical Care	Isiolo
Coast	9. Mombasa	Level 2-5	Typical	Emergency Operation Centre, Main referral hospital in coastal region, high population hence expect more emergency cases	Mombasa
	10. Kwale	Level 2-5	Typical	-	-
	11. Kilifi	Level 2-5	Typical	-	-
	12. Lamu	Level 2-5	Typical	-	-
	13. Taita Taveta	Level 2-5	Typical	Poor road network; proximity to Mombasa Road hence expect many road accident cases	-
	14. Tana River	Level 2-5	Worst	Vast area, poor road networks, chronic shortage of personnel, relatively worst Emergency Medical Care	Tana River
Rift Valley	15. Samburu	Level 2-5	Worst	Insecurity, a dangerous and disturbed area	-
	16. Narok	Level 2-5	Typical	Emergency Operation Centre, with Private ambulance providers, vast area, South Rif area	Narok
	17. Bomet	Level 2-5	Typical	-	-
	18. Kericho	Level 2-5	Typical	-	-
	19. Nandi	Level 2-5	Typical	-	-
	20. Nakuru	Level 2-5	Typical	Emergency Operation Centre, Level 5, city with high population hence expect many emergency cases, Emergency Operation Centre, South Rift area	Nakuru
	21. Baringo	Level 2-5	Worst	Insecurity, dangerous and disturbed area	-
	22. Uasin Gishu	Level 2-6	Typical	Emergency Operation Centre, Moi Teaching and Referral Hospital, Level 6 Level 5 hospitals, most counties around it rely on it for referral of emergency cases are many hence many emergency cases, North Rift area	Uasin-Gishu

55

Cluster 1	Cluster 2	Stratified	Stratified	Purposive	Sampled County
	23. West Pokot	Level 2-5	Typical	Insecurity, dangerous and disturbed area	-
	24. Elgeyo Marakwet	Level 2-5	Typical	Insecurity, dangerous and disturbed area	-
	25. Trans-Nzoia	Level 2-5	Typical	Safe county that has Proximity to counties with insecurity, hence expect inflow of persons from the dangerous areas, North rift	-
	26. Turkana	Level 2-5	Typical	Insecurity, dangerous and disturbed area	-
	27. Laikipia	Level 2-5	Typical	Insecurity, dangerous and disturbed area	-
	28. Kajiado	Level 2-5		Vast county, high population due to overflow of Nairobi	-
Nyanza	29. Homabay	Level 2-5	Typical	Southern area, logistical convenience from Kisii	-
	30. Migori	Level 2-5	Typical	-	-
	31. Kisii	Level 2-5	Typical	Emergency Operation Centre, Level 5 hospitals, high population in Southern Nyanza area, and regional hospital receiving referrals from surrounding counties such as Nyamira	Kisii
	32. Nyamira	Level 2-5	Typical	-	-
	33. Siaya	Level 2-5	Typical	-	-
	34. Kisumu	Level 2-5	Typical	Emergency Operation Centre, Level 5 hospitals, City with high population hence likely to have many emergency cases, Kisumu hosts the former Nyanza regional hospital that receives referrals from all other surrounding counties	Kisumu
Western	35. Vihiga	Level 2-5	Typical	-	-
	36. Kakamega	Level 5	Typical	Currently setting up a disaster management center, has a toll-free numbe	-
	37. Bungoma	Level 2-5	Typical	-	-
	38. Busia	Level 2-5	Typical	Area with many boda boda riders who are main causers of road accidents, Busia is a border area/hospital hence good for comparison of Kenya vs other surrounding country hospitals	Busia
North Eastern	39. Garissa	Level 2-5	Typical	Emergency Operation Centre with Private ambulance providers, Marginalized area, vast area, chronic shortage of health care personnel	Garissa
	40. Wajir	Level 2-5	Worst	-	-
	41. Mandera	Level 2-5	Worst	-	-
Central	42. Murang'a	Level 2-5	Typical	-	-
	43. Kirinyaga	Level 2-5	Typical	Emergency Operation Centre, New complex under the level 5 hospital that is dedicated to emergencies, many highway road accidents	Kirinyaga
	44. Nyeri	Level 2-6	Typical	Emergency Operation Centre, Level 6&5 within the same county	-
	45. Nyandarua	Level 2-5	Typical	Vast area, poor road networks, public outcry of slow response to emergencies	Nyandarua

Cluster 1	Cluster 2	Stratified	Stratified	Purposive	Sampled County
	46. Kiambu	Level 2-6	Typical	Kenyatta University Teaching and Referral and Research Hospital Level 6, Emergency Operation Centre, Proximity to Nairobi hence influx of urbanized population from the city therefore expect many emergency cases, has 3 major referral hospitals out of which one has best practice	Kiambu
Nairobi	47. Nairobi	Level 2-6	Best	Kenyatta National Hospital and Nairobi Spinal Injury Hospital Level 6, Best practice Emergency Operation Centre, National largest and more established referral hospital, has two Level 6 facilities, capital city of Kenya with high population hence more emergency related cases, public outcry of slow response to emergencies	Nairobi

Key:

Best - means counties with relatively best emergency response in Kenya
Typical - means counties with relatively ordinary emergency response in Kenya
Worst - means counties with relatively poor or bad emergency response in Kenya

Appendix 2: List of Sampled Health Facilities

	County	Name of Health Facility	Level of Care
1	Nairobi	Kenyatta University Teaching, Referral & Research Hospital	6
2	Nairobi	Kenyatta National Referral Hospital	6
3	Uasin Gishu	Moi Teaching and Referral Hospital	6
4	Nairobi	National Spinal Injury Hospital	6
5	Nairobi	Mbagathi County Hospital	5
6	Kiambu	Kiambu County Referral Hospital	5
7	Kiambu	Thika Level 5 Hospital	5
8	Kirinyaga	Kerugoya County Referral Hospital	5
9	Nakuru	Nakuru County referral Hospital	5
10	Kisumu	Jaramogi Oginga Odinga Teaching and Referral Hospital	5
11	Busia	Busia County Referral Hospital	5
12	Tharaka Nithi	Chuka County Referral Hospital	5
13	Narok	Narok County Referral Hospital	5
14	Kisii	Kisii Teaching & Referral Hospital	5
15	Mombasa	Coast General Teaching and Referral Hospital	5
16	Machakos	Machakos Level 5 Hospital	5
17	Garissa	Garissa County Referral Hospital	5
18	Tana river	Hola County Referral Hospital	5
19	Nairobi	Mama Lucy Kibaki Hospital	5
20	Nairobi	Langata Sub- County Hospital	4
21	Kiambu	Ruiru Sub-County Hospital	4
22	Kirinyaga	Kianyaga Sub—County Hospital	4
23	Kirinyaga	Kimbimbi Sub-County Hospital	4
24	Nakuru	Naivasha Sub- County Hospital	4
25	Nakuru	Molo Sub-county Hospital	4
26	Nakuru	Soin Sub_County Hospital	4
27	Nakuru	Subukia Sub-county Hospital	4
28	Kisumu	Kisumu County Referral Hospital	4
29	Kisumu	Muhoroni County Hospital	4
30	Kisumu	Nyakach County Hospital	4
31	Busia	Sio-Port Sub-County Hospital	4
32	Busia	Teso North Sub-County Hospital	4
33	Isiolo	Isiolo County Teaching and Referral Hospital	4
34	Tharaka Nithi	Marimanti Level 4 Hospital	4
35	Narok	Ololulun'ga Sub-County Hospital	4
36	Narok	Transmara West Sub-County Hospital	4
37	Kisii	Gucha Sub-County Hospital	4
38	Kisii	Gesusu Sub-County Hospital	4
39	Kisii	Kenyenya Sub-County Hospital	4
40	Mombasa	PortReitz Sub-County Hospital	4
41	Mombasa	Likoni Sub-County Hospital	4
42	Machakos	Masinga Level 4 Hospital	4
43	Machakos	Kangundo Level 4 Hospital	4
44	Garissa	Iftin Sub County Hospital	4

	County	Name of Health Facility	Level of Care
45	Garissa	Modogashe Sub-County Hospital	4
46	Tana River	Bura Sub-County Hospital	4
47	Tana River	Ngao Sub-County Hospital	4
48	Uasin Gishu	Turbo Hospital	4
49	Uasin Gishu	Ziwa Hospital	4
50	Uasin Gishu	Burnt Forest Hospital	4
51	Nyandarua	JM County Referral Hospital	4
52	Nyandarua	Engineer County Referral Hospital	4
53	Nairobi	Mukuru Health Center	3
54	Nairobi	Ushirika Health Center	3
55	Nairobi	Karura Health Center	3
56	Kiambu	Gachororo Health Centre	3
57	Kiambu	Githurai Langata Health Centre	3
58	Kirinyaga	Kabare Health Centre	3
59	Kirinyaga	Mutithi Health centre	3
60	Nakuru	Maai Mahiu Health centre	3
61	Kisumu	Ratta Health Centre	3
62	Kisumu	Bodi Health Centre	3
63	Busia	Lupida Sub-County Hospital	3
64	Busia	Obekai Health Centre	3
65	Isiolo	APU Health Centre	3
66	Isiolo	Kinna Health Centre	3
67	Tharaka Nithi	Kienni Health Centre	3
68	Tharaka Nithi	Kajuki Health Centre	3
69	Narok	Ntulele Health Centre	3
70	Narok	Enoosaen Health Centre	3
71	Kisii	Moogi Health Centre	3
72	Kisii	Oresi Health Centre	3
73	Mombasa	Mvita Health Centre	3
74	Mombasa	Mlaleo CDF Health Centre	3
75	Machakos	Mitaboni Health Centre	3
76	Machakos	Wamunyu Health Centre	3
77	Garissa	Medina Health Centre	3
78	Garissa	Sankuri Health Centre	3
79	Tana River	Garsen Health Centre	3
80	Tana River	Madogo Health Centre	3
81	Uasin Gishu	Kipkabus Health Centre	3
82	Uasin Gishu	Kapsoya Health Centre	3
83	Nyandarua	Manunga Health Centre	3
84	Nyandarua	Murungaru Health Centre	3
85	Kiambu	Athi Dispensary	2
86	Kiambu	Mutonya Dispensary	2
87	Kirinyaga	Gatungura Dispensary	2
88	Kirinyaga	Kangu Dispensary	2
89	Nakuru	Longonot Dispensary	2
90	Kisumu	Sunga Dispensary	2
91	Kisumu	Dunga Dispensary	2

	County	Name of Health Facility	Level of Care
92	Busia	Bumutiru Dispensary	2
93	Busia	Nangina Dispensary	2
94	Isiolo	Isiolo GK Prison Dispensary	2
95	Isiolo	Samburu Complex Dispensary	2
96	Tharaka Nithi	Nyagani Dispensary	2
97	Tharaka Nithi	Gaceuni Dispensary	2
98	Narok	Ewaso N'giro Dispensary	2
99	Narok	Entargeti Dispensary	2
100	Kisii	Kioge Dispensary	2
101	Kisii	Maroba Dispensary	2
102	Mombasa	Junda CDF Dispensary	2
103	Mombasa	Mwembe Tayari Dispensary	2
104	Machakos	Mua Hills Dispensary	2
105	Machakos	Vyulya dispensary	2
106	Garissa	Shimbirey Dispensary	2
107	Garissa	Bouralgy Dispensary	2
108	Tana River	Bangale Dispensary	2
109	Tana River	Pumwani Dispensary	2
110	Uasin Gishu	Kapkoros Dispensary	2
111	Uasin Gishu	Baharini Dispensary	2
112	Nyandarua	New Mawingu	2
113	Nyandarua	Kanjuiri Dispensary	2
114	Nyandarua	Haraka Dispensary	2

Appendix 3: Minimum Equipment Required in Ambulances

Category	Device	Type of Ambulance	
		Basic Life Support	Advanced Life Support
Type of patient handling equipment	Main stretcher/undercarriage	1	1
	Pick up stretcher	1	1
	Long spinal board complete with head immobilizer and securing straps	1	1
Type of immobilization equipment	Immobilization, set for fractures	1	1
	Cervical upper spinal immobilization devices cervical collar-set	1	1
	Extended upper spinal immobilization Extrication devices or short spinal board (one of these)	1	1
Type of ventilation/res piration equipment	Portable oxygen Minimum 400 L & Stationary Oxygen 2000L	1	1
	Quick Connection	1	1
	Resuscitator with oxygen inlet and masks and airways for all ages and oxygen reservoir	1	1
	Portable suction device	1	1
Type of diagnostics equipment	Manual or Automatic B P Monitor, Cuff size 10 - 66 cm	1	X
	Oximeter	1	1
	Stethoscope	1	1
	Thermometer: Minimum range 28 °C to 42 °C	1	1
	Device for blood sugar determination	1	1
	Diagnostic light	1	1
Type of drug	Pain relief	X	X
Type of infusion material or equipment	Infusion solutions, litre	4	4
	Equipment for injections and infusions set	2	2
	Infusion system which is designed to allow the administration of fluid warmed to (37 ± 2)°C.	1	1
	Infusion mounting	2	2
	Pressure infusion device	1	1
Type of equipment for managing of life-threatening problems	Defibrillator with rhythm and patient data recording/ Cardiac monitor/ External cardiac pacing	1	1
	Portable airways care system (p.a.c.s.)	1	-
	Portable Advanced Resuscitation System (p.a.r.s)	-	1
	Nebulization apparatus	1	1
	Thorax drainage kit	-	1
	Volumetric infusing device	-	1
	Central vein catheters	-	1
	Requirements for emergency and transport ventilators	-	1
	PEEP-valve, adjustable or set	-	1
	Capnometer	-	1
Communicatio n	Mobile radio transceiver	1	1
	Internal communication between driver and patient compartment	1	1

Key: (x) - Quantity may be varied in accordance with the local needs, **(-)** - Equipment is not needed in that type of ambulance

Appendix 4: Availability of Equipment for Basic Life Support Ambulances

Type of Equipment	Device	Number of Ambulances that had Line Devices	Percentage of Equipment Availability	Percentage of Equipment Non-Availability
Patient Handling Equipment	Main stretcher/undercarriage	40	100	-
	Pick up stretcher	32	80	20
	Vacuum mattress	22	55	45
	Device for conveying a seated patient (Unless Main Stretcher has this function)	24	60	40
	Carrying sheet or transfer mattress immobilizer and securing straps	22	55	45
	Long spinal board complete with head Immobilizer and securing straps	22	55	45
Patient Immobilization	Traction device	15	37.5	62.5
	Immobilization set for fractures	17	42.5	57.5
	Cervical upper spinal immobilization devices cervical collar-set	17	42.5	57.5
	Extended upper spinal immobilization Extrication devices or short spinal board (one of these)	6	15	85
Ventilation/Re spiration Equipment	Stationary oxygen a minimum 2 000 l, (under normal temperature and pressure), flowmeter/- flow gauge with maxi- mum capacity of at least 15 l/min and regulating valve	33	82.5	17.5
	Quick connection	28	70	30
	Portable oxygen b Minimum 400 L, (under normal temperature and pressure), flowmeter/flow gauge with maximum capacity of at least 15 L/min and regulating valve	19	47.5	52,5
	Resuscitator with oxygen inlet and masks and airways for all ages and oxygen reservoir (Ambu-bag)	18	45	55
	Mouth to mask ventilator with oxygen inlet	21	52.5	47.5
	Non-manual suction device with a minimum pressure of – 65 kPa with a minimum capacity of 1 L	15	37.5	62.5
	Portable suction device	14	35	65

Type of Equipment	Device	Number of Ambulances that had Line Devices	Percentage of Equipment Availability	Percentage of Equipment Non-Availability
Diagnostic Equipment	Manual B P Monitor, Cuff size 10 cm — 66 cm	23	57.5	42.5
	Automatic B P Monitor, Cuff size 10 cm — 66 cm A doppler type shall operate accurately I in the conditions of electrical interference and vibration	21	52.5	42.5
	Oximeter	13	32.5	67.5
	Stethoscope	17	42.5	57.5
	Thermometer Minimum range 28 °C to 42 °C	16	40	60
	Device for blood sugar determination	16	40	60
	Diagnostic light	10	25	75
Drug	Pain relief	25	62.5	37.5
Infusion Material/Equipment	Infusion solutions, litre	28	70	30
	Equipment for injections and infusions, set	28	70	30
	Infusion system which is designed to allow the administration of fluid warmed to (37 ± 2) °C. This system is not required to be portable	9	22.5	77.5
	Infusion mounting	30	75	25
	Pressure infusion device	5	12.5	87.5
Bandaging and Nursing	Bedding equipment	26	65	35
	Blanket	29	72.5	27.5
	Material for treatment of wounds	29	72.5	27.5
	Material for treatment of burns and corrosives	16	40	60
	Re-plantation container to maintain the internal temperature at (42) °C for at least 2 h	7	17.5	82.5
	Kidney bowl	8	20	80
	Vomiting bag	12	30	70
	Bed-pan	2	5	95
	Non-glass urine bottle	4	10	90
	Sharps container	26	65	35
	Gastric tube with accessories	12	30	70
	Sterile surgical gloves, pairs	34	85	15
	Non-sterile gloves for single use	36	90	10
	Emergency delivery kit	14	35	65

Type of Equipment	Device	Number of Ambulances that had Line Devices	Percentage of Equipment Availability	Percentage of Equipment Non-Availability
	Waste bag	24	60	40
	Clinical waste bag	20	50	50
	Non-woven stretcher sheet	8	20	80
Personal Protective Equipment	Basic protective clothing	17	42.5	57.5
	Advanced protection wear	8	20	80
	Safety/debris gloves, pairs	7	17.5	82.5
	Safety shoes, pairs	5	12.5	87.5
	Safety helmet	2	5	95
	Personal protection equipment against infection	14	35	65
Rescue and Protection Material	Cleaning and disinfection material	18	45	55
	Seat belt cutter	12	30	70
	Warning triangle/lights	25	62.5	37.5
	Spotlight	15	37.5	61.2
	Fire extinguisher	31	77.5	22.5
Communication	Mobile radio transceiver	16	40	60
	Portable radio transceiver	5	12.5	87.5
	Access to the public telephone network e.g. via the normal radio transmitter or by mobile (cellular) telephone	25	62.5	37.5
	Portable alerting system, per person Can be included in portable radio receiver	6	15	85
	Internal communication between driver and patient compartment	27	67.5	32,5

Appendix 5: Availability of Equipment in Advanced Life Support Ambulances

Type of Equipment	Device	Number of Ambulances that had Line Devices	Percentage (%) of Equipment Availability
Equipment for Managing Life Threatening Problems	Defibrillator with rhythm and patient data recording a	8	73
	Cardiac monitor a	10	91
	External cardiac pacing a	5	45
	Portable airways care system (p.a.c.s.), Manual resuscitator, Mouth to mask ventilator with oxygen, inlet, Airways oro- or nasopharyngeal airway, Aspirator, Suction catheter	10	91
	Portable advanced resuscitation system (p.a.r.s.), Contents of portable airways care system (p.a.c.s.), Infusion equipment – to include suitable venous indwelling cannulae, Infusion administration sets, Infusion solutions adhesive fixing, materials intubation equipment – to include laryngoscope handle(s) with suitable Magill forceps, Insertion stylets Endotracheal tubes with connectors, Inflation tube clamp inflation syringe, Tube fixing material stethoscope, Drug administration equipment	6	55
	Nebulization apparatus	9	82
	Thorax drainage kit	1	9
	Volumetric infusing device	6	55
	Central vein catheters	2	18
	Requirements for emergency and transport ventilators	5	45
	PEEP-valve, adjustable or set Capnometer	2	18

Appendix 6: Service Areas of Accident and Emergency Departments

No.	Hospital	Level	Triage	Customer care	Resuscitation room	Consultation room	Orthopedic room	Dressing room	Procedure room	Acute room	Minor Theatre	Staff room/SME room	Isolation Bay	Lab	Pharmacy	Sluice room
1	Naivasha Sub County	4	✓	✓	x	✓	x	x	✓	x	x	x	x	x	x	✓
2	Kiambu County Referral	5	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	x	x	x
3	Jaramogi Oginga Odinga Teaching and Referral Hospital	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
4	Kisii Teaching and Referral Hospital	5	✓	x	x	✓	✓	x	x	x	✓	✓	x	x	x	✓
5	Narok County Referral Hospital	5	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	x	x	x	✓
6	Transmara West Sub-County Hospital	4	x	x	x	✓	✓	✓	x	x	✓	x	x	✓	x	x
7	JM Kariuki County Referral Hospital	4	✓	x	✓	✓	x	✓	✓	x	✓	x	✓	x	x	x
8	Chuka County Referral Hospital	5	x	✓	✓	✓	✓	✓	x	x	x	x	x	x	x	✓
9	Garissa County Referral Hospital	5	x	✓	x	✓	x	x	x	x	x	x	x	✓	✓	x
10	Mbagathi County Referral Hospital	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	x
11	Coast General Teaching	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	x	✓	✓	✓
12	Machakos Level 5 Hospital	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	x	✓
13	Thika Level 5 Hospital	5	x	x	x	✓	✓	x	✓	x	x	✓	x	x	x	✓
14	Mama Lucy Kibaki Hospital	5	✓	x	✓	✓	x	x	x	✓	✓	x	x	x	x	x

Appendix 7: Ratio of Medical Personnel to Emergency Medical Care Patients

Name of Facility	Workload at Emergency or Outpatient Department	Nurses per Shift (M: A: N)	Average Nurse to Patient Ratio	Clinical Officers per Shift (M: A: N)	Average Clinical Officers to Patient Ratio	Medical Officers
Level 4 Facilities						
1. Kenyenya Sub-County Hospital	98	1:1:1	1:33	3:2	1:20	2
2. Gesusu Sub-County Hospital	84	1:1:1	1:24	1:1	1:42	2
3. Oloolunga Sub-County Hospital	114	1:1:1	1:38	1:1:1	1:38	1
4. Turbo Sub-County Hospital	117	3:3:1	1:17	2:1	1:39	4
5. Kianyaga Sub County Hospital	100	2:3:1	1:17	3:1:1	1:20	2
6. Soin Sub County Hospital	50	3:2:0	1:10	1:1:1	1:17	0
7. Subukia Sub County Hospital	100	1:1:1	1:33	2:2:1	1:20	0
8. Molo Sub County Hospital	200	1:1:1	1:67	2:2:2	1:33	0
9. Muhoroni Level 4 Hospital	64	2:2:1	1:13	2:2:1	1:13	2
10. Teso North Sub-County Hospital	40	2:1:0	1:13	1:2:0	1:13	0
11. Bura Sub County Hospital	32	1:0:0	1:32	4:0:0	1:8	1
12. Ngao Sub County Hospital	33	7:0:0	1:5	2:0:0	1:17	0
13. Modogashe Sub Hospital	32	2:1:1	1:8	1:1:1	1:11	1
14. Iftin Sub County Hospital	31	2:0:0	1:16	3:0:0	1:10	3
15. Port Reitz Sub-County Hospital	50	1:1:1	1:17	1:1	1:25	0
16. Likoni Sub-County Hospital	100	2:1:1	1:25	2:1	1:33	1
17. Masinga Hospital	80	1:1:1	1:27	1:1	1:40	0
18. Kangundo Hospital	200	2:1:2	1:40	1:0:0	1:200	0
19. Ruiru Sub-County Hospital	300	1:1:1	1:100	2:1:1	1:75	0
Level 5 Facilities						

67

Name of Facility	Workload at Emergency or Outpatient Department	Nurses per Shift (M: A: N)	Average Nurse to Patient Ratio	Clinical Officers per Shift (M: A: N)	Average Clinical Officers to Patient Ratio	Medical Officers
1. Narok County Referral Hospital	71	2:1:1	1:18	2:1	1:24	2
2. Kisii Teaching and Referral Hospital	200	1:1:1	1:67	--	-	1
3. Kiambu County Referral Hospital	239	2:2:2	1:40	–	-	3
4. Kerugoya County Referral Hospital	200	2:4:2	1:25	4:3:3	1:20	3
5. Nakuru County Referral Hospital	200	6:4:2	1:17	5.4.2	1:18	3
6. Busia County Referral Hospital	486	2.1.1	1:122	1:0	1:486	0
7. Mama Lucy Kibaki Hospital	100	4.4.4	1:8	-	-	10
8. Coast General Teaching and Referral Hospital	100	4:4:4	1:8	-	-	9
9. Machakos Referral Hospital	150	2:3:3	1:19	1:0	1:150	4
10. Thika Referral Hospital	140	2:1:1	1:35	-	-	1

Key for Shifts: M – Morning Shift, **A** – Afternoon Shift, **N** – Night Shift

Appendix 8: Staff Shortage in Level 3 Health Facilities

Facility Name	Level	Required Number of Nurses	Number of Available Nurses	Deficit	Required Number of Clinical Officers	Number of Available Clinical Officers	Deficit
1. Maroba health Centre	3	20	2	18	6	0	6
2. Oresi Health Centre	3	20	12	8	6	5	1
3. Ntulele Health Centre	3	20	6	14	6	2	4
4. Enoosaen Health Centre	3	20	5	15	6	2	4
5. Manunga Health Centre	3	20	8	12	6	2	4
6. Murungaru Health Centre	3	20	8	12	6	2	4
7. Kapsoya Health Centre	3	20	11	9	6	4	2
8. Kipkabus Health Centre	3	20	3	17	6	2	4
9. Gachororo Health Centre	3	20	8	12	6	4	2
10. Kabare Health Centre	3	20	8	12	6	2	4
11. Mutithi Health Centre	3	20	8	12	6	3	3
12. Maai Mahu Health Centre	3	20	8	12	6	2	4
13. Ratta Health Centre	3	20	2	18	6	2	4
14. Bodi Level 3 Hospital	3	20	7	13	6	1	5
15. Obekai health centre	3	20	5	15	6	1	5
16. Lupida Sub-County Hospital	3	20	7	13	6	3	3
17. Kajuki Health Centre	3	20	15	5	6	9	-3
18. Kieni Health Centre	3	20	8	12	6	2	4
19. APU Health Centre	3	20	5	15	6	1	5
20. Kinna Health Centre	3	20	7	13	6	3	3
21. Karura Health Centre	3	20	7	13	6	3	3
22. Ushirika Health Centre	3	20	6	14	6	3	3
23. Garsen Health Centre	3	20	1	19	6	6	0
24. Madogo Health Centre	3	20	10	10	6	6	0
25. Mukuru Health Centre	3	20	4	16	6	5	1
26. Sankuri Health Center	3	20	3	17	6	0	6
27. Medina Health Center	3	20	9	11	6	2	4
28. Mlaleo CDF Health Centre	3	20	15	5	6	5	1
29. Mvita Health Centre	3	20	15	5	6	3	3
30. Mitaboni Health Centre	3	20	9	11	6	4	2
31. Wamunyu Health Centre	3	20	9	11	6	2	4
32. Githurai Langata Health Centre	3	20	1	19	6	3	3

Appendix 9: Number of Nurses Trained on Basic Life Support

	County	Name of Health Facility	Number Available	Number Trained	Number Not Trained
		Level 5			
1	Kisii	Kisii Teaching and Referral Hospital	15	0	15
2	Narok	Narok County Referral Hospital	8	8	0
3	Kiambu	Kiambu County Referral	9	4	5
4	Kirinyaga	Kerugoya County Referral	12	0	12
5	Nakuru	Nakuru County Referral	25	0	25
6	Kisumu	Jaramogi Oginga Odinga Teaching and Referral Hospital	19	3	16
7	Busia	Busia County Referral Hospital	9	0	9
8	Tharaka Nithi	Chuka County Referral Hospital	4	0	4
9	Nairobi	Mama Lucy Kibaki Hospital	19	19	0
10	Tana River	Hola County Referral Hospital	4	2	2
11	Nairobi	Mbagathi County Hospital	15	0	15
12	Garissa	Garissa County Referral Hospital	4	0	4
13	Mombasa	Coast General Teaching and Referral Hospital	26	15	11
14	Machakos	Machakos Referral Hospital	20	0	20
15	Kiambu	Thika Referral Hospital	10	1	9
		Level 4			
1	Kisii	Gucha Sub-County Hospital	2	0	2
2	Kisii	Kenyenya Sub-County Hospital	2	0	2
3	Kisii	Gesusu Sub-County Hospital	2	1	0
4	Narok	Transmara West Sub-County Hospital	6	0	6
5	Narok	Oloolung'a Sub-County Hospital	3	0	3
6	Nyandarua	Engineer County Hospital	40	2	38
7	Nyandarua	JM Kariuki County Referral Hospital	8	3	5
8	Uasin Gishu	Turbo Sub-County Hospital	17	0	17
9	Uasin Gishu	Burnt Forest Sub-County Hospital	26	2	24
10	Uasin Gishu	Ziwa Sub-County Hospital	27	0	27
11	Kirinyaga	Kianyaga Sub-County Hospital	7	0	7
12	Kirinyaga	Kimbimbi Sub-County Hospital	10	0	10
13	Nakuru	Soin Sub-County Hospital	5	0	5
14	Nakuru	Subukia Sub-County Hospital	1	0	1
15	Nakuru	Naivasha Sub-County Hospital	8	4	4
16	Nakuru	Molo Sub-County Hospital	6	0	6
17	Kisumu	Kisumu County Referral Hospital	2	2	0
18	Kisumu	Muhoroni Level 4 Hospital	4	2	2
19	Kisumu	Nyakach County hospital	7	7	0

	County	Name of Health Facility	Number Available	Number Trained	Number Not Trained
20	Busia	Teso North Sub-County Hospital	2	2	0
21	Busia	Sio-Port Sub-County Hospital	0	0	0
22	Tharaka Nithi	Marimanti Level 4 Hospital	45	0	45
23	Isiolo	Isiolo County Teaching and Referral Hospital	10	0	10
24	Tana River	Bura Sub-County Hospital	1	0	1
25	Tana River	Ngao Sub-County Hospital	20	0	20
26	Nairobi	Lang'ata Sub-County Hospital	13	0	13
27	Garissa	Modogashe Sub-County Hospital	11	0	11
28	Garissa	Iftin Sub-County Hospital	4	0	4
29	Mombasa	Port Reitz Sub-County Hospital	10	0	10
30	Mombasa	Likoni Sub-County Hospital	7	2	5
31	Machakos	Masinga Level 4 Hospital	10	0	10
32	Machakos	Kangundo Level 4 Hospital	12	3	9
33	Kiambu	Ruiru Sub-County Hospital	8	1	7

Appendix 10: List of Equipment Required in Accident and Emergency Department

Category	Equipment	Function
Airway	Suction Machine	Removes secretions, blood, or other fluids from a patient's airway or surgical field.
	Nebulizer Machine	Converts liquid medication into a fine mist for inhalation, commonly used to deliver medication to the lungs for respiratory conditions such as asthma or chronic obstructive pulmonary disease.
	Ventilator	Provides mechanical ventilation by assisting or replacing spontaneous breathing, commonly used in critical care settings for patients with respiratory failure.
	Piped Oxygen	Supplies oxygen directly to patient care areas through a central system of pipes and outlets.
	Oxygen Cylinders	Portable containers storing compressed oxygen for administering supplemental oxygen therapy to patients.
	Oxygen Flow Meters	Regulates and measures the flow rate of oxygen delivered to the patient from an oxygen source, ensuring the prescribed oxygen concentration is maintained.
	Oxygen Concentrator	Extracts oxygen from room air and delivers it to the patient at higher concentrations, eliminating the need for oxygen cylinders in some cases.
	Ambu Bag / Resuscitator	Manual resuscitation device used to provide positive pressure ventilation to patients who are not breathing or not breathing adequately.
	Ventilators	Provide mechanical ventilation by delivering breaths to patients who are unable to breathe adequately on their own, assisting or replacing spontaneous breathing.
	Nebulizers	Convert liquid medication into a fine mist for inhalation, delivering medication directly to the lungs for respiratory conditions such as asthma, chronic obstructive pulmonary disease, or cystic fibrosis.
	Infusion Pumps	Deliver controlled amounts of fluids, medications, or nutrients into a patient's bloodstream at a predetermined rate, ensuring precise and accurate administration over time.
	Syringe Pump	Administers medications or fluids in precise amounts over a specified period, typically used for continuous infusion of drugs or fluids.
	Electrocardiogram (ECG) Machines	Record the electrical activity of the heart, displaying it as waves on a monitor or paper printout, aiding in the diagnosis of cardiac conditions such as arrhythmias, myocardial infarctions, and conduction abnormalities.
	Defibrillator	Deliver an electric shock to the heart to restore normal heart rhythm during cardiac arrest or certain arrhythmias, typically by administering a controlled electrical current through paddles or pads placed on the chest.
Diagnostic	Blood Gas Analyser	Measures various parameters in a blood sample, including pH, oxygen levels, carbon dioxide levels, and bicarbonate levels, providing insights into the patient's acid-base balance and respiratory function.
	CBC Machine / Full Haemogram / Hematology Analyzer	Counts and analyses the different types of cells in the blood, including red blood cells, white blood cells, and platelets, providing information about the patient's overall health and

Category	Equipment	Function
		detecting abnormalities such as anaemia, infection, or leukaemia.
	Hb Machine	Measures the concentration of hemoglobin in blood samples, aiding in the diagnosis and monitoring of conditions such as anemia and polycythemia.
	HbA1c Machine	Measures the percentage of hemoglobin that is glycosylated (bound to glucose) in blood samples over the preceding 2-3 months, providing information about long-term blood sugar control in diabetic patients.
Imaging	X-ray	Produces images of the inside of the body using electromagnetic radiation, commonly used to visualize bones and detect abnormalities such as fractures, tumors, or infections.
	Ultrasound	Uses high-frequency sound waves to produce real-time images of internal structures such as organs, blood vessels, and soft tissues, aiding in diagnosis and monitoring of various medical conditions.
	CT Scan (Computed Tomography)	Generates detailed cross-sectional images of the body's internal structures using a series of X-ray images taken from different angles, providing clearer visualization of organs, bones, and tissues than traditional X-rays.
	MRI (Magnetic Resonance Imaging)	Utilizes strong magnetic fields and radio waves to create detailed images of organs, soft tissues, and internal structures, offering superior contrast resolution without ionizing radiation exposure.
	Mobile X-ray	Provides X-ray imaging capabilities in mobile units that can be transported to various locations within a healthcare facility or deployed in emergency situations outside of traditional radiology departments.
	Portable Ultrasound Machine	Compact and lightweight ultrasound systems designed for easy transport and use in various clinical settings, offering flexibility in conducting ultrasound examinations at the point of care.
Monitoring Devices	Blood Pressure Machine	Measures blood pressure, including systolic and diastolic pressures.
	Glucometer	Measures blood glucose levels, typically used by diabetic patients to monitor their blood sugar levels.
	Pulse Oximeter	Measures the oxygen saturation level in the blood and pulse rate, typically by clipping onto a patient's finger or earlobe.
	Patient Monitors	Continuously monitor vital signs such as heart rate, blood pressure, respiratory rate, and oxygen saturation, providing real-time data to healthcare providers about a patient's physiological status.
Other Equipment	Crash Cart / Emergency Tray	Contains emergency medications, equipment, and supplies for immediate medical intervention during critical situations, such as cardiac arrest.
	Wheelchairs	Assist patients with mobility impairments to move from one place to another.
	Stretchers	Used for transporting patients who are unable to walk or need to be moved in a lying position.
	Examination Bed	Provides a stable surface for patients to lie down during medical examinations or procedures.

Appendix 11: Drugs used to Stabilize Emergency Medical Conditions and their Use

Accident and Emergency Department	
Emergency Drug	**Use of the Emergency Drug**
Adrenaline	Treatment of severe allergic reactions (anaphylaxis), cardiac arrest, bronchospasm, and severe asthma.
Atropine	Used to dilate the pupil, treat bradycardia, reduce respiratory secretions, and as an antidote for certain poisonings
Sodium Bicarbonate	Used to treat metabolic acidosis, to alkalinize urine, and to reverse the effects of certain poisons
Calcium Gluconate	Used to treat low calcium levels in the blood (hypocalcemia) and to counteract calcium channel blocker toxicity.
Hydrocortisone Injection	Used in management of congenital adrenal hyperplasia in newborns for long-term use, Addison's disease
Dexamethasone Injection	Provides relief for inflamed areas of the body
Lidocaine Injection	Local anesthesia, treatment of certain heart rhythm disorders (arrhythmias), and nerve pain.
Diazepam Injection	Used to treat anxiety, muscle spasms and seizures or fits
Furosemide/Lasix Injection	Treatment of edema (fluid retention) associated with heart failure, liver disease, and kidney disorders.
Naloxone Injection	Reversal of opioid overdose, which can cause respiratory depression and sedation.
Potassium Chloride	Use for oral management of Hypokalaemia
Salbutamol solution	Treatment of asthma, chronic obstructive pulmonary disease, and other lung conditions.
Dexketoprofen	Treatment of moderate to severe pain, such as that from inflammation, injury, or surgery.
Caffeine Citrate	Treatment of apnea (pauses in breathing) in premature infants and neonates.
Hyoscine butylbromide/Buscopan injection	Treatment of abdominal cramps, irritable bowel syndrome, and as a pre-anesthetic medication.
Vitamin K injection	For blood clotting, helping wounds to heal.
Hydralazine Injection	Used to treat high blood pressure (hypertension)
Magnesium Sulphate	Used to prevent and treat seizures in eclampsia and pre-eclampsia, and as a muscle relaxant
Activated charcoal	To treat drug overdoses or as an emergency anti-poison remedy.
Etamsylate Injection	Treatment of bleeding disorders, such as haemorrhage associated with childbirth or surgery.
Metoclopramide Injection	Treatment of gastrointestinal disorders, such as nausea, vomiting, and gastroparesis.
Normal Saline (0.9% Sodium chloride)	Used for fluid resuscitation, electrolyte balance, and as a diluent for intravenous medications.
50% Dextrose	Treatment of insulin hypoglycemia (hyperinsulinemia or insulin shock) to restore blood glucose levels.
10% Dextrose	Treatment of moderate hypoglycemia (low blood sugar), and as a source of calories and energy.
5% Dextrose	Used as a source of calories and energy, and to dilute or dissolve other medications for intravenous administration.
Piriton Injection (Chlorpheniramine injection)	Chlorphenamine injection is indicated for acute urticaria, control of allergic reactions to insect bites and stings, angioneurotic edema, drug and serum reactions, desensitisation reactions, hay fever, vasomotor rhinitis, severe pruritus of non-specific origins
Paracetamol IV infusion	Treatment of pain and fever, particularly in cases where oral administration is not feasible.

Accident and Emergency Department	
Emergency Drug	**Use of the Emergency Drug**
Insulin	Used to treat diabetes by lowering blood sugar levels
Tranexamic acid injection	Treatment of excessive bleeding, such as in menorrhagia, postpartum haemorrhage, trauma, surgery, and certain medical conditions.
Sodium lactate compound	Used as an intravenous fluid replacement for dehydration and electrolyte disturbances.
Aminophylline	To treat the acute symptoms of asthma, bronchitis, emphysema, and other lung diseases in a hospital setting.
Nitroglycerine	Treatment of angina (chest pain) and heart failure, and as a vasodilator during certain medical procedures.
Phenytoin	Used to control and prevent seizures (epilepsy).
Morphine	Used to treat moderate to severe pain, such as that from surgery, injury, or cancer.
Midazolam	Used for sedation, anaesthesia induction, and to treat seizures
Mannitol IV infusion	Used to reduce brain swelling, intraocular pressure, and to treat certain kidney conditions.
Omeprazole injection	Treatment of gastroesophageal reflux disease, ulcers, and excessive stomach acid production.
Hypertonic saline (3% saline)	Used for severe hyponatremia (low blood sodium levels), cerebral edema, and certain types of shock.
Ketamine / Propofol	Anaesthesia induction and maintenance during surgical and medical procedures, and sedation in critical care settings.
Phenobarbitone Injection	Used as an anticonvulsant to prevent or control seizures, epilepsy, and as a sedative-hypnotic agent.

Appendix 12: Stock Outs of Drugs for Emergency Medical Care

Emergency Drugs	Stock Out duration (Months) as at the Time of the Audit				Previous Stock Out Duration (Months)			
	0-3	4-7	8-12	Above 12	0-3	4-7	8-12	Above 12
Adrenaline	18	4	2	2	13	5	0	2
Atropine	16	6	1	3	15	3	1	0
Sodium Bicarbonate	13	3	0	7	9	1	0	0
Calcium Gluconate	15	6	0	4	10	2	0	3
Hydrocortisone Injection	20	1	0	2	14	6	2	1
Dexamethasone Injection	15	4	0	7	11	2	2	0
Lidocaine Injection	7	0	1	0	9	2	2	0
Diazepam Injection	17	5	0	5	12	4	0	1
Furosemide/Lasix Injection	9	2	0	1	8	2	2	1
Naloxone Injection	9	6	0	2	7	0	0	0
Potassium Chloride	14	3	1	1	11	0	2	0
Salbutamol solution	16	3	1	8	13	1	1	1
Dexketoprofen	12	1	0	3	7	0	0	0
Caffeine Citrtate	9	1	0	5	7	0	0	0
Hyoscine butylbromide/Buscopan injection	8	3	0	1	10	0	1	0
Vitamin K injection	12	4	2	6	7	4	1	1
Hydralazine Injection	12	2	0	3	7	5	0	1
Magnesium Sulphate	16	3	0	4	9	3	1	1
Activated charcoal	13	4	2	5	10	1	0	0
Etamsylate Injection	10	0	0	4	6	0	0	1
Metaclopramide Injection	10	0	1	1	7	1	1	1
Normal Saline (0.9% Sodium chloride)	7	0	0	0	13	1	0	0
50% Dextrose	13	4	3	4	16	5	0	2
10% Dextrose	13	1	1	3	12	3	1	0
5% Dextrose	11	1	3	0	13	2	0	1
Piriton Injection (Chlorpheniramine injection)	22	3	0	7	11	1	0	0
Paracetamol IV infusion	14	1	0	1	9	1	0	0
Insulin	10	0	0	2	8	0	0	0
Tranexamic acid injection	14	1	0	4	10	2	0	3
Sodium lactate compound (Hartmanns / Ringers lactate)	10	1	0	3	9	1	0	0
Aminophylline	11	1	0	9	7	0	0	1
Nitroglycerine (NTG)	7	2	0	2	6	0	0	0
Phenytoin	8	2	0	0	6	1	0	0
Morphine	7	0	0	1	7	0	0	0

Emergency Drugs	Stock Out duration (Months) as at the Time of the Audit				Previous Stock Out Duration (Months)			
	0-3	4-7	8-12	Above 12	0-3	4-7	8-12	Above 12
Midazolam	6	0	3	1	7	0	0	0
Mannitol IV infusion	7	1	0	0	7	1	0	0
Omeprazole injection	8	3	0	0	8	0	0	0
Hypertonic saline (3% saline)	8	0	0	0	6	0	0	0
Ketamine / Propofol	6	0	0	0	6	0	0	0
Phenobarbiton Injection	2	3	2	3	2	0	0	0

* The data analysed in this table is not for all sampled facilities but only for 30 of the 114 sampled facilities where records of stock-out were available, legible, and consistently collected.

Appendix 13: Ministry of Health's Comments on the Draft Audit Report

	Audit Finding	Management Response	Auditor's Comments
4.1 – 4.90	General Comment: The Ministry agrees with the majority of key findings presented in the report, which correctly highlight critical gaps in emergency medical care at the community level, ambulance services, and facility level. These include insufficient public awareness, delays in ambulance response, inadequacies in pre-hospital and hospital-based services, shortage of qualified personnel, and persistent shortages of essential equipment, drugs, and supplies across the country. The report's identification of weak coordination, incomplete implementation of national policy, and lack of ring-fenced funding reflects the Ministry's own assessments and aligns with priorities set in the Kenya Emergency Medical Care Policy (2020–2030) and Kenya Emergency Medical Care Strategy (2020–2025).		
2.7	The audit sampled 114 out of the 5,850 public health facilities in the Country. All the Level 6 hospitals in the Country were sampled for the audit. Further, all the Level 5 hospitals in the sampled counties were included in the audit sample. Purposeful sampling was used to select two (2) Level 4 hospitals, two (2) Level 3 health facilities and two (2) dispensaries in each of the selected counties while also considering the convenient use of the available resources. The list of the sampled counties is detailed in Appendix 2.	The report refers to sampling of all Level 6 hospitals in the Country at the time of the audit was carried out from March 2023 to February 2025 (Pg. 4 – Audit sampling). However, perusal of Annex 2 reveals that only 4 Level 6 facilities were included in the sample – Kenyatta University Teaching, Referral and Research Hospital, Kenyatta National Hospital, Moi Teaching and Referral Hospital and National Spinal Injury Hospital. At the time of the audit, there were six (6) Level 6 hospitals, therefore two (2) were left out in the audit – Mathari National Teaching and Referral Hospital and Mwai Kibaki Hospital-Othaya.	This is agreed, we have rephrased, to four (4) of the six (6), Level 6 hospitals were sampled for the audit.
4.35 4.80	Physical verification revealed that all four (4) sampled Level 6 hospitals had established accident and emergency departments for adults, adolescents, and paediatrics. Interviews with hospital management teams revealed all the sampled Level 6 hospitals had met the minimum requirement for ICU beds capacity. Further, out of the fifteen (15) sampled Level 5 hospitals, only the Coast	In the findings, the Level 6 facilities are only mentioned in one section – Section C (Inefficient hospital care for medical emergency cases) and specifically: a. Part (i) (4.35) – limited availability of functional accident and emergency departments (Pg. 27). b. Part (v) (a) (4.80 & Table 21)– inadequate bed capacity in intensive care units (Pg. 45, 46).	The Office appreciates the concern to increase the scope for level 6 hospitals to cover all areas covered in level 2-5 hospitals in the audit. However, the audit team could not cover the said areas due incomplete data as explained in paragraph 2.3 of the audit report. In addition, the extensive operation of level 6

	Audit Finding	Management Response	Auditor's Comments
	General Teaching and Referral Hospital had met this minimum requirement. Table 25: Availability of Intensive Care Unit Beds in the Sampled Hospitals	Expanding the audit's Level 6 data scope—covering all domains examined at levels 2–5—would greatly strengthen the analysis. It would inform evidence-based national standards, expose weaknesses and innovations at the highest tier, and support more effective health service network integration and resource allocation for Kenya's emergency medical care.	hospitals requires an audit specific to these hospitals. The Office will consider such an audit in future.
4.59	According to the Kenya Medical Practitioners and Dentist Union Radiology Checklist for Categorization of Health Facilities, 2019.	Pg. 36 (4.59) – Under the subtitle 'Shortage of Imaging Equipment for Radiology Emergency Services', there is mention of the Kenya Medical Practitioners and Dentist Union Radiology checklist. Kindly edit to Kenya Medical Practitioners and Dentists Council not 'Union'.	This has been corrected
4.85	Analysis of the nurses to patient ratio in the critical care units revealed that two (2) out of the eleven (11) sampled hospitals with functional intensive care units had met the minimum ratio requirement for critical care nursing.	Pg. 48 (4.85) – The draft report indicates that only two (2) out of eleven (11) sampled hospitals with functional intensive care units had met the minimum requirement for critical care nurse to patient ratio of 1:2 yet Table 24 (Pg. 49) reveals four (4) hospitals with that ratio.	In two (2) hospitals; the Nakuru County Referral and Naivasha County Referral, the data of total number of nurses comprised of both general and critical care nurses. The ratio of 1:2 in these hospitals is therefore, not entirely for nurses with speciality in critical care as required in the intensive care units. An explanation has been added to paragraph 4.85 and foot note (15) for clarity
5.1 - 5.7	Audit Conclusions and Recommendation	The Ministry concurs with the audit's conclusions that system-wide challenges in policy enforcement, resources, and governance underpin the current weaknesses in emergency service delivery. The Ministry also endorses the view that urgent action is required to protect public health and guarantee	The Office appreciates the Ministry's comments

	Audit Finding	Management Response	Auditor's Comments
		constitutional rights to timely emergency care.	
6.1 – 6.10	Audit Recommendations	The Ministry supports all core recommendations in the report.	The Office appreciates the Ministry's comments

Additional Recommendations Proposed by the Ministry of Health

1. To ensure quality of emergency medical care, capacity development which is one of the mandates of the National government, needs to be enhanced. This includes fellowship programs, on-job trainings, support for short courses and workshops. 2. To enhance community level emergency response to medical emergencies, Kenya Registered Community Health nurses can be enabled to offer these services. 3. Develop and implement a national integrated electronic emergency medical system to enable seamless sharing of patient health data, real-time ambulance tracking, and support clinical decision-making in both pre-hospital and hospital phases. This can be integrated into the national digital superhighway. 4. Invest in regular simulation-based training and multidisciplinary learning across all facility levels. 5. Implement robust, standardized audit and feedback systems for emergency departments nationally, enabling real-time analysis and improvement of key performance indicators (e.g. wait time, triage accuracy, patient outcomes, rates of complaints, and "left without being seen" rates). 6. Encourage operational research into innovative approaches for emergency care delivery, including partnerships with universities, private sector technology innovators, and international emergency medicine leaders.	We have incorporated the first recommendation as capacity building is a mandate of the Ministry and edited the report as follows: - The Ministry of Health in collaboration with county governments should build capacity on emergency medical care serviced for County Governments. In addition, county governments should ensure continuous training of key staff and implement effective strategies for the retention of these key staff. Recommendation 2 to 6 are quite progressive and actionable. However, the audit did not extensively cover these areas and therefore, the Office could not incorporate them in the Report.

Recent Developments in Emergency Medical Care Led by the Ministry of Health	
1. Operationalization of the Emergency Chronic and Critical Illness Fund (ECCIF) in line with legislative mandates as spelt out in the Social Health Insurance Act 2023, this has been rolled out under the Social Health Authority to improve financial access to lifesaving emergency services.	The Office has taken note and incorporated in the report the fact that the ECCIF has been established but not fully

Audit Finding	Management Response	Auditor's Comments
2. The Ministry of Health has developed interim standards for ambulances and emergency departments. 3. The Ministry of Health is in the process of putting in place a framework for regulation and licensing of EMTs, paramedics, ambulance operators and ambulances. 4. The Ministry led the introduction and stakeholder consultations for the Quality Healthcare and Patient Safety Bill, 2025, which mandates the establishment of unified health funds, stricter emergency response standards, and a Healthcare Tribunal to resolve disputes and uphold service quality.	operationalized and accessible in all levels of health care. We have not incorporated the other developments as the audit findings did not capture the matters of ambulance standards, Quality Healthcare and Patient Safety Bill, 2025.	
Ministry of Health's Plans for Emergency Medical Care in Kenya		

1. The Ministry led the introduction and stakeholder consultations for the Quality Healthcare and Patient Safety Bill, 2025, which mandates the establishment of unified health funds, stricter emergency response standards, and a Healthcare Tribunal to resolve disputes and uphold service quality.
2. The Ministry of Health is in the process of establishing the National Emergency Command and Control Centre with linkage to county ambulance dispatch centres for real time ambulance monitoring systems to ensure accessibility, easy tracking of ambulances and speedy response to distress calls, especially in times of disaster.
3. The Ministry in collaboration with county governments, is in the process of implementing the Emergency Medical Care Policy, 2020-2030, to enhance capacity in the emergency care ecosystem This includes:
   i. Ambulance standards and accreditation criteria (Ground, Air and Water Ambulances);
   ii. Emergency departments and accreditation criteria;
   iii. Establish functional accident and emergency departments in Level 4 and Level 5 facilities; and
   iv. Provide mechanism to ensure appropriate and adequate personnel, essential drugs, equipment and other consumables.
4. The Ministry in collaboration with county governments to establish and maintain budget and ring fence the funds for emergency care services.
5. The Ministry is seeking Kshs.11.725 billion from The National Treasury to establish integrated infrastructure and implement the priority activities to bridge the gaps, as indicated in the audit report.
	The Office has taken note of the plans by the Ministry which will improve emergency medical care services upon implementation. The Office will assess the extent of implementation of the plans in the follow-up.	