



GUIDELINES FOR THE OPERATION OF NATIONAL AMBULANCE SERVICES IN NIGERIA.

1.0 Introduction

1.1 Overview of Emergency Ambulance Services

National Ambulance Services System (NASS) is a system for the coordination and provision of emergency medical care and transportation of the sick or injured persons who are in need of immediate medical care. The goal is to reach those in need of urgent medical care in order to satisfactorily treat the presenting conditions or arrange for timely removal of the patient to the point of definitive care, most likely an emergency department of a hospital or health facilities. Thus, the quality of ambulance services system and their attached medical care are essential in the pre hospital phase of patients' management, and critical to treatment outcomes of health emergencies.

Ambulance Services has evolved over the years from simply systems of ambulances providing only patients' transportation, to a system, in which actual medical care is given on scene and during transportation. The Ambulance is usually called by members of the public through the toll free emergency phone number 112, which puts them in contact with an emergency contact centre, that then dispatch a suitable ambulance service to deal with the situation anywhere within the system coverage. The role of the Ambulance service also includes inter-hospital transfers, to facilitate the provision of a higher level or more specialised

field of care. The emergency medical personnel in the ambulances are the Paramedics and Paramedic technicians based on their levels of training (Higher National Diploma as Paramedic; National Diploma as Paramedics technician). The paramedic nurses and paramedic Physicians are also very important in the implementation of the emergency and trauma care activities.

1.2 Situation Analysis

Presently in Nigeria, there is no formal legal framework for coordination and regulation of Ambulance services. The absence of policy framework to guide ambulance service providers, led to many disparate non co-ordinated ambulance services operated by Government agencies such as Federal Road Safety Commission, National Emergency Management Agency, Nigeria Police Force, Nigeria Security and Civil Defence Corps, as well as Private and Voluntary organizations. Their Personnel are often without requisite paramedic training. Similarly, most first responders seen at emergency scenes do not have prerequisite knowledge and skills to manage emergencies. The Victim of trauma and other emergencies are often transported to definitive health care facilities by good Samaritan. Although each agency has its own emergency call line, as Close User Group (CUG), there has been no National Emergency Call Number for coordinated emergency services.

The absence of a coordinated ambulances services in the country has led to several preventable loss of lives from road traffic incidents, terrorist attacks, natural disasters, civil uprising, domestic violence and other medical conditions such as; complications of child birth, heart attacks, stroke and acute asthmatic attack. These situations require prompt and professional attention so as to save lives, and

improve health indices by reducing mortality and morbidity. Timely intervention and response is critical to the survival of emergency victims and their treatment outcomes.

It is worthy of note, that, the Federal Ministry of Health has put a number of measures in place to address these challenges. The process of producing the paramedics' cadre is on going, and efforts to include the cadre in the Scheme of Service is on going. The national paramedics curriculum has been launched and already being used for training paramedics in UBTH and Emergency Services training centres. The National Communication Commission (NCC) has put in place a 3-digit toll free number, 122, housed by NEMA as the National Emergency number

The urgent need for national Policy guidelines on National Ambulance Service (NAS), can not be overemphasized. This shall regulate and coordinate emergency ambulance service system in Nigeria for effective and efficient emergency care service delivery in Nigeria.

1.3 Justification of the Policy

Nigeria, in recent times, has witnessed a rise in morbidity and mortality due to insurgency attacks, bomb blasts, road traffic crashes, armed robbery, collapsed buildings, floods, and non-violent emergencies such as cardiac arrests, stroke and sudden deaths, ectopic pregnancies, Asthma, amongst others. The policy guideline on NAS is necessary for a functional pre-hospital and post-crash care in Nigeria. The policy will ensure improved and coordinated response to health emergencies as well as reduce *response time* as patient's chances of survival are greatest if they receive care within the golden hour, a period of one hour following a severe injury.

The Policy will not only improve Nigerian health indices, but will also ensure effective and efficient utilization of resources and create jobs for Nigerians.

2.0 Policy Guideline Goal and Objectives

2.0 Goal

To institutionalise, coordinate and regulate the use of ambulance service for Emergency Medical Services in Nigeria.

2.1 Objectives

- i. To regulate the operations of ambulance service providers in Nigeria.
- ii. To coordinate the use of Ambulances in Nigeria.
- iii. To determine the specifications and quality of an ambulance to be used for emergency ambulance services in Nigeria.
- iv. To determine how any given incident is assessed, reported and handled while victims are being transported to a hospital in Nigeria.
- v. To stipulate, indicate and specify the role of various stakeholders in ambulance service system in Nigeria.
- vi. To guide the ambulance usage plan in a disaster scenario: see EMS policy for SOP
- vii. To put in place the funding plan for emergency ambulance service system for Nigeria, vis-à-vis payment system.
- viii. To generate data which will be used for monitoring, evaluation and provision of evidence based planning for emergency services.

- ix. To propose legislation that will enforce emergency medical services and to regulate proper ambulance service practice in Nigeria

Types of Ambulance Service, Equipment Specification and Maintenance

3.0 General Designs of Ambulances

- i. The interior of the vehicle shall be designed for the safety of patients and crewmembers.
- ii. The patient compartment shall have no protruding edges; corners that point-out shall be rounded or covered with a padded material; the ceiling shall be finished with a padded material or with a flat, even and unbroken surface; and the floor shall have a flat, even, unbroken and impervious surface and shall be covered with a slip-resistant material
- iii. Any seats with under seat storage shall have a positive latching mechanism that holds the seat closed
- iv. All cabinet doors, except a sliding door, shall have a positive latching mechanism that shall hold the door securely closed and shall prevent the contents of the cabinet from pushing the door open from the inside;

- v. All equipment and supplies carried on the vehicle shall be stored in a crashworthy manner (that is, they shall remain firmly in place and shall not present a hazard to any vehicle occupant in the event of an accident or sudden change in vehicle speed or direction). There shall be sufficient cabinets and other storage spaces within the vehicle so as to meet this requirement.
- vi. While the vehicle is in motion, all transport device accessories such as IV poles and monitor trays shall be installed per manufacturer's guidelines and utilized per manufacturer's standards and safety recommendations. All equipment shall be secured to these devices while being utilized; and
- vii. Automotive safety belts shall be provided for each vehicle occupant (patient, passenger or crewmember) over eighty years of age or under eight years of age. Each vehicle occupant shall be properly restrained either in an automotive safety belt or on a stretcher, as medically appropriate. All children under eight years of age, whether patients or passengers, shall be properly restrained as medically appropriate.
- viii. Signs shall appear in both the patient and driver's compartments that clearly indicate that smoking is prohibited anywhere in the vehicle.
- ix. The interior must be ergonomically designed for convenience and quick access and should have a good head clearance for occupants, keeping in mind differences in heights while standing.
- x. Air conditioning must be working optimally as it is an enclosed environment to maintain proper ventilation.

- xi. Side windows must be properly shielded with non transparent material for privacy.
- xii. Piped oxygen according to manufacturers specification should be available.
- xiii. There should be provision for adequate illumination at the back of the ambulance especially for night time rescue operations.
- xiv. Ambulance shall have a systematic means of loading and offloading stretchers

3.1 Ambulance Sanitation and Hygiene

- i. The interior of the vehicle, including all areas utilized for storage, and the equipment and supplies within the vehicle, shall be kept clean and sanitary. **A non- offensive, preferably odourless** disinfectant shall be routinely applied to all contact surfaces. The floor, walls and equipment shall be free of stains, dirt, debris and odours and insect infestation. **Routine complete detoxification shall be done bi-annually for all ambulance content.**
- ii. All interior surfaces shall be covered with stain resistant material that is impervious to blood, vomitus, grease, oil and common cleaning materials.
- iii. Blankets and mattresses (stretcher mattress) shall be kept clean and in good repair. All mattresses shall have protective, waterproof and stain resistant covers.
- iv. Clean linens shall be utilized in the transport of stretcher patients. All linens shall be changed after each patient. Disposable linens may be utilized, so long as they are disposed of after each patient.

- v. There shall be adequate, clean, dustproof storage for clean linens.
- vi. Plastic bags and/or covered containers or compartments shall be provided **with appropriate label** and shall be utilized for all soiled supplies (including linens and blankets) carried within the vehicle.
- vii. In order to protect the safety of the general public and emergency response personnel, after a vehicle has been occupied by or used to transport a patient known or suspected to have a communicable disease the vehicle shall, prior to transportation of another patient, be cleaned and all contact surfaces, equipment and blankets shall be disinfected. *The specification for type of agent to be used shall be obtained from the FMOH.*
- viii. Where possible, only single-service (disposable) implements shall be inserted into the patient's nose or mouth. These single-service items shall be wrapped and properly stored and disposed of after utilization. Non-disposable patient care equipment shall be decontaminated after each patient utilization in a manner consistent with the sending or receiving health care facility's requirements for equipment decontamination. No airway, tube, catheter or other similar device shall be utilized on more than one patient unless first sterilized in accordance with manufacturer's recommendations.
- ix. Each vehicle shall be equipped with at least one container for the disposal of contaminated sharps that is rigid, leak-proof, and puncture-proof and of a size large enough to accommodate needles and syringes up to 10 inches in length and an inch and a half in diameter.

- a. Disposal containers shall have a water-resistant label affixed to or printed on the outside of the container, which shall include the words "MEDICAL WASTE" or "INFECTIOUS WASTE," or Colour-coded YELLOW – HARZARDOUS /HIGHLY INFECTIOUS WASTE, RED - INFECTIOUS WASTE, and BLACK-GENERAL WASTE.
- b. Disposal containers shall be wiped with a suitable disinfectant if blood or other bodily fluids are spilled on the outside of the container.
- c. Disposal containers shall be disposed of in accordance with all applicable laws, rules and/or regulations.
- x. Exterior surfaces of the vehicle shall be routinely cleaned
- xi. Each vehicle shall have a functional air conditioner
- xii. The motor vehicle chassis, body and components shall be standard commercial products and shall comply with Directorate of Traffic Control Safety and Federal Road Safety Corps (FRSC) Standards
- xiii. There should be provision of on board hand washing facility and hand sanitizers.

3.2 Equipment Maintenance and Supplies

- i. Each provider shall devise a plan for maintaining inventory control over medications and medical consumables – There shall be provision of a standardized daily check list for this purpose which will include but not limited to; daily date inputs, plate number and location, types of equipment, types of drug, types of consumables, ambulance check itself (Engine,

brakes, tyre, lights, wipers, oil, water levels, siren, GPS, amongst others) – Ambulance service provider shall possess a Quality Assurance/Quality control policy and documentation for its operations.

- ii. Expended supplies and/or damaged equipment shall be replaced as soon as possible after utilization.
- iii. There shall be a record for expired or about to expire drugs and this should be clearly labelled for disposal – Expired drug policy.
- iv. Equipment may be temporarily left on/with a patient, when medically necessary.
- v. Supplies stored in the cabinets of emergency ambulances and specialty care transport units' shall either be clearly visible through the door of the cabinet or identifiable by way of a list of contents posted on that cabinet.
- vi. All respiratory equipment shall be pneumatically tested by the provider at least once a year and, if required by the manufacturer, at more frequent intervals.
- vii. Each provider shall develop and maintain a testing and maintenance schedule for its biomedical equipment in accordance with the manufacturer's recommendations. All biomedical equipment and devices shall comply with all applicable provisions set forth by the National Agency for Food, Drug Administration and Control for safe care, utilization and maintenance of medical devices.

3.4 BLS Ambulance Service

BLS ambulance service is an entity that is validly licensed to provide pre-hospital basic life support care; and/or BLS inter-facility transfers in accordance with this policy with the standard as set forth in this policy

3.4.1 Equipment and Supplies

Each BLS Ambulance shall be equipped with the following equipment and supplies:

- i. Primary response bag (Jump Bag)**
- ii. Automated External Defibrillator
- iii. Airway management materials including:
 - a. At least five oropharyngeal and nasopharyngeal airways in assorted sizes and a water-soluble lubricant for utilization with the airways;
 - b. AMBU bags (at least one each in adult, Paediatric and infant sizes)
- iv. A blood glucose monitoring system, ie a glucometre
- v. Adult sized blood pressure cuffs (at least one each in small, medium and large sizes);
- vi. Six rigid cervical collars in at least three different sizes, one of which shall be of a size to accommodate Paediatric patients
- vii. Personal protective gear for each required crewmember, to include: isolation garments (including respiratory protection masks that are effective in filtering airborne pathogens and gowns); goggles (in addition to any set utilized in the obstetrical emergency delivery kit); disposable, single-use "biohazard" type examination gloves which are impervious to bodily fluids

and provide adequate barrier protection ; gloves and masks which shall meet the standards for personal protective equipment and shall be disposed of after utilization in accordance with all applicable laws, rules and/or regulations;

- viii. A copy of the provider's communications failure protocols; and
- ix. A copy of approved standing orders
- x. **Copies of Ambulance case sheet / Treatment sheet**
- xi. **Communication equipment**
- xii. Each provider may, within the limits and exclusions set forth in this policy, equip its vehicles with such other equipment and supplies as it deems necessary for the provision of BLS treatment, provided that no equipment or supplies shall be carried that would permit a crewmember to render care beyond his or her scope of practice and/or in violation MDCN guidelines.

3.4.2 Required crewmembers for BLS Ambulance

When in-service, each BLS ambulance shall be staffed by at least two persons, as follows:

- i. Two paramedics; **OR**
- ii. Two registered nurses who meet the requirements set forth in this section **OR**
- iii. One paramedic and one registered nurse who meet the requirements set forth in this section.

3.4.3 REQUIREMENT FOR A REGISTERED NURSE TO SERVE AS MEMBER OF BLS AMBULANCE CREW

- i. The Nurse must have completed at least one year of full-time nursing care in an emergency department of a hospital.

- ii. The Nurse must possess BLS certifications
- iii. The Nurse is physically capable of performing the duties of a BLS ambulance crew such as lifting patient and driving ambulance
- iv. The Nurse is endorsed by the medical director of an ambulance service provider

3.5 Advance Life Support (ALS) Ambulance

ALS ambulance service is an entity that is validly licensed in accordance with the provision of this guideline to provide pre-hospital or inter-facility Advance life support care

3.5.1 Equipment and Supplies

Each ALS ambulance shall be equipped with the following equipment and supplies:

- i. All items in section 3.4.1 sub section i-xii.
- ii. An external pacemaker and a cardiac monitor with a DC or biphasic defibrillator that can provide both defibrillation and synchronized cardioversion and is capable of producing a paper recording of cardiac rhythms
- iii. Assorted needles, syringes and IV supplies to include: IV tubing and catheters
- iv. Needle and syringe disposal containers that meet the requirement
- v. Adult airway management materials including:
 - a. At least five oropharyngeal and nasopharyngeal airways in assorted sizes and a water-soluble lubricant for utilization with the airways;

- b. Laryngoscope blades, handles, endotracheal tubes, stylets, spare batteries and bulbs;
- c. Oxygen masks and cannulas;
- d. A 1,600 mL sized bag-valve-mask device
- e. A pulse-oximeter
- f. End-tidal CO2 monitors; **(Wave form Capnographs)**
- g. Transparent domed resuscitation facemasks (at least one each in adult, Paediatric and infant sizes) with 22 mm fittings for utilization with the bag-valve-mask device and/or positive pressure device;
- vi. All medications and solutions set forth in this policy
- vii. An IV infusion pump
- viii. A blood glucose monitoring system, i.e a glucometer
- ix. Adult sized blood pressure cuffs (at least one each in small, medium and large sizes);
- x. Six rigid cervical collars in at least three different sizes, one of which shall be of a size to accommodate Paediatric patients
- xi. Equipment to perform needle chest decompression
- xii. Back-up medications and other equipment needed to provide for uninterrupted service
- xiii. Wound dressing and burn treatment supplies, to include:
 - a. Two conforming roller bandages, measuring at least three inches wide by five yards long;
 - b. Two triangular bandages (cravats) measuring 36 inches by 36 inches by 51 inches when unfolded;
 - c. Four sterile, individually wrapped universal (or multi-trauma) dressings measuring at least nine inches by 30 inches when unfolded;

- d. Ten sterile, individually wrapped gauze pads measuring at least four inches by four inches;
- e. Two rolls of medical adhesive type tape;
- f. Four sterile, individually wrapped occlusive dressings or one sterilized roll of aluminum foil; and
- g. Two sterile, individually wrapped burn sheets;

Comprehensive Ambulance equipment check List

Artery Forceps
Bag valve Mask Adult
Bag valve Mask Child
Bag valve Mask neonatal
Bedpans
Blankets
Sheets
Pillow cases
Pillows
Duvets
Duvet covers
Cervical Collar adjustable non disposable (pk 4)
Cervical Collar adjustable disposable (pk 3)
Patient Monitoring devise
S.E.D/KED
Kidney dish

Laryngoscope sets
Assorted non disposable splint sets
MAST suits
Needle holder
Magils forceps Adult
Magils forceps Child
Monitor / Defibrillator + cover with NiBP
Monitor / Defibrillator + cover NiBP and Pacing
Nihon koden battery
Monitor Defibrillator
Lifepack battery
Recharge batteries
Monitor additional consumables
Single battery charger
AED
AED pads
Scissors
Gallipots with cover
Dissecting forceps
Mosquito Forceps
PEEP valve
Pressure infusor
Pulse Oximeter & probe
Paediatric Sensor

Pupil torch
Safety Goggles
Heavy duty scissors
Scoop stretchers
Sphygmomanometer
Stethoscope
Suction units + carry bag
1 hour syringe driver
Tourniquet
Thermometer
Trac III adult
Trauma Board
Spider harness
Urinal
Ventilator
Self loading stretcher
Head Blocks
Jump bags
Drug bag
Insulation pouch
Portable Pin index Oxygen gauges
Oxygen flow meter high pressure (mains+vent)
Oxygen outlet
Flowmeter + humidifier
Oxygen hose+connector

Flowmeter / humidifer adapter
Pin Index oxygen reducer (ventilator)
Medical Oxygen gas
Cylinder holder
Lightbar strobe type
Revolving lamp
Stair chair
Traffic wand
Hallagan tool
extrication gloves
Helmet
Haemoglucose tester
Reflective jacket

- xiv. Personal protective gear for each required crewmember, to include: isolation garments (including respiratory protection masks that are effective in filtering airborne pathogens and gowns); goggles (in addition to any set utilized in the obstetrical emergency delivery kit); disposable, single-use "biohazard" type examination gloves which are impervious to bodily fluids and provide adequate barrier protection ; gloves and masks which shall meet the standards for personal protective equipment and shall be disposed of after utilization in accordance with all applicable laws, rules and/or regulations;
- xv. A copy of the provider's communications failure protocols; and
- xvi. **Ambulance case sheet/Ambulance checklist**

- xvii. Communication equipment**
- xviii. A copy of approved standing orders
- xix. Each provider may, within the limits and exclusions set forth in this policy, equip its vehicles with such other equipment and supplies as it deems necessary for the provision of ALS treatment, provided that no equipment or supplies shall be carried that would permit a crewmember to render care beyond his or her scope of practice and/or in violation MDCN guidelines

3.5.2 Minimum Required Crewmembers for ALS Ambulance

When in-service, each ALS ambulance shall be staffed by either of the following:

- i. Two Paramedics; **OR**
- ii. Two registered nurses who meet the requirements set forth in this policy **OR**
- iii. One Paramedic and one registered nurse who meets the requirements set forth in this policy.

3.5.3 Requirement for a Registered Nurse to serve in the ALS crew include:

- i. Has completed at least one year of full-time nursing care performing advanced clinical skills in the intensive care unit or emergency department of a secondary or tertiary hospital
- ii. Possesses BLS and ACLS certifications, Pediatric Advance life Support (PALS) certification, or Basic trauma Life Support (BTLS) certification

- iii. Is physically capable of performing the duties of a ALS crew such as lifting patient and driving ambulance
- iv. Is endorsed by the medical director of an ALS ambulance services.

3.6 Mobile Intensive Care Service

Mobile intensive care service is an entity that is validly licensed to provide inter-hospital advanced life support care by way of a specially equipped and staffed mobile intensive care unit (MICU). MICU is a *specialized emergency ambulance vehicle* that is validly licensed and operated in accordance with the standards set forth in this policy.

3.6.1 Equipment and Supplies

Each Mobile ICU shall be equipped with the following equipment and supplies:

- i. An external pacemaker and a cardiac monitor with a DC or biphasic defibrillator that can provide both defibrillation and synchronized cardioversion and is capable of producing a paper recording of cardiac rhythms
- ii. Assorted needles, syringes and IV supplies to include: IV tubing and catheters
- iii. Needle and syringe disposal containers that meet the requirement
- iv. Adult airway management materials including:
 - a. At least five oropharyngeal and nasopharyngeal airways in assorted sizes and a water-soluble lubricant for utilization with the airways;

- b. Laryngoscope blades, handles, endotracheal tubes, stylets, spare batteries and bulbs;
 - c. Oxygen masks and cannulas;
 - d. A 1,600 mL sized bag-valve-mask device
- v. A pulse-oximeter
- vi. End-tidal CO₂ monitors;
- vii. Transparent domed resuscitation facemasks (at least one each in adult, Paediatric and infant sizes) with 22 mm fittings for utilization with the bag-valve-mask device and/or positive pressure device;
- viii. All medications and solutions set forth in this policy
- ix. An IV infusion pump
- x. A blood glucose monitoring system, either electronic or visual (glucometre)
- xi. Adult sized blood pressure cuffs (at least one each in small, medium and large sizes);
- xii. Equipment to perform needle chest decompression
- xiii. Back-up medications and other equipment needed to provide for uninterrupted service
- xiv. Personal protective gear for each required crewmember, to include:
 - isolation garments (including respiratory protection masks that are effective in filtering airborne pathogens and gowns); goggles (in addition to any set utilized in the obstetrical emergency delivery kit); disposable, single-use "biohazard" type examination gloves which are impervious to bodily fluids and provide adequate barrier protection ; gloves and masks which shall meet the standards for personal protective equipment and shall be disposed of after utilization in accordance with all applicable laws, rules and/or regulations;
- xv. A copy of the provider's communications failure protocols; and

xvi. A copy of approved standing orders

Each provider may, within the limits and exclusions set forth in this policy, equip its vehicles with such other equipment and supplies as it deems necessary for the provision of ALS treatment, provided that no equipment o

- xvii. r supplies shall be carried that would permit a crewmember to render care beyond his or her scope of practice and/or in violation MDCN guidelines Service

3.6.2 Required crewmembers for MICU

When in-service, each SCTU shall be staffed with a minimum of either of the following:

- i. One registered nurse who meets the requirements set forth in this section, and two paramedics **OR**
- ii. One registered nurse who also has paramedic training and meets the requirements set forth in this section, and one paramedic.
- iii. Under no circumstances shall a Paramedic be allowed to take the place of the registered nurse required in i & ii above.
- iv. An emergency physician

3.6.3 Requirement for a Registered Nurse to serve as MICU nurse include:

- i. Has completed at least one year of full-time nursing care performing advanced clinical skills in the intensive care unit or emergency department of a secondary or tertiary hospital
- ii. Possesses BLS and ACLS certifications, PALS certification, either PHTLS or BTLS certification
- iii. Has successfully completed at least a MICU field internship consisting of at least 100 hours and has demonstrated proficiency in pre-hospital ALS

treatment to the satisfaction of the mobile intensive care program's medical director

- iv. Is physically capable of performing the duties of a MICU nurse such as lifting patient and driving ambulance
- v. Is endorsed by the medical director of a mobile intensive care program.
- vi. Additional training in endotracheal intubation and has been deemed competent by the medical director;

3.6.4 Equipment and Supplies

Each Mobile ICU shall be equipped with the following equipment and supplies:

- v. An external pacemaker and a cardiac monitor with a DC or biphasic defibrillator that can provide both defibrillation and synchronized cardioversion and is capable of producing a paper recording of cardiac rhythms
- vi. Assorted needles, syringes and IV supplies to include: IV tubing and catheters
- vii. Needle and syringe disposal containers that meet the requirement
- viii. Adult airway management materials including:
 - a. At least five oropharyngeal and nasopharyngeal airways in assorted sizes and a water-soluble lubricant for utilization with the airways;
 - b. Laryngoscope blades, handles, endotracheal tubes, stylets, spare batteries and bulbs;
 - c. Oxygen masks and cannulas;
 - d. A 1,600 mL sized bag-valve-mask device
- xviii. A pulse-oximeter

- xix. End-tidal CO₂ monitors;
- xx. Transparent domed resuscitation facemasks (at least one each in adult, Paediatric and infant sizes) with 22 mm fittings for utilization with the bag-valve-mask device and/or positive pressure device;
- xxi. All medications and solutions set forth in this policy
- xxii. An IV infusion pump
- xxiii. A blood glucose monitoring system, either electronic or visual (glucometre)
- xxiv. Adult sized blood pressure cuffs (at least one each in small, medium and large sizes);
- xxv. Equipment to perform needle chest decompression
- xxvi. Back-up medications and other equipment needed to provide for uninterrupted service
- xxvii. Personal protective gear for each required crewmember, to include:
 - isolation garments (including respiratory protection masks that are effective in filtering airborne pathogens and gowns); goggles (in addition to any set utilized in the obstetrical emergency delivery kit); disposable, single-use "biohazard" type examination gloves which are impervious to bodily fluids and provide adequate barrier protection ; gloves and masks which shall meet the standards for personal protective equipment and shall be disposed of after utilization in accordance with all applicable laws, rules and/or regulations;
- xxviii. A copy of the provider's communications failure protocols; and
- xxix. A copy of approved standing orders
- xxx. Each provider may, within the limits and exclusions set forth in this policy, equip its vehicles with such other equipment and supplies as it deems necessary for the provision of ALS treatment, provided that no equipment or supplies shall be carried that would permit a crewmember to render care

beyond his or her scope of practice and/or in violation MDCN guidelines
Service

3.7 AIR AMBULANCE

AIR AMBULANCE service is an entity that is validly licensed to provide inter-state and cross border advanced life support care by way of a specially equipped and staffed Air ambulance unit (AA). AA is a *specialized emergency ambulance unit* that is validly licensed and operated in accordance with the standards set forth in this policy.

3.7.1 Required Crewmembers For AA

Minimum Requirements:

Definitions - As used in this Guideline, the following terms shall have the meanings as detailed:

- (i) Crew Member - Any person employed by an air ambulance service with the intent to function in the performance of duties aboard any aircraft during flight.
- (ii) Flight crewmember - Any person employed by an air ambulance service with the intent to be engaged as the pilot of an aircraft.
- (iii) Flight coordinator - Any person functioning for an air ambulance service with duties for initial acknowledgement of requests, telecommunications, and flight following.

(iv) Public Use Air Ambulance Service - Any service conducted by a local or state government unit and/or associated with operations for police patrol or fire fighting, conducted without compensation for patient transport.

(v) Regular Medical Crew Members - Any person with the intent to be engaged in day-to-day flight mission assignment as distinguished from a medical crew member who is employed to serve on an occasional flight mission or as a specialty crew member.

(vi) Special Equipment - Any device or number of devices and supplies which shall be approved by the medical director of an air ambulance service for the medical care of a particular patient.

(vii) Specialty Crew Members - Any person substituted by the medical director of an air ambulance service for a Specialty Mission.

(viii) Specialty Mission - An assignment for air ambulance service for which the specified needs of a particular patient require the substitution of particular medical care providers and/or equipment as may be approved by the medical director.

3.7.2 Air Ambulance Design and Navigational Equipment.

(a) All fixed-wing aeromedical aircraft shall comply with all applicable Federal Aviation Regulations for the type of operation and aircraft, and shall be designed for the provision of patient care as follows:

i. Aircraft doors shall accommodate passage of a supine litter patient without rotation of more than 30 degree roll or 45 degree pitch

ii. At least 30 inches (76cm) of vertical head space shall exist above the head of the stretcher with sufficient attendant access from at least one side of the litter without obstruction.

iii. Lighting for the patient area shall afford necessary observation by medical personnel. Fixed or portable lamps may be used to comply with this standard.

(b) Civil helicopter aeromedical programs that are licensed or authorized or operating in Nigeria shall operate in compliance with Federal Aviation Regulations. Public-use aeromedical programs shall comply with applicable Federal Aviation Regulations.

(c) All helicopters performing aeromedical missions shall be equipped with avionics and instruments necessary to enable the pilot to execute an instrument approach under instrument meteorological conditions and shall include:

i. Two very high frequency transceivers, notwithstanding the provisions of applicable Federal Aviation Regulations regarding inoperable equipment. One transceiver shall be capable of operating on the designated EMS frequency;

ii. Two very high frequency omnidirectional ranging (VOR) receivers;

iii. One non-directional beacon (NDB) receiver;

iv. One glide slope receiver;

v. Transponder meeting requirements of FAA

- vi. FAA approved navigational aids and current IFR charts for the area of operations.

3.7.3 Air Ambulance Medical Equipment and Supplies.

(A) Fixed-Wing Medical Equipment and Supplies - The following medical equipment and supplies shall be provided on each flight aboard the aircraft and shall be stored and secured within the flight compartment by suitable restraints.

- i. Litter - A litter or stretcher with at least two sets of restraining straps shall be supplied, secured as required by the supplemental type certification for the aircraft utilized.

- ii. Suction Apparatus - A suction device shall be provided, capable of 12 inches mercury vacuum. Sterile suction catheters and a rigid suction tip shall be provided for adult and pediatric patients.

- iii. Bag/Valve/Mask Resuscitator - Bag/Mask resuscitator(s) shall be provided for the adult or pediatric patient, with clear masks and an oxygen reservoir and connections to achieve 95% fraction inspired oxygen.

- iv. Airways - Oropharyngeal airways shall be provided for infants, children, and adults.

- v. Resuscitation Board - Unless a rigid stretcher or spineboard is employed for patient transfer, a suitable board for cardiac compression shall be provided.

- vi. Medical Oxygen Equipment - Oxygen equipment shall be furnished capable of adjustable flow from 2 to 15 liters per minute. Masks and supply tubing for adult and pediatric patients shall allow administration of variable oxygen concentrations

from 24% to 95% fraction inspired oxygen. Medical oxygen shall be provided for 150% of the scheduled flight time by a unit secured within the aircraft.

vii. Sanitary Supplies - Sanitary supply items provided for fixed-wing flights shall include a bedpan, urinal, towels, tissues, emesis, and plastic trash disposable bags.

viii. Sheets and Blankets - Sheets and blankets shall be provided for each patient transported.

ix. Patient Assessment Devices - Devices for adult and pediatric patient assessment shall be provided, including:

(1) Flashlight and/or penlight,

(2) Stethoscope,

(3) Sphygmomanometer and blood pressure cuffs, and

(4) Dressings and bandages.

5. Medications deemed suitable by the aeromedical consultant shall be provided as appropriate for the crew and patient.

(B) Helicopter Medical Equipment and Supplies - Unless the service's Medical Director approves substitution of special equipment for specialty missions, the following medical equipment and supplies shall be provided on each helicopter, and all equipment shall be stored and secured by suitable restraints:

i. Litter - A litter or stretcher with at least two sets of restraining Amps shall be supplied, secured as required by the supplemental type certification for the aircraft

ii. Suction Apparatus - An installed and portable suction device shall be provided, capable of 12 inches mercury vacuum. Sterile suction catheters and a rigid suction tip shall be provided for adult and pediatric patients.

iii. Bag/Valve/Mask Resuscitator - Bag/Mask resuscitator(s) shall be provided for the adult and pediatric patient, with clear masks and an oxygen reservoir and connections to achieve 95% fraction inspired oxygen.

iv. Airway - Maintenance devices shall be provided for adult and pediatric patients including oropharyngeal airways, endotracheal tubes, laryngoscope with assorted blades, and accessory items for intubation.

v. Resuscitation Board - Unless a rigid stretcher or spineboard is employed for patient transfer, a suitable board for cardiac compression shall be provided.

vi. Medical Oxygen Equipment - Oxygen equipment shall be furnished capable of adjustable flow from 2 to 15 liters per minute. Masks and supply tubing for adult and pediatric patients shall allow administration of variable oxygen concentrations from 24% to 95% fraction inspired oxygen. An installed oxygen system shall supply a minimum 1,800-liter supply. A portable system shall supply at least 300 liters.

vii. Protective Cover - A protective cover shall be supplied for each patient.

viii. Patient Assessment Devices - Devices and supplies shall be available for adult and pediatric patient assessment, to include:

(1) Sphygmomanometer and blood pressure cuffs,

(2) Stethoscope,

(3) Doppler stethoscope, and

4) Electrocardiographic monitor/recorder and defibrillator.

ix. Trauma Supplies - Sterile dressings, roller bandages, pneumatic antishock trousers, and semi-rigid cervical collars shall be supplied.

x. Intravenous fluids and administration devices shall be provided.

xi. Medications - Appropriate medications including the advanced life support medications described in a Rule 1200-12-1-.03(2)(b) shall be provided.

xii. Neonatal transport equipment shall conform to the standards adopted in Perinatal Care System Guidelines for Transportation.

3.7.4 Air Ambulance Safety Equipment, Procedures And Training And Standards.

Each aeromedical service shall assure that aircraft are equipped to promote safe scene access, that procedures are established for safe operation, and that adequate training has been conducted for personnel in placement and use of emergency equipment and emergency and safety procedures.

(i) Safety and Survival Equipment shall be required on all helicopter air ambulances which shall include:

1. Illumination of the tail of the aircraft.

2. Search light of at least 300,000 candlepower for night scene and landing area illumination.

3. Survival kit with signaling devices and personal survival items.

(ii) Landing Zone Preparation Procedures shall be published for distribution to ground ambulance services specifying the following minimum requirements:

1. An 80 by 80 foot square perimeter shall be required for day operations; a 100 by 100 foot square perimeter shall be required for night operations.

2. Landing areas shall be clear of trees, wire or other obstructions.

3. Landing areas shall be clear of loose debris.

4. Touchdown areas shall be smooth and as level as possible.

5. Perimeter obstructions - Wires, trees, poles, lights, and other hazards must be marked or clearly identified to the pilot.

6. Night landing areas shall be clearly identified by lights at the perimeter boundary.

(iii) Safety Training shall be provided by each helicopter air ambulance service for all Flight Crew Members, Medical Crew Members, Specialty Crew Members, and Flight Coordinators.

A. Safety training provided annually shall include the following:

(1) Ground emergency procedures,

(2) Inflight safety procedures,

(3) Aircraft safety equipment

- (4) Hazardous material identification training,
- (5) Emergency shut down aircraft engines,
- (6) Electrical shut down of the aircraft,
- (7) Use of the emergency locator transmitter,
- (8) Emergency use of the aircraft avionics system to include appropriate emergency frequencies,
- (9) Demonstrated ability to use onboard fire equipment to include engine and cabin fire extinguishers,
- (10) Emergency exits of the aircraft,
- (11) Passenger safety briefings,
- (12) Roles and responsibilities for patient safety and flight duties, and
- (xiii) Crash protection and survival techniques.

B. Flight coordinators and ground support personnel functioning for an air ambulance service shall be trained to promote safe operations, to include:

- (i) Helipad safety precaution,
- (ii) Landing zone standards and scene control,
- (iii) Radio communications,
- (iv) Fire prevention and fire suppression, and

(v) Accident and incident notification and documentation.

C. Instruction materials shall be offered by the air ambulance service that will familiarize other EMS providers within their response area with the requirements for establishing landing zones, control of the landing area, and ground to air communications.

3.7.5 Air Ambulance Personnel and Qualifications.

(A) Pilot

1. For all air ambulances the pilot shall possess a minimum commercial pilot's certificate with an instrument rating and in a category appropriate to the aircraft utilized and meet all applicable Federal Aviation Regulations for the type of operation and aircraft.

2. For all helicopter air ambulance services:

(a) Each pilot shall possess a Commercial Helicopter Certificate with Instrument Helicopter ratings and 3000 hours of flight time which shall include the following:

(I) 2000 hours of flight time in helicopters with at least 1000 hours in turbine helicopters;

(II) 200 hours of night flight time of which 100 hours must have been helicopter flight time.

(ii) An instrument flight and night flight proficiency check will be required before accepting missions.

(iii) Pilot training shall include factory school or equivalent. Flight time shall include five hours of local orientation for all pilots, of which two hours shall be nighttime flight.

(iv) Each pilot shall successfully complete an instrument proficiency check ride every six months.

(v) Pilot staffing shall consist of four permanently assigned pilots per regularly deployed aircraft and a sufficient number of relief pilots for adequate coverage.

(vi) No pilot shall receive compensation on a "per flight" incentive nor shall patient factors which may unduly influence flight acceptance be communicated to the pilot before a flight plan and departure status are confirmed.

(B) Medical Crew

1. Each patient transported by a fixed-wing air ambulance shall be accompanied by either a paramedic physician, a registered paramedic nurse, or an advanced Paramedic, meeting statutory medical recommendations

2. Each transport of patients by a helicopter air ambulance shall require staffing by a regular medical crew which as a minimum standard shall consist of one Registered Nurse licensed and another licensed or certified medical provider (i.e., EMT-P, Respiratory Therapist, Nurse, or Physician). The composition of the medical team may be altered for specialty missions upon order of the medical director of the air ambulance service.

3. All regular medical crew members serving on helicopter air ambulances shall be determined physically fit for duty by the program medical director.

(i) An annual medical examination shall be documented.

(ii) A pre-placement Class II FAA Flight Physical certificate or equivalent physical examination shall be documented.

4. Registered Nurse Qualifications - A Registered Nurse serving as a regular medical crewmember on a helicopter air ambulance shall meet the following criteria:

(i) Have three years of registered nursing experience with two years experience in critical care nursing.

(ii) Possess current licensure as a registered nurse in Nigeria.

(iii) Enroll in an Paramedic training course within twelve months of employment and obtain state certification as a Paramedic.

(iv) Obtain and maintain advanced nursing certification within twelve months of employment through one of the following programs:

(I) Certified Emergency Nurse.

(II) Critical Care Registered Nurse.

5. Paramedic Qualifications - An EMT-Paramedic serving as a regular medical crew member on a helicopter air ambulance shall be certified and have three years experience, with two years experience as a paramedic in an advanced life support service.

6. Physician Qualifications - The qualifications of a physician serving as a regular medical crew member on a helicopter air ambulance shall be determined by the medical director. At a minimum, each physician shall:

(i) Hold current certification in the advanced trauma life support course, and

(ii) Hold current certification in advanced cardiac life support.

7. Each regular medical crewmember on a helicopter air ambulance shall have and maintain certification in Advanced Cardiac Life Support and Pediatric Advanced Life Support, or obtain certification within six months of employment and restrict flight duty by accompanying another certified provider until so certified.

8. Each regular medical crew member on a helicopter air ambulance shall have and maintain training in an Advanced Trauma Life Support, Flight Nurse Advanced Trauma Care Course, Basic Trauma Life Support, Pre-hospital Trauma Life Support course, or Trauma Nurse Core Course, or obtain training within six months of employment and restrict flight duty by accompanying another trained provider until so trained.

9. Each regular medical crewmember shall complete and document training in mission specific procedures as established by the medical director and such federal, state or local agencies with authority to regulate air ambulance services.

10. Medical crew members on a helicopter air ambulance shall not exceed 24 hours of consecutive duty time or more than 48 hours of duty time within a 72 hour

period. Adequate provision for crew rest and time for meals shall be provided for the medical flight crew.

11. Specialty crewmembers shall be trained in safety procedures and appropriate aeromedical procedures commensurate with the mission.

(C) Aeromedical Consultant - On all fixed-wing air ambulance services an aeromedical consultant, who must be a physician licensed to practice within the jurisdiction of the base of operations, shall advise on the restrictions and medical requirements for patient transport.

(D) Medical Director –

All helicopter air ambulance services shall have medical direction from a physician who shall be:

1. Licensed; and
2. MDCN certified or eligible for MDCN certification by a professional association or society in a Surgical Specialty, Internal Medicine, Pediatrics, Emergency Medicine, Family Practice, or Aerospace Medicine; and
3. Certified in Advanced Cardiac Life Support; and
4. Certified, in Advanced Trauma Life Support.

(E) Medical Control Physician.

All helicopter air ambulance services shall have flights coordinated by designated flight coordinators.

1. As a minimum qualification flight coordinators shall be certified Paramedic with at least two years of emergency medical or emergency communications experience.
2. Flight coordinators shall have training in FAA approved procedures for flight coordination and telecommunications, which shall include:
 - (i) Map reading, aeronautical chart interpretation and basic navigation and flight planning;
 - (ii) Weather terminology and procedures for flight service weather advisories;
 - (iii) Flight following and ground-to-air telecommunications; and
 - (iv) Procedures for accident and incident policies.
3. Flight coordinators shall not be required to work more than 16 hours in any one 24 hour period or more than 72 hours in any work week.

3.7.6 Flight Coordination and Telecommunications.

A flight coordination office shall be provided for each helicopter air ambulance service for processing requests, initiating responses, telecommunications, and flight following. This office shall be physically isolated from emergency room or admitting areas to minimize distractions. This office shall be staffed 24 hours per day on a continuous basis.

- (i) Operations Manual for Flight Control Office - A detailed manual of policies and procedures shall be available for reference in the flight coordination office.

Personnel shall be familiar and comply with policies contained within the manual, which shall include:

1. Procedures for acceptance of requests and referral or denial of service,
2. Geographical boundaries and features for the service area,
3. Criteria for the medical conditions and indications or contraindications for flight
4. Procedures for call verification and advisories to the requesting party,
5. Acceptable destinations and landing areas,
6. Weather advisory procedures and policies for minimum flight operations,
7. Procedures for pilot and flight crew assignment and notification including rosters for personnel,
8. Radio and telephone communications procedures,
9. Policies and procedures for accidents and incidents,
10. Procedures for informing requesting party of flight procedures, helicopter arrival, and termination of flight,
11. Flight following procedures which shall assure air/ground position reports at intervals not to exceed fifteen minutes.
 - (i) Information for each flight following shall be recorded on an appropriate form.
 - (ii) Position reporting shall use a map or aeronautical reference system with established locational descriptions.

12. Procedures shall be established for communications failure or overdue aircraft.

13. Emergency protocols shall be established for downed aircraft search and rescue.

(ii) Telecommunications - The flight coordination center for a helicopter air ambulance service shall include radio and telephone equipment to enable personnel to contact the helicopters and crew and promote safe operations. Telecommunications devices shall include the following:

1. EMS Communications on the established acceptable and workable frequencies and/or upon such specific channels or frequencies as may be designated within each region as are approved and published as a supplement to the State EMS Telecommunications Plan,

2. Direct telephone circuits accessible by flight coordination personnel, and

3. Tape logging or recording equipment for both telephone and radio messages.

3.7.7 Helicopter Air Ambulance Response and Destination Guidelines and Procedures.

Response to emergency medical situations by helicopter air ambulance services shall be governed by medical necessity. Procedures for initiation of requests, medical responsibility and destination coordination shall be governed by this Rule.

(i) Medical Necessity

1. Helicopter air ambulance response is appropriate when the information available at the time of transport indicates the patient has an anticipated medical or surgical

need requiring transport or transfer and without helicopter transport the patient would be placed at significant risk for loss of life or impaired health; and,

(i) Available alternative methods may impose additional risk to the life or health of the patient; or

(ii) Available alternative methods would make ambulance services unavailable or severely limited in the community service area; or

(iii) Where speed and critical care capabilities of the helicopter are essential; or

(iv) Where the patient is inaccessible to ground ambulances or distance to a hospital from the scene would require unnecessarily prolonged ground travel time; or

(v) Where the patient transfer is delayed in entrapment, traffic congestion, or other barriers; or

(vi) Where advanced life support is unavailable or subject to response time in excess of twenty minutes.

2. Specialty Missions with specialized medical care personnel, medical products and equipment, emergency supplies, and special assistance for major casualty incidents or disasters, or mutual aid to other aeromedical services are medically necessary when their availability might decrease the risk of aggravation or deterioration of the patient's condition.

(ii) Request Initiation Procedures

Procedures for initiation of requests shall be established in writing to include documentation of the following:

1. Means of access,
2. Call criteria and incident criteria, and
3. Notification to the requesting party of the estimated time of arrival of the helicopter.

(iii) Medical Responsibility

The medical flight crew personnel upon arrival at the scene will assume medical responsibility.

(iv) Inter-facility transfers shall not be initiated unless an appropriate physician at the receiving institution has accepted the patient for transfer.

(v) Destination.

3.7.8 Records and Reports

(A) Fixed-wing aircraft records shall include the following:

1. A record on each patient transported providing:
 - (i) Name of the person transported,
 - (ii) Date of flight,
 - (iii) Origin and destination of flight,

(iv) Presenting injury, or medical condition necessitating air ambulance service,

(v) Flight crew and medical personnel,

(vi) Accessory ground ambulance services, and

(vii) Medical facilities transferring and receiving the patient.

2. Each fixed-wing air ambulance service shall report the number of air ambulance transfers performed annually, on the form provided for such purposes to the Division of Emergency Medical Services.

(B) Helicopter Air Ambulance Services - Records and reports shall be required for the dispatch, personnel, flights, patient care and incidents or accidents involving any helicopter air ambulance.

1. Tape recordings of telecommunications shall be retained for at least thirty days.

2. Flight following or related equipment records shall be retained for at least 30 days.

3. A patient record shall include the patient's name, date of transport, origin and destination of flight chief complaint, documentation of treatment during transport, and medical care providers. A copy shall be provided to the receiving facility.

(C) All records of medical services shall be retained for at least five years.

3.7.9 Compliance.

Compliance with the foregoing regulations shall not relieve the air ambulance operator from compliance with other statutes, rules, or regulations in effect for medical personnel and emergency medical services, involving licensing and authorizations, insurance, prescribed and proscribed acts and penalties.

3.8 BOAT AMBULANCE

3.8.1 Marine Ambulance Operating Requirements

A marine ambulance in operation and providing basic life support care must meet all the requirements, which relate to marine ambulances, any applicable Federal Navigation Regulations and have a staff of at least two persons: Trained paramedics in BLS, ACLS and PHTLS

- (i) Has a valid driver's license;
- (ii) Has three years of experience operating a marine craft;
- (iii) Is knowledgeable in the safe operation of the marine ambulance;
- (iv) Operates the marine ambulance in compliance with any applicable marine craft statutes;
- (v) The ability to properly assist in extricating, lifting and moving a patient.

3.8.2 Marine Craft Requirements.

The marine craft must be of sufficient size to accommodate, at a minimum, the operator, two EMTs, one patient, and the required supplies and equipment and still allow full access to the patient;

3.8.3 Marine craft equipment.

A marine craft ambulance shall have the following items in good working order:

- (i) Anchor with line that is three times the maximum depth of water in areas of usual operation - 1;
- (ii) Docking fenders - 2;
- (iii) Mooring lines - 2;
- (iv) Self or mechanical bailer - 1;
- (v) Search light with a minimum of 200,000 candle power of illumination - 1;
- (vi) Swim harness and 75 foot tethering line - 1;
- (vi) Waterproof flashlight, six volt minimum - 1;
- (vii) Navigational charts for service area and navigational aids, including a compass;
- (viii) A cold water protection device - 1 for each crew member;
- (ix) Life jackets - 2 adult;
- (x) Life jacket - 2 child; and
- (xi) Boat hook with minimum of 10 foot capability - 1.

3.8.4 Patient Care Equipment.

A marine ambulance in operation must have the following items stored in a secure manner, readily accessible to medical personnel and in satisfactory working condition:

3.8.4.1 Medical oxygen and oxygen administration equipment:

(a) Medical oxygen supply - 1:

(i) The oxygen supply equipment must be securely fastened to the marine craft while in use;

(ii) Have the capability to provide a 2 hour supply of medical oxygen when being delivered at 10 liters per minute;

(iii) The oxygen setup must have a yoke type regulator which has a pressure gauge, a non-gravity-dependent flow meter, a humidifier with an unbreakable bottle and equipment for warming the oxygen;

(iv) The unit must have all operating gauges visible and accessible to the medical personnel.

(b) Oxygen non-rebreathing or partial-rebreathing masks - 2 adult and 2 pediatric. Each mask with tubing must be semi open, transparent and disposable;

(c) Oxygen nasal cannulas - 2 adult. Each cannula with tubing must be transparent and disposable;

(d) Mouth to mask device - 1 adult. The mask with a one-way valve must be transparent and easy to clean;

(e) Bag mask ventilation device with reservoir - 1 each specifically designed for newborns, children and adults:

(i) There must be mask sizes, 0 through 5, suitable for the ventilation of premature and term newborns, infants, toddlers, children and adults or a cushion-type mask in both an infant and child/adult size;

(ii) The devices must have a standard universal adapter (15 mm tracheal tube/22 mm mask);

(iii) The devices must be operable with or without an oxygen supply;

(iv) The devices must operate effectively at temperatures down to 0° F;

(v) Each mask must be transparent, semi-rigid and stored in a sanitary manner.

(f) Oropharyngeal airway - 1 infant, 1 child, 1 small adult, 1 medium adult, 1 large adult and 1 extra large adult. Each airway made of plastic or rubber must be stored in a sanitary manner.

3.8.4.2 Suction Equipment:

(a) Portable suction aspirator - 1:

(i) The portable self contained battery, oxygen powered or manual suction unit must be capable of developing a minimum vacuum of 300 mm Hg within four seconds after the tube is closed;

(ii) The unit must be fitted with a large bore, nonkinking suction tubing and non metallic, semirigid pharyngeal suction tip;

- (iii) The unit must be adjustable for use on children and intubated patients;
- (iv) The unit, including at least a 300 ml collection bottle and eight ounces of clean, clear liquid for rinsing, must be readily accessible to the medical personnel;
- (v) A secondary suction apparatus is required.

(b) Suction tubing and catheters:

- (i) The portable aspirator must be equipped with suction tubing that is at least 1/4 inch in diameter, translucent and that shall not kink or collapse under high suction;
- (ii) There must be suction catheters in sizes to accommodate neonatal to adult patients;
- (iii) The amount and sizes shall be determined by the medical director.

(c) Automatic or semi-automatic defibrillator - 1. The portable unit must be capable of operating independently of an electrical outlet and have the capability of storing the ECG pattern for later printing, and deliver a total defibrillation energy sufficient to meet the number of shocks and power settings prescribed in the medical director's standing orders.

3.8.4.3 Stretchers:

- (a) Plastic basket stretcher with a four-point bridle - 1;
- (b) The stretcher must have a locking mechanism which can be securely fastened to the craft below the gunwale level;

(c) Have a minimum of four restraining devices that shall prevent vertical, longitudinal or transverse dislodgement of the patient during transport;

3.8.4.4 Fracture Immobilization Equipment:

(a) Traction splints - 1 adult and 1 child or 1 combination type;

(b) Splints for upper and lower extremity fractures 2 each. Air splints must be easily deflated or vented;

(c) Extrication collars - 1 pediatric, 1 small, 1 medium and 1 large. Soft foam rubber cervical collars are not acceptable;

(d) Short backboard or equivalent with necessary restraining straps - 1;

(e) Long backboard with necessary restraining straps - 1;

(f) Pediatric backboard with necessary restraining straps - 1. An adult short or long backboard modified for pediatric use is acceptable; and

(g) Foam-filled bags, rolled blankets or other light weight supporting devices for head immobilization - 2.

3.8.4.5 Bandages And Dressings:

(a) Conforming non-sterile 2" gauze bandages - 12;

(b) Sterile 4" x 4" gauze sponges - 24;

(c) Sterile petroleum jelly impregnated gauze or suitable occlusive dressing, a minimum size of 4" x 4"- 4;

(d) Sterile individually wrapped bulk dressings, 8" x 30" 4; or 7" x 8" - 8; and

(f) Adhesive or hypo-allergenic tape, 1" rolls - 2;

3.8.4.6 Additional Equipment:

(a) Emesis container 1 two-liter container with 2 plastic liners with ties;

(b) Stethoscope 1;

(c) Aneroid sphygmomanometer - adult and extra large adult - 1 each;

(d) Bandage shears - 2 pair;

(e) Rigid eye shields - 2;

(f) Hypothermia thermometer in protective case - 1;

(g) Disposable obstetrical kit - 1;

(h) Urinals, female and male - 1 each; and

(i) Bed pan - 1.

3.8.4.7 Personal Protection Devices:

(a) Disposable gloves - 6 pair;

(b) Disposable facemasks - 3;

(c) Protective eyewear - 2;

- (d) Hand cleaning solution or foam - 16 ounces, or individually packaged hand cleansing clothes - 8;
- (e) Cleaning disinfectant - 8 ounces;
- (f) Container for used needles - 1 for each kit that contains needles;
- (g) Container for contaminated gloves, protective eyewear, goggles or other equipment - 1; and
- (h) A copy of standing orders dated within one year and signed by the medical director.

3.8.5 Linen Supplies:

- (a) Pillow with waterproof cover - 1;
- (b) Washable or disposable pillow cases - 2;
- (c) Washable or disposable cot sheets - 4;
- (d) Large bath towels 3; and
- (e) Blankets - 1 for each stretcher.

3.8.6 Communication Equipment.

Communications equipment must consist of a VHF/FM marine radio with at least 25 watts of power. In addition, the radio must have the capability to have reliable contact between the marine ambulance and a ground or air ambulance and with a hospital having on-line medical direction;

(a) Ambulance case sheet is the adopted official state pre-hospital patient care report form. If using a form other than the official state form, that form must contain at least the same information as the official state form;

(b) No Smoking Sign. There must be a "No Smoking" sign posted. Smoking is not allowed in an ambulance at any time;

(c) Sanitation. The ambulance, ambulance equipment and patient care equipment shall be kept in a sanitary condition.;

(d) Maintenance. The ambulance must be reasonably maintained and maintenance records be kept and made available for inspection by the Division.

4 MEDICATION CONTROLS, INVENTORY, STORAGE AND RECORD KEEPING

a) Each provider shall devise a plan for maintaining inventory control over medications. (Shall have a drug register) The following information shall be recorded:

- i. The name of the patient receiving the medication;
- ii. The name of the prescribing physician;
- iii. The name and strength of the drug;

- iv. The date the vehicle received the drug for each Schedule I through V (inclusive) drug received by the provider;
 - v. The date the drug was administered;
 - vi. The dosage administered;
 - vii. The method of administration;
 - viii. The signature of the ALS crewmember administering the drug;
 - ix. The amount of medication wasted, if any; and
 - x. The co-signature of the crewmember witnessing the waste.
- (b) A written narcotics log book shall be maintained, which sets forth the date, time, drugs or therapeutic agents administered, route of administration, the name of the medical command physician ordering the drug or therapeutic agent, and the quantity and strength administered. All entries shall be typewritten or written in ink, legible, dated and signed by all crewmembers.
- (c) All medications are to be kept in a locked storage box or compartment when not under the direct control of an ALS crewmember. All substances identified as Controlled Dangerous Substances shall be kept under a double lock system that requires two separate keys for access, except when under the direct control of an ALS crewmember responsible for their custody. Keys to the medications box or compartment shall be available only to ALS crewmembers or as allowed by applicable law, rule and/or regulation.

- (d) Paramedic students shall have access to all substances identified as Controlled Dangerous Substances only while in the presence of a Paramedic, registered nurse or physician. The supervising Paramedic, registered nurse or physician shall countersign all students' signatures.
- (e) A report shall be written and signed by all crewmembers and any witnesses present in the event that any controlled dangerous substances of a particular vehicle cannot be verified or drugs are lost, contaminated or destroyed. This report shall be in addition to any other reports required by any applicable law, rule and/or regulation. Copies of the report shall be sent for review to the provider's director or specialty care coordinator, as applicable. Copies of the report shall be forwarded to OEMS in the event of loss of any substance identified as Controlled Dangerous Substances

All the above apart from the controlled substance is normally captured inside the ambulance case sheet. it is recommended that all ambulance providers develop case sheet that will be in triplicates: a copy will be given to the receiving facility, another copy for the ambulance itself and another copy for audit purposes.

Administration

5.1 Staff

Each of the ambulances services shall have the following members of staff:

- i. Managing Director
- ii. Medical Director
- iii. Medical Command Physician – Operations Manager

- iv. Crew Members (as specified in section 3)
 - a. Paramedics
 - b. Paramedic-Technicians
 - c. Nurse
- v. Dispatchers
- vi. Supervisor for dispatchers
- vii. Logistic officer
- viii. Fleet management officer
- ix. Other Staff: M&E Officers, administrative officer, accountant, secretary, attendants etc
- x. Drug store
- xi. Consumable store

5.2 Duties and Qualification of the Staff

A. Managing Director

The Managing director shall be responsible for all activities of the ambulance services, as the Chief Executive Officer of the organization.

B. Medical Director

The medical director shall be responsible for all medical matters that affect the ambulance services, its personnel and its vehicles.

- i. The medical director of an ambulance services shall be a Physician duly registered and licensed by Medical and Dental Council of Nigeria with:
 - a. Possession of ACLS certifications;
 - b. Possession of PALS or Pre-Hospital Trauma Life Support (PHTLS) certification;
 - c. Successful completion of the Advanced Trauma Life Support course to the standards of the Nigerian Orthopedic Surgeons; and
 - d. Experience in the provision of emergency care.
- ii. The medical director shall oversee the general medical direction provided to the ALS crewmembers by medical command physicians. The medical director shall be responsible for overseeing the quality control activities of the Ambulance services program, as well as overseeing both medical control and medical command activities.
- iii. The medical director shall be responsible for determining the competency of all crewmembers that are performing under the Ambulance services program's authority.
- iv. The medical director shall maintain reports attesting to each crewmember's competency in the crewmember's personnel file. These reports shall be made available to FMOH upon demand.
- v. The medical director shall be responsible for developing criteria for ALS crewmembers to contact the medical command physician for specific medical conditions (for example, chest pain) prior to the release of a patient to BLS personnel for transport to a receiving health care facility.

- vi. The Managing Director of the Ambulance services program shall notify the FMOH in writing, of any change of medical director within 14 calendar days after the change, verifying that the designated person meets the requirements for a medical director as defined in this policy

C. Medical command physician – Operations Manager

The medical command physician of an ambulance services shall be a Physician duly registered and licensed by Medical and Dental Council of Nigeria with:

- a. Possession of ACLS certifications;
- b. Possession of PALS or Pre-Hospital Trauma Life Support (PHTLS) certification;
- c. Successful completion of the Advanced Trauma Life Support course to the standards of the Nigerian Orthopedic Surgeons; and
- d. Experience in the provision of emergency care

5.3 Medical command

- a. The provision of advanced life support care by ALS crewmembers staffing an ALS Ambulance or MICU is deemed a delegated medical practice. The medical command physician provides the authority for the ALS crewmembers to act.
- b. The medical command physician shall provide medical command to ALS crewmembers in a timely fashion and without undue delay.

- c. All orders shall be prefaced with the name of the physician ordering the treatment.
- d. All orders given to ALS crewmembers shall be specific with regard to treatments ordered or medications and dosages to be given and the sequence in which the treatment is to be performed.
- e. ALS crewmembers shall provide the medical command physician with an appropriate report of patient assessment, patient condition, patient updates after treatment has been rendered and any other information required by the physician.
- f. Communications with the ALS crewmembers shall be performed directly by the medical command physician unless prevented by emergent patient care duties. In that case, a physician directed registered professional nurse may relay the report and orders if the registered nurse:
 - i. Possesses CPR and ACLS certifications;
 - ii. Possesses PALS certification or has successfully completed the Emergency Pediatric Nurse Course to the standards of the Emergency Nurses Association;
 - iii. Has been trained in the proper use of the base station; and
 - iv. Personally relays the report to the medical command physician and any orders or direction to the ALS crewmembers. All orders shall be prefaced with the name of the medical command physician ordering the treatment.

- g. No medical command physician or physician directed registered nurse shall order any crewmember to perform any treatment or administer any medication outside of the crewmember's approved scope of practice.
- h. The medical command physician shall review the patient care report and affix his or her original signature to it, in accordance with established institutional policies, but not later than 30 calendar days after providing the medical direction. The medical command physician shall inform the medical director of any discrepancies in the patient care report.
- i. In an instance where patient care is provided in accordance with approved communications failure protocols, the authority for such treatment shall be deemed to emanate from the medical director.
- j. In every instance where an ALS crewmember has treated a patient, the medical command physician who provided the medical direction to the ALS crewmember shall ensure that the receiving health care facility is notified as soon as possible after providing medical command. The report shall be relayed to either a physician or registered nurse at the receiving health care facility, and shall contain:

- i. The patient's chief complaint and presenting signs and symptoms;
- ii. Treatment ordered for the patient; and
- iii. The estimated time of arrival of the patient.

5.4 Medical Treatment Protocols: Each mobile intensive care program shall develop and maintain written medical treatment protocols that cover most common medical emergencies for patients of all ages. These protocols shall

be kept at the base station, where they shall be immediately accessible to all physicians. These protocols shall serve as a guide to the physicians, but shall not be deemed to restrict the treatment ordered in the best judgment of the physicians and within the scope of practice of the ALS crewmembers. The protocols shall be reviewed and signed off by the medical director at least once every 12 months.

6.0 Application Requirements For Operators

6.1 Application

The requirements for the operation of ambulance services in Nigeria shall be based on the satisfaction of this policy. An application form shall be obtained from the Federal Ministry of Health.

6.2 Inspection and Accreditation

The Department of Hospital Services (DHS) of the Federal Ministry of Health shall be saddled with the responsibility of inspecting, monitoring and auditing of the various categories of ambulance service providers, and then recommend to the HMH for approving. The timing from submission of a completed application form, and making their recommendations to the HMH, shall not be more than six (6) weeks.

6.3 Registration

The registration of an Ambulance service shall be done at the three tiers of government: Federal, State and the Local government Councils after completion of the appropriate application forms. However the EMS policy and this operation guideline shall guide the operations for the other tiers of Government. The scope of an operator may be national, Zonal, State or LGA in coverage.

6.4 Licensure of Vehicle and Equipment

The National Motor Vehicle Licensing Authority shall continue to provide general license for vehicles acquired for the use of ambulance services. However, DHS of FMOH or a body to be established under this EMS policy and this guideline shall provide licensure for the category of ambulance service being provided by the operator.

6.5 Licence Renewal

The ambulance service providers shall renew their operational certificates annually. The paramedics, nurses and doctors shall be up to date with their practicing licenses and driver's license as required by their respective regulatory agencies. The Ambulances and equipment shall undergo regular recertification requirements by the various authorities, and such presented to the DHS for annual renewals of certificates. The renewal fees shall be stipulated according to the category of services provided. Each provider shall provide an operating manual for offline treatment for various situations, prepared and updated by its medical director, Storage guidelines and regulations, and Mandatory restock schedules of drugs. Only approved drugs shall be used.

7.0 Communication Requirements

- i. Every Ambulance service operator shall have her internal communication facility.

- ii. Have capacity to link up with the central National emergency lines as provided in this policy and integrated with all healthcare providers who receive the patients.
- iii. Have Dispatch room and SOP for dispatching clearly displayed
- iv. Use the National 3 digit call number 112 for all emergency communications.
- v. Shall provide No of dispatchers employed and their shifts displayed.

8.0 Lines of Responsibilities.

8.1 The Federal Ministry of Health shall provide the frame work, general guidelines and reviews for policy direction relating to personnel, curriculum development, scheme of service for staff of the emergency ambulance service, standard of vehicle types, equipment required for each category of service and responsibilities of each tier of Government

8.2 Ministries, Departments & Agencies (MDAs), including Armed Forces Police and Para military medical corps, and Federal Tertiary Health Institutions who provides emergency ambulance services shall be registered as Ambulances service providers, and would to complete the appropriate forms obtained from the FMOH.

8.3 The State Ministries of Health shall step down the integrated emergency ambulance service system in their states. The Director of Medical Services of the State shall play the role of the DHS in terms of registration, licensure and other requirements. Each state commissioner shall update the HMH or his agent(s), with the state of affairs of the ambulance services in their state annually.

9.0 Funding

- 9.1 There is need to support the Ambulance service providers, because the emergency patient needs to be moved immediately without paying.
- 9.2 5 Percent of the Basic Health Care Provision Fund shall be used for Emergency Medical treatment as administered by the Committee appointed by the National Council on Health.
- 9.3 The National Health Insurance Scheme (NHIS) is to cover ambulance services with fee for service paid to service providers, as an incentive to provide the services. Emergency ambulance service is to be included as an insurance benefit package for enrollees by NHIS.
- 9.4 Each Ambulance operator is to be registered and accredited by NHIS as secondary provider.
- 9.5 Each receiving health facility shall be NHIS accredited, and shall keep a logbook for all patients brought in by an Ambulance service provider. Depending on the ambulance services type, the distance covered and time spent, when the patient's bill is to be settled by relations, it shall carry a first charge as Ambulance service provider's bill, and shall be remitted accordingly to the provider by the receiving hospital.
- 9.6 Those patients that are NHIS enrollees shall benefit from the NHIS benefit package but the Ambulance service provider must have been accredited by the scheme, and fee for service shall be so processed for the health facility.

10.0 Monitoring and Evaluation

10.1 Monitoring Indicators.

Record keeping, response time, number of trips, lives saved, outcomes of the patient, customer satisfaction, assessment of equipment, vehicle and staff, timed drills, regular training/ exams/ continuing education and others as stated in this policy.

10.2 Evaluation Indicators

- i. Activity output and outcome.
- ii. Certification and re certification.
- iii. Audits of process.
- iv. Staff
- v. Equipment and Training standards.
- vi. Response times.
- vii. Statistics on prevalence of various emergency cases attended to.

11.0 Sanctions and Appeal

11.1 Sanctions and Appeals shall be in form of:

- i. Malpractice,
- ii. Negligence
- iii. Non-compliance with regulations
- iv. Abuse of patient's confidentiality
- v. Theft and Fraud

vi. Serious Misconducts by the Operator.

11.2 It may be in form of:

i. Suspension of licence

ii. Withdrawal of license of operations

iii. Ban from operation

iv. Fines

v. Combination of the above

Suspension.

11.3 Where a sanction has been applied, the organization concerned shall have opportunity to appeal to the Hon, Minister of Health or Hon. Commissioner for Health of a State as the case may be.

11.4 The following cost shall apply to fines where applicable:

i. Malpractice: N50, 000

ii. Negligence: N50, 000

iii. Non-compliance with regulations: N100, 000

iv. Abuse of patient's confidentiality: N50, 000

vi. Serious Misconducts by the Operator: 150,000 and or Withdrawal of permit

12.0 **Policy review**

This policy shall be review at intervals of five (5) years